EXPERTISE, ETHOS, AND ETHICS: THE PROPHETIC RHETORIC OF NICK BOSTROM AND ELON MUSK IN THE ARTIFICIAL INTELLIGENCE DEBATE

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Abstract

When publics need to make decisions about technical matters, they frequently refer to experts to assist by providing technical knowledge that is translated for the lay audience. Many of these experts rely on various techniques to build ethos and demonstrate different types of expertise, while also utilizing different argument strategies. One of these strategies is the use of prophetic rhetoric. The artificial intelligence (AI) debate is one where technical experts work to translate information about AI and the future possibilities of the technology, using prophetic rhetoric as a mode of appeal. The AI debate is also unique in its mixture of technical and ethical points within the debate. Nicholas Bostrom, a more traditional expert, relies heavily on demonstrating his technical knowledge first and then weaving in ethical components and his main argument. However, his use of personal and public sphere strategies is not very effective to connect with his lay audience. Elon Musk, an entrepreneur, celebrity, and self-proclaimed nerd, is a less traditional expert who relies heavily on building ethos and creating a cult following of fans. Musk uses this ethos to make enthymematic arguments, and stand in for expertise that he does not have. However, this celebrity ethos works effectively with his audience, and he does not need to rely heavily on technical knowledge like traditional experts. Ultimately, this new technique is more effective in the AI debate.

Chapter One: Introduction

The Current AI Landscape

Stephen Hawking once told the BBC, "The development of full artificial intelligence could spell the end of the human race…It would take off on its own, and re-design itself at an ever increasing rate. Humans, who are limited by slow biological evolution couldn't compete, and would be superseded."[1] This concern Hawking demonstrates comes with increased development of Artificial Intelligence (AI). Everyday usage of AI has increased as well: personal assistants such as Siri, Alexa, and Cortana help provide solutions through searches and suggestions; IBM business and marketing solutions using AI to reach a wider range of customers; Google Maps and Waze offer helpful traffic predictions; Tesla provides auto pilot to help drivers navigate unsafe conditions; Uber and Lyft use AI to have fluctuating costs taking into account weather, dates, times, and people riding; and even online learning systems use AI to check submitted student work for plagiarism. These examples fall under the purview of "narrow" AI, or AI that is focused on specific tasks.

The benign narrow AI does not invite the same concerns that surround general or "strong" AI, or what Nick Bostrom would call superintelligence. "Strong" AI is what is most often depicted in films; it is AI that is intelligent and able to master a wide variety of tasks. In 2015, Nick Bostrom surveyed a wide range of AI experts asking them when they believed strong AI would become widespread, "the median answer was 2040 or 2050… it could happen much, much later or sooner."[2] Citing a 2018 Pew survey Axios reports, "Fewer than two-thirds [of experts surveyed] expect technology to make most

people better off in 2030 than today. And many express a fundamental concern that AI will specifically be harmful."[3] The expectation from experts is very clear: AI is coming, and we need to figure out how to handle it. This can be seen with the various successes of narrow AI projects.

For many years after the first AI was developed, a measure of intelligence of machines was beating humans at chess. Deep Blue, a computer designed by IBM to play chess, beat world champion Gary Kasporov in 1997 becoming the first computer to do so. Once this was found to be "too easy," many developers moved on to the popular and complex Chinese game, Go. The playing space in Go is much larger than chess, which makes the common AI strategy of digging into decision trees harder because "In an average turn of Go, a player might have over 200 unique possible moves. Compare this to chess where you might have an average of about 35 unique moves."[4] The second main reason Go is more challenging is that it is much more difficult to determine which player is in an advantageous position during the game. In chess, an easy heuristic to determine the upper hand is counting captured pieces and assigning point values. For Go, the objective is to surround the most territory on the board, which is difficult to count mid game.[5] These two differences mean that AI must match pattern recognition and intuition of human players much more than in Chess.[6] Notoriously, in consecutive years Google's machine AlphaGo beat two different human Go grandmasters.[7] AlphaGo's second opponent, Kie Je, despite confidence in his ability to not lose, was backtracking after losing the first match: "'Last year, it was still quite humanlike when it played…But this year, it became like a god of Go.'"[8] This provides a good frame for the changing rate of changes and learning. IBM, 21 years after Deep Blue, now has Watson, which is an

accomplished *Jeopardy!* contestant. However, AI is not limited to defeating humans in games. These strong AI systems, such as Deep Blue, also have applications in Healthcare, teaching, business management, privacy, and agriculture.[9]

The impressive gains of AI, mastering the ability to learn at exponential rates and engaging in processes once considered exclusive to humans, has hastened calls for considering the moral, legal, and technological regulations of AI. The Future of Life Institute, a prominent AI research group, wrote an open letter calling for a simultaneous branch of multidisciplinary research alongside the computer science approach of improving machine intelligence, to make sure that humanity can maximize the societal benefits of AI. This letter has been signed by over 8,000 people and includes such industry and academic names as Stephen Hawking, Demis Hassabis and Mustafa Suleyman of DeepMind, Michael Wooldridge and Nick Bostrom of Oxford University, Elon Musk of SpaceX and Tesla, and Laurent Orseau of Google. Although the letter maintains a measured tone, one line stands out: "Our AI systems must do what we want them to do."[10] This statement alludes to concern about not having control over the intelligent machines we create, with the implication that if we lose that control it will end badly for humans. AI comes with both fascination and fear, something that can make the debate difficult to navigate at times, but ultimately this difficulty is what invites questions of ethics that involved what should be regulated and how, what the focus of research should be, and how AI will change our society into the process.

The agreement that extremely intelligent AI will exist in the future seems to be where expert agreement ends. Many AI experts agree that there needs to be a well thought out plan or lists of goals to keep AI research focused, but there is no agreement

on the types of goals or research focus. Seth D. Baum, the Executive Director of the Global Catastrophic Risk Institute, recently published an article discussing the factions within AI. In "Reconciliation between factions focused on the near-term and long-term artificial intelligence," Baum does not attempt to discern whether AI is a possibility, rather he argues over how researchers should frame their focus for the development of AI. Baum asserts that there should not be a dividing line between long-term and short-term focused research, but there should be two different factions: "intellectualist" and "societalist."[11] This difference focuses on whether the research is meant to help the technical or more "intellectual" goals of AI, or the researcher is focused on the benefits and impact of AI on society. He argues that one group should be focused on the academic pursuits and technical advancements of AI development, while the other puts their efforts into contemplating the societal ramifications of AI, with both factions putting time and energy into short-term and long-term applications.

Others believe that potential concerns with AI do not lie with the technology itself, but the thoughtful consideration of the politics and regulations around AI require more attention. Wolfhart Totschnig presents a precise argument in "The problem of superintelligence: political, not technological," that it is not about needed technological control, what he sees as the technical focus of AI researchers, but a political problem of establishing peaceful coexistence with other intelligent beings.[12] He notes towards the opening of his paper, "There is a significant probability that a superintelligence, so understood, will come into existence in the relatively near future."[13] Totschnig goes on to acknowledge there are some researchers who believe that nothing will come of

superintelligence, in other words it is not a possibility at all, but that the majority of people working within the field work under this assumption.

The debate over the future of AI is taking place in a multitude of spaces and forums including Congress, science fiction movies, internet discussion boards, and various college classes. Much of the debate happens in what Thomas Goodnight would refer to as the technical sphere.[14] Rooted in Stephen Toulmin's concept of argument fields, Goodnight argues that arguments are tethered to specific discursive communities, and each one possesses different standards for evidence, argument construction, and judgment. Goodnight identifies three spheres of argument, the personal, public, and technical spheres, stating that each sphere has their own argument strategies that are persuasive in each.[15]

The technical sphere is the most restrictive. Goodnight notes, "Other disagreements are created in such a way as to narrow the range of permissible subject matter while requiring more specialized forms of reasoning. These typify the technical sphere where more limited rules of evidence, presentation, and judgment are stipulated in order to identify arguers of the field and facilitate the pursuit of their interests."[16] The technical sphere is the domain often governed by experts who employ technical knowledge and specific discourses to generate arguments. Goodnight contrasts the technical sphere with the public and personal spheres, which employ arguments and discourses that do not require specialized knowledge. The public sphere is described as "transcending" the private and technical in customs, traditions, and requirements.[17] The public sphere is the space for deliberations that deal with matters of the common good or

common interest. The personal sphere contains discourses that are more pertinent to individual or familial deliberations.

Goodnight acknowledges that although the argument spheres are distinct, there is space to change the sphere the arguments are grounded in. Goodnight suggests, "[in his historical examples] what had been accorded as an appropriate way of arguing for a given sphere was shifted to a new grounding."[18] This suggests that you cannot be in two spheres at once, but there is possibility to move between spheres. Goodnight's central concern in his original essay was the colonization of the public and personal sphere by the technical sphere, in that more technical arguments that position expertise at the center of judgment are influencing the deliberations in the other two spheres.[19] In other words, even arguments in the public and personal sphere are being governed by technical discourses that often require expert judgment.

Discussions of the future of AI tend to focus on the direction that research *should* be headed, which leans farther towards ethics than many of these experts would acknowledge. In other words, technical discussions of feasibility are becoming more resolved, and the debate is shifting to ethics, which is more of a public sphere discussion. However, the various discussions are beginning to blur between the different spheres, and are shaping arguments in complex ways. This leads to a confluence of technical, public, and personal sphere discussions. For example, business leaders play a role in the debate as many companies are leading the charge in the implementation and development of AI technology. One concern is that of job creation and loss. Business executives have a big stake in this discussion because AI can save them money from the perspective of paying employees, but there has been a lot of public pushback against the possibility of the

automation of low skill jobs through further AI development. The second major focus of the business discussion includes competing with Asia, the top technology competitor to the US and Europe, has increased the capabilities of their major AI, have seen a large increase in start-ups, as well as government funding for research and creation of new tech. This leaves many American businesses in a tight spot, debating the sweet spot of regulation to encourage cooperation in development, but still compete with international companies.

Another technical community that weighs in on the AI debate is academia. Many of the explicitly ethical debates take place in philosophy journals, between philosophy professors. For example, one of the major questions being asked about AI based self-driving cars is a question of who the car should save in an accident, the driver and passengers or pedestrians.[20] This thought experiment has become more prominent in public discussions, but started with academics. These academics and other experts espouse their viewpoints through academic journals and conferences, personal websites and projects, and the various institutes focused on this research.[21] Some of these experts also venture into the public sphere, discussing their opinions in public facing ways like interviews with various media outlets, or events like SXSW and TED talks.[22]

Some of the questions from the AI debate in both the technical and public realm have seeped into the political arena. Politicians sit, to a certain extent, in between the two spheres, as they might be experts in terms of governance and regulation, but require technical assistance from experts to construct relevant public policy.[23] The frame for politicians focused on addressing these issues are practical changes that can affect their constituents, even as they still have some foundational ethical concerns in terms of

regulating AI. For example, two of the five AI-related bills introduced in 2018 in the House of Representatives focus on job loss.[24] These practical solutions allow politicians to acknowledge larger ethical and economic questions, but they seek to frame the inevitability of AI in a way that makes sense to them, like job loss, policy, and regulation.

The first US congressional hearing that addressed AI directly was in 2016, held by the Commerce, Science, and Transportation Senate subcommittee. Committee Chair Senator Ted Cruz gave a rousing opening statement that focused on the urgency of the conversation. He declares, "Many believe that there may not be a single technology that will shape our world more in the next 50 years than artificial intelligence. In fact, some have observed that as powerful and transformative as the Internet has been, it may best be remembered as the predicate for artificial intelligence and machine learning. Artificial intelligence is at an inflection point… Whether we recognize it or not, artificial intelligence is already seeping into our daily lives."[25] The first question that Senator Cruz asks relates to struggles with further development and is very broad, but the second question asked relates to AI surpassing the knowledge of humans, quoting both Stephen Hawking and Elon Musk. His question is simple: "How concerned should we be?"[26] There is a fairly clear response from the experts: there is concern, but there is ample research into safety and development being done, and this concern is fairly far down the line.

All of these areas -- technical, public, and political -- can meet on the issue of AI as well, demonstrating how pervasive and important this debate is. Representative Will Hurd of Texas, does take a non-technical focus on AI, trying to highlight more public interest and awareness on the issue. Hurd convened a series of three hearings over the

summer of 2018 about what AI is, what the focus of the government should be, and what is coming in the future. In an attempt to drum up interest in the hearings as well as bring the issue to public consciousness, Hurd went around the Capitol building in Washington, DC to ask how others identify artificial intelligence as part of a YouTube series called "Hurd on the Hill." He received a wide range of responses: "usually I think of Independence Day," "a community of computers that operate themselves," even narrow examples like "Sofia the robot or Spotify and Twitter."[27] Hurd also asks about whether AI is scary or helpful and receives a mix again from "it's a bright future," "it depends on how it's used," "it's scary," and "it's both, exciting and scary if you had a robot that could do anything you want."[28] Consistently, most people have an opinion about technology, but can still be unsure of what is happening, or not feel a need to question it.

Although the AI debate often takes place in specialized communities of academia, government, business, and technical research, another part of the AI debate is taking place in the public sphere, with "laypeople" providing their thoughts on the matter. Some of this is done at the same public events attended by experts with question and answer sessions, but much of the debate happens online. Either through twitter, memes, Reddit, or comments on YouTube and Facebook. Reddit has an entire subreddit, r/artificial dedicated to the subject. The introductory post states:

> Broadly speaking, it is about machines that behave intelligently in some way, but this means different things to different people…On r/artificial we welcome anyone who is interested in intelligent and respectful discussion of AI in any form. We want to provide a low barrier of entry, specifically because there are so many misconceptions about AI… We do ask that you put in a little effort before posting…When you ask a question do so intelligently. When you post a story, prefer balanced discussion to clickbait…Consider jumpstarting the discussion with your own insights, questions, additional links and/or a short summary for people outside the niche the article was written for.[29]

The community focuses on discussion on a wide range of topics including the technical aspects as well as the ethical, and social reactions to AI. It is an open and public forum for discussion, demonstrating one place the non-specialized or non-technical debate is occurring.

The public sphere debate is also influenced by, and takes place in, some popular media, including science fiction. *The Terminator* movies are mentioned in Nicholas Bostrom's TED talk on AI as well as the first United States Congressional hearing about artificial intelligence, indicating a clear importance to the discussion. A focus on the popular culture depiction of AI is viewed by specialists as somewhat dangerous, because if done poorly or with a certain framing across the board, a negative view could take hold of the public's mind. However, science fiction and popular culture are still unique opportunities to play out ethical arguments and serve as thought experiments in an easily accessible way.

The topic of super intelligent robots has increased in recent years with shows like *Westworld*, *Altered Carbon*, *Humans*, and *Almost Humans*, as well as movies like *Ex-Machina*, *Her*, and sequels and reboots like *Blade Runner 2049*, and *Ghost in the Shell*. The Twitter discussions around *Westworld* have been lively, focusing not only on the visuals and storyline (often described as confusing), but also the implications and ethics of certain plot lines. There are constant questions about sentience throughout the show. Whether a character is human or machine is constantly at question, sparking debates in various online communities like Twitter and Reddit about the importance of AI sentience. The eighth episode of the second season of *Westworld* focuses on a particularly human-like android that garnered responses from Twitter users such as, "Did season 2 ep 8 of

#westworld break anyone else's heart cause I am a flipping MESS. @WestworldHBO"[30] and "Me during s1 of West World: Oh wow! That's a good way to see different perspectives especially in the world of AI! Me during s2: WHY CAN'T I STOP THIS FEELINGS TRAIN #westworld."[31] This demonstrates that the discussion around AI has participants that are discussing material other than just the technical possibilities, or the functionality of AI.

This thesis seeks to explore and analyze the rhetoric of the Artificial Intelligence (AI) debate, specifically focusing on the rhetorical strategies of advocates and opponents of AI use to express values and ethics around humans and machines. Although frequently framed as a scientific debate, I argue it is essential to view this debate as an ethical one. The majority of arguments being made are not about the capabilities of AI, but about what scientists *should* do about AI, and what type of ethical questions will need to be answered when or before AI becomes inevitable. This thesis also explores the natures of expertise when making ethical claims about technical matters. Although the discussions about AI are ultimately ones about ethics, it is still wrapped in technical language and details. Agreement has been reached by many experts in the field that AI is happening, so now the debates seem to focus on questions of level of intelligence, how to define AI, and how to regulate. All of these areas in which debate takes place, help to frame the debate as one that is not fully tethered to scientific questions.

Because of its technical nature, the AI debate calls for experts in the field to help communicate the information so that the public, or laypeople, can participate in various discussions. To address this, this thesis will focus on strategies used by two prominent voices in the AI debate: Elon Musk and Nicholas Bostrom. This thesis seeks to explore

how interlocutors and experts in the AI debate use technical discourse in ethical debates about AI by framing the analysis through the lens of prophetic rhetoric and expertise. Both Musk and Bostrom are positioned as experts who can speak to the issue of AI across different spheres of argument. This function is not only an important aspect of the AI debate, but there is ample academic discussion of the religious tones taken by experts speaking to the public. This thesis is focused on exploring how the intersections of expertise and prophetic discourse construct ethical arguments about AI. This is important not only to understand the discourse of AI and how humans can interact with AI, but it also highlights how the conceptualization of expert discourse unfurls in public spheres. The combination of ethical and predictive dimensions within the AI debate open space for prophetic discourse. Lynda Walsh explores the idea of prophetic scientists who turn to discursive choices when reaching out to publics and moving outside of technical audiences. These experts first work to build their ethos as an expert through various strategies, like embodying different types of expertise defined by Collins and Evans.

Expertise

Harry Collins and Robert Evans establish the important of expertise within science studies across multiple books and articles. In "The Third Wave of Science Studies: Studies of Expertise and Experience" Collins and Evans identify "the problem of extension."[32] The problem of extension describes the phenomenon of scientific consensus formation moving slower than that of political decision making and thus there is a tendency to move technical decision making to those who are not technically modified.[33] Collins and Evans propose that a field of expertise studies to define a theory of expertise, delineating different types of expertise, and the distinctions between different categories

of expertise.[34] They also establish the importance of defining different types of science. By defining and outlining all of these elements, Collins and Evans argue that this theory is flexible, and depending on the situation can call for more or less public involvement in decision making.

Collins and Evans' definitions of different types of expertise is particularly important for this thesis, as experts within the AI debate use different techniques to establish different types of expertise. This thesis will focus on the range of specialist expertise because, as Collins points out, this type of expertise is, "what people think of when they hear the word expert."[35] Specifically contributory experts are what the general public picture as experts. They, "Make a contribution to an area of expertise," and reach this status, "By working with other contributory experts and picking up their skills and techniques – their tacit knowledge of how to do things."[36] By this definition, most academics are contributory experts; most academics are expected to publish and contribute to their specific field in a meaningful way. Another way that someone can enact contributory expertise is by constructing or building something within a field like engineering. Contributory expertise is very specific, and can be considered the "best" or "top" level of expertise. Along with contributory expertise, interactional expertise is considered specialist tacit knowledge.[37]

Collins and Evans state that it is a relatively new concept that can be defined as, "Acquired by engaging in the spoken discourse of an expert community to the point of fluency but without participating in the practical activities or deliberately contributing to those activities. Thus, one can be an interactional expert in a specialist domain without being a 'contributory expert' in the domain."[38] Interactional experts can speak the same

language as contributory experts without doing the actions of the field. Collins says that it is still very important and a high level of expertise as, "Even learning to become a contributory expert in a narrow technical domain is mostly a matter of acquiring interactional expertise because it is through talk that one learns how to act in practical matters."[39] Interactional expertise is one step down from contributory expertise, but still not what the general public views as an expert. Collins also notes that there are not many interactional experts who are not also contributory experts.[40] Most experts within the AI debate who are invited to speak with the public contain one of these types of expertise. However, this expertise alone is not enough to convince an audience of a plan for the future or to make a specific decision.

Religious Machines

AI are frequently depicted using religious discourse. AI is understood as the creation of an intelligent entity, frequently thought of as possessing human-level abilities in a non-human form. This notion of creation often invites discourse with a spiritual tone. For example, Apple has a cult-like following, which went into overdrive ahead of the first iPhone. Blogs dubbed it the "Jesus phone" and invoked religious imagery in their descriptions and posts. In their article, "How the iPhone became divine: new media, religion and the intertextual circulation of meaning," Heidi Campbell and Antonio Pastina identify three narratives used to frame the relationship between religion and technology, "a technology offers human redemption, and humanity becomes godlike by embracing technology; technology itself is a divine or spiritual force; engagement with technology offer humans a magical or religious experience."[41] Alongside these framing narratives, technological myths invite three different areas of tension, "the nature of

humanity; the nature of technology; humanity's relationship to its technologies. These framing narratives and tensions become important when considering the meaning derived…from different groups."[42]

Campbell and Pastina demonstrate the dynamic nature of the Jesus phone discourse. Bloggers first take up the discourse in their writing which bleeds into review videos and becomes self-referential. This discourse creates an expectation or environment in which religious terminology is used when talking about or debating technology. Due to Apple's hype and construction of Steve Jobs as a God-like figure, responses to and discussion of Apple's new products are frequently framed in religious discourse.[43] Campbell and Pastina identify one major drawback to this discourse, "framing a technology as divine may also set it up eventually to be critiqued through counter-narratives of fanaticism or technological weaknesses being exploited as signs of fallibility."[44] This critique is important to note as it emphasizes the religious nature of the rhetoric as a whole, using religious narratives to argue against the technology. Rhetoricians have also taken a particular interest in the religious imagery involved in science, investigating how persuasive the rhetoric is within a science context. References to religion are typically used as a way to appeal to ethos, expressing knowledge and expertise. The religious discourse around technology has given rise to interlocutors that employ prophetic discourses. This is important as religious language and debates carry an implicit ethical component to them, which is particularly fitting for the AI debate.

Prophetic Scientists

I am interested in how discourses about AI migrate into public discourse, and how experts who engage in these public discussions utilize their technical expertise in ethical

debates about AI. This also invites the question of how the use of technical expertise frames the AI debate. Because the technical sphere requires specialized knowledge, like how AI functions, what are its future capabilities, and the current state of research, translation needs to occur for addresses non-scientific publics. This is not information that would be familiar, or discernable for many members of the public sphere, creating the need for an expert who can participate in debate or translate technical arguments for the public sphere. When translating scientific knowledge to non-technical publics, there is always the need to win and maintain credibility among multiple arguments. Therefore, technical experts have to use a variety of rhetorical recourses to communicate with various audiences while continuing to cultivate credibility. One of these resources is Thomas Lessl's priestly voice.

In "The Priestly Voice," Thomas Lessl notes that scientists speaking across discursive gaps adopt either the role of the Priest or the Bard. Lessl's essay focuses on exploring how scientists speak to general audiences. The priest's voice, "being in some sense extra-human, always originates within a certain elite substratum of society and represents a reality that the audience can only superficially approach…[and] mediates a configuration of symbols and a conception of reality that for the most general audience is at once both near and remote."[45] In contrast, the Bard takes a more populist role, speaking with "the voice of the people" and presents an "established cultural identity."[46] Lessl goes on to further the religious connection by describing the priestly voice as vertical, having a sort of divine authority in it, while simultaneously acting as gate keepers to their elite community, trying to keep others from speaking within it.[47] This distinction becomes even clearer when applying them to the roles and rhetorical strategies of scientists. Lessl

sees this taking place when scientists express what they do, or what people think they do, and try to express to the public that laypeople can do some of the things that scientists do. Although scientists are most commonly placed into the role of teacher or educator, Lessl argues that when scientists step out of this role into some sort of commentary on larger issues of science within society, the priestly voice is most prevalent.

Through strategies like synecdoche and hagiography, Lessl argues that the priestly voice ultimately works to establish the exclusivity of the elite group, in this case scientists. This is accomplished with authority from the norms of science that members of the community follow to signal that they are part of the community. Lessl claims the "Priestly communication can never merely be an exchange of information to the extent that the priestly rhetor is likely, while disseminating knowledge, to simultaneously impose over audiences an ideological framework not indigenously their own."[48] It is important to emphasize that Lessl's argument takes a tone of education, a primary goal of science. Although many scientists do not perform this role explicitly, the focus of many scholars has become that of the scientists working to educate the public.

Lynda Walsh extends and shifts Lessl's argument by focusing on "the science advisor." In her book *Scientists as Prophets: A Rhetorical Genealogy*, Walsh establishes the role of the science advisor by investigating the ways in which scientists address the public and the everyday tasks that scientists complete.[49] Science advisors can be anybody who has some sort of "privileged access" to the information and knowledge and can also "leverage" that knowledge to start "public discussion on public values."[50] Walsh further establishes that "prophetic ethos is a role that a polity – a group of people who must work together to stay together – authorizes to manufacture certainty… [a] kind of certainty,

which [she would] call 'political certainty.'"[51] And while this political certainty may be short term, it is a framing of crisis or problems "in terms of 'covenant values' which are what [she calls] the values that a polity shares and that distinguish it from its neighboring polities."[52] One very relevant example of covenant values are the normative values of science, or conservative ideals, that work to demarcate certain groups through ideas. The prophet's role is created when democratic debate is unable to find certainty for the polity.[53] The prophet is able to start productive conversation, but does not always provide specific answers of political certainty.[54] Although the development of AI has a sense of certainty, there is uncertainty around the questions of ethics and capabilities. This creates space for investigation of how experts in the AI debate leverage scientific and specialized knowledge in making ethical claims about the future of AI.

Walsh focuses on establishing a specific definition of ethos to use in the context of the science advisor. Walsh uses some of the traditional definitions of ethos as well as contemporary ones to have a more comprehensive understanding of the term, as it appears differently across different case studies. For example, Walsh discusses how Merton's norms of science cultivate an scientific ethos. Merton is one of the first scholars to address scientific ethos specifically, and acknowledges that science is a "complex of values and norms."[55] The last important factor for Walsh's definition is the contemporary turn back towards ethos as a dwelling place, or a "rhetorical 'place' where an audience would expect to find a familiar speaker."[56] This leads us to Walsh's "working definition of ethos as a *coherent set of expectations about how a person should perform a familiar political role*. These expectations cover both verbal and nonverbal performances, and they frequently reference values – either moral or disciplinary, or both."[57] Ethos is one of

the most important tools for science advisors as it is needed to play the role of mediator between technical and public spheres. The science advisor must have convincing ethos in both the scientific or technical community as well as with the general public.

Walsh differs from Lessl on the adaptability of prophetic rhetoric, in that it does not always function in the same way as the Priestly voice. This is clear in that Walsh is working in genealogy, which as a method of analysis, "assumes that there are genetic continuities we can pull like a thread through the textures of history, raising interesting bumps or cruxes where key hybridizations with other lines occurred."[58] Walsh's justification for genealogical analysis also draws on Foucault's ideas of genealogy which assumes continuity and does not look for the origins of scientific ethos.[59] Finally, Walsh acknowledges that she uses genealogy "to disrupt the perceived purity of scientific lineage… to diagnose current problems with the public perceptions of scientists," hoping that "it will prompt further inquiries into the phenomenal power of this bully pulpit in our political life."[60] Together, this suggests that prophetic rhetoric varies across time and contexts, and it is important to analyze the various conceptions to define the term.

Methods

Although questions of science and technology, including AI, can be addressed through both quantitative and qualitative methods, the focus of this thesis is a rhetorical analysis of the rhetoric of experts in the AI debate. The main points of analysis include the speakers' construction of arguments, building of credibility and ethos, and attention to their audience, which all call for a rhetorical focus. Although there is not a specific format for analysis, like fantasy-theme, analysis of the various strategies used by experts

to make arguments will be considered together. Although there is a somewhat performative nature, or set of questions inherent within these questions, the performative aspect is focused on the persuasion of the audience, and thus calls for rhetorical analysis.

The primary focus of analysis will be the construction of the expert's arguments, focusing on the difference in use of technical, personal, and public sphere arguments. As experts, they are expected to move back and forth between the different spheres effectively to convey complex information to a wide variety of audiences: general, lay or public, and technical. This rhetorical analysis is based off of Goodnight's work outlined above. The end of this analysis will also touch upon the use of prophetic rhetoric as outlined by Walsh.

One specific strategy presents in argument construction across case studies that will hold some focus is the use of enthymeme. Beginning with Aristotle, the enthymeme is thought of as the "body of persuasion" and serves a central role to rhetoric and persuasion.[61] The basic structure of the enthymeme functions through deductions made from accepted opinions, but is shorter than a syllogism or other forms of deductions. In addition, many contemporary rhetorical scholars have expanded upon and worked to define the role of the enthymeme in modern rhetoric. Walter Fisher emphasizes,

> It is important to keep in mind that the enthymeme is a logical construct embodying persuasive parts, premises, and conclusion intended to confirm or change the conduct of those to whom it is directed. An enthymeme can be characterized as a syllogism with one or more suppressed parts, but its essential nature is as a rhetorical form of argument whose function it is to convince or persuade. And it achieves this end, in part at least, by its appeal to man's emotional commitments.[62]

The enthymeme is a tool of persuasion used in the context of argument or debate, that relies on the belief set of a particular audience. This last part is particularly important for

the analysis of this thesis, as many of the enthymematic arguments rely on the beliefs of the audience as well as assumptions that they make. The audience is in charge of making the conclusions to the argument, which is ultimately more persuasive.[63]

Other scholars have extended the enthymeme past its original conception. Jeffrey Walker associates enthymeme with identification. Walker argues that enthymemes function as,

> A concise, emphatic statement of an emotionally charged opposition, one that serves not only to draw conclusions but also to foreground stance or attitude toward the subject under discussion and to motivate the audience to strongly identify with that stance (this is 'identification' as Kenneth Burke uses it). The audience is to feel not simply that the speaker's claims are true or probable, but that both speaker and claims are good and admirable, and the very opposite of what is false, bad, and detestable.[64]

Enthymemes work to set up identification and connection between the speaker and audience. This connection makes the argument even more persuasive and helps to build the speaker's ethos. This identification assists the audience in not only believing the assumed claim, but also connecting the speaker with positive attributes. Walker goes on to argue that, "The enthymematic turn is the rhetorical move *par excellance* for guiding an audience's inference-making and attitude-formation in a particular direction."[65] The enthymeme allows speakers to connect with their audience but also reach a level of persuasion that full syllogisms or technical arguments may not allow for. This technique is important to one of the following case studies, and plays a role in the other. This strategy of enthymeme is one point of analysis, and serves as a strategy primarily of building ethos.

The final piece of analysis will focus on construction of ethos and expertise. As Aristotle notes, ethos is ethical appeal, or a way of demonstrating good moral character,

good sense, and good will.[66] A speaker uses ethos to appeal or demonstrate that they have character and are the appropriate speaker for the setting. This can be accomplished by using appropriate language to the situation, recounting qualifications, and showing expertise.[67] These appeals to ethos is crucial to the construction of expertise. As discussed by Collins and Evans, there are many ways to demonstrate expertise, and ethos is one way to do so. By building a particular ethos, like that of a college professor or of a successful business person, experts demonstrate expertise which can lead to successful arguments. Depending on the ethos built there are different types of expertise and strategies for argument construction. . These notions of expertise can serve as rhetorical resources to make claims about different technical matters. Examining how appeals to expertise are constructed are questions for rhetorical scholars.

Case Studies

The prevalence of the future of AI debate has rapidly increased in recent years. Various institutes and groups have begun to focus on developing protocols for governing AI, such as, Google, IBM, DeepMind, Deep Learning, Future of Life Institute, Future of Humanity Institute, and OpenAI. However, the bulk of the conversation and debate with these groups include grant applications and competitions, scientific papers, and industry/discipline focused conferences, places where the information does not always reach the general public. As highlighted earlier, AI discussions have moved into various areas including businesses and think tanks. This thesis investigates two figures that navigate these spaces to hone in on the ethical dimensions of AI and the role of expertise in advancing such ethical claims: Nick Bostrom and Elon Musk. Bostrom is a professor at Oxford University who takes a much more academic and theoretical approach to AI,

focusing on "the future of life" on Earth. Musk is the former CEO of Tesla, and is a noted entrepreneur in the US focused on technology. Musk may not fit the bill as a typical science expert, but he is still an interlocutor in the debate along with Bostrom.

Nick Bostrom, the founder of the Future of Humanity Institute at Oxford, an interdisciplinary research institute, notes that, "Humanity has the potential for a long flourishing future. Our mission is to shed light on crucial considerations that might shape our future."[68] The Future of Humanity Institute focuses on four research areas: Macrostrategy, Governance of AI, AI Safety, and Biotechnology, with researchers spanning mathematics, sociology, philosophy, computer science, physics, and biology. Bostrom, as the founding member, has also created partnerships with DeepMind, OpenAI, and the Machine Intelligence Research Institute, and others. He also serves as the director of the Strategic Artificial Intelligence Research Center, which sparked his popular book *Superintelligence*, published in 2014.[69]

Due to his involvement with various AI agencies and organizations, he is frequently involved in public argument via various speaking platforms. His 2015 TED talk titled "What happens when our computers get smarter than we are?" has three million views on the TED website, and even more on YouTube.[70] He has also been interviewed by publications such as *TIME* magazine and *The New York Times*, discussing potential dangers and ethical issues with AI.[71] This thesis will focus Bostrom's 2017 keynote talk at the Unexpected Sources of Inspiration (USI) conference. This talk synthesizes many of his talking points and is one of the most recent examples of public argument on AI. Bostrom's keynote is in front of a mixed crowd that USI refers to as "Geeks and Bosses," and the conference overall focuses on the future of "all things

digital," with AI being one of the primary points of discussion.[72] Bostrom gives a lot of background into AI, while also pointing to his work and research to pose ethical questions to the audience at the same time that he proposes one of his favored ethical solutions. This text therefore is one that works well for examining how Bostrom moves between the technical and public discourse while attempting to display his expertise.

Elon Musk is the second case study proposed for this thesis, and serves as a wrinkle in the discussion of expertise in AI. Musk is best known as an enigmatic entrepreneur residing in California. After dropping out of a graduate program in physics and material sciences at Stanford, Musk went on to found many successful startup companies including Zip2 and the precursor to PayPal. After finding success from selling these companies, Musk dove into more adventurous ventures including SpaceX, a private space travel company, Tesla, a high-end electric car company, and OpenAI, the previously mentioned AI centric research group. With these future focused companies, Musk has become quite the internet sensation, lauded for his creativity and future vision. Some of the ventures have panned out more than others, but Musk continues to be in the public eye, a departure from Bostrom. Musk also does not have the traditional training or academic connections that Bostrom has, or what one might expect from an expert in the AI debate.

Musk's general feelings on AI have frequently been expressed through both fear and caution. When he co-founded OpenAI with Sam Altman, Musk's concern was to make sure that corporations did not gain too much control over the development of AI. This follows the "open source" movement in tech writ large, wanting to make information widely available with input from many different people. Musk personally

champions open source with some of his software used in Tesla and SpaceX, providing a sense that the tech community at large is the owner of what they create, not the corporations using the tech. The commitment that Musk has to this idea promotes and emphasizes his ethos as an inventor, entrepreneur, and man of the people.

However, it is important to note that Musk's products, namely Tesla cars, utilize AI as a major component of their functioning. His discourse of caution and vague future outlooks frequently hides this fact, focusing more on the potentially catastrophic potential and less on the fact he is making money off of AI. This makes his discursive moves between expertise and what he says in the public sphere of particular interest to this thesis.

This chapter will examine portions of two recorded interviews with Musk, one at South by Southwest (SXSW) in 2018 and an interview on the Joe Rogan podcast. These two examples are representative of many of his speaking engagements as they are casual interviews covering a wide of topics, where Musk goes on tangents and talks at length about whatever he is asked about, and occasionally something is not. In contrast to Bostrom, Musk rarely speaks in a traditional public speaking formats and forums, frequently opting to showcase his "down to Earth" style in more casual settings. This conversational tone also offers another look at the different approaches to speaking across knowledge gaps in AI, especially for tech gurus like Musk.

Chapter Two: Nicholas Bostrom, the Traditional Prophet

Many of the people taking part in the artificial intelligence (AI) debate are computer programmers, technology gurus, and engineers. This means that much of the debate lives in the technical sphere, utilizing highly technical language and arguments. However, since there is no consensus among experts on…, technical sphere arguments frequently turn towards ethical issues such as the nature of personhood, rights of machines and humans, and where humans rank in value compared to other intelligent beings. Nicholas Bostrom, a philosopher, not a computer scientist, is one of the traditional experts in the debate utilizing both ethical and technical arguments in relation to AI. Bostrom describes himself as a "Swedish-born philosopher and polymath with a background in theoretical physics, computational neuroscience, logic, and artificial intelligence, as well as philosophy."[73] Currently, Bostrom is a professor and Director of the Future of Humanity Institute (FHI) at Oxford University.[74] The Institute focuses on projects that are "multidisciplinary" to combine "mathematics, philosophy, social sciences, and science" to research big picture questions about humanity.[75] The FHI's current focus is on AI Safety, the Governance of AI, and Biotechnology as well as other current technological problems that could possibly interfere with humanity. Bostrom, as well as his association with Oxford, builds his ethos through technical arguments and contributory expertise. However, his main argument to the public is that there needs to be a greater focus on the ethical questions regarding the development of AI. Bostrom leans into his role as an academic and philosopher, using a combination of technical knowledge and ethical questions to engage the public. This positions him as an expert that moves between not only the technical and public sphere, but also can move between the ethical and technical aspects of the debate.

As Bostrom is embedded in these larger academic institutions, he can position himself as a traditional academic, constructing an ethos fitting of various academic tropes. He draws upon this role to demonstrate contributory expertise within the field of AI by shifting into philosophical and ethical arguments and walking the general public through his logic.[76] His personal website's home page is simple, mostly providing links to all of his personal publications as well as FHI publications divided into specific categories: Ethics & Policy, Risk & The Future, Anthropic's and Probability, Technology Issues, and Transhumanism. These publications and categories establish a traditional academic ethos, as well as demonstrate expertise in multiple aspects of AI and technology. Any other academic or scientist that uses his website as a resource to investigate Bostrom will recognize the language and formatting and acknowledge his expertise and position in the technical sphere. The website is no frills with no large menus, just cleanly organized sections that include: the current month's updates and other recent additions to the website, and Bostrom's selected papers organized into different sections. All of these statements and sections include links to papers, Bostrom's bio, CV, as well as FHI and Oxford. April, 2019's update reads, "Currently thinking about some foundational issues. Of course, AI remains a big focus. New paper: "The Vulnerable World Hypothesis". Also giving some talks."[77] Bostrom is clear and concise throughout, and the majority of the website is focused on papers that he has written, signaling to other academics his involvement and commitment to the peer reviewed journal structure.

The general public still can recognize that his work is contributing to a field of research, even if he is not actively building AI machines, as many of the topics and titles blend together philosophy and technology. Some of the titles listed include, "The

Wisdom of Nature: An Evolutionary Heuristic for Human Enhancement," "Anthropic Shadow: Observation Selection Effects and Human Extinction Risks," and "Strategic Implications of Openness in AI."[78] This blend of technical or traditional academic terms with recognizable words and accessible summaries of the articles, Bostrom positions himself as a prophet because he can move between multiple argument spheres in the AI debate. However, this website is not the primary source of the public's exposure to Bostrom.

Superintelligence

Bostrom is best known for his book on AI, *Superintelligence: Paths, Dangers, Strategies*, published in 2014 by Oxford University Press. As the title suggests, Bostrom lays out future possibilities for the functionality and roles of AI in society, AI's integration with human society, future issues that should be accounted for, and what he believes to be the best strategies going forward. I will first explore Bostrom's views on this history of AI, what he views as the potential problems with AI, and the proposed solutions in order to better outline and understand his approaches for speaking engagements, and the case studies detailed below.

Bostrom's framing of the AI debate in his two keynote talks explored in this chapter reflect the structure and argument of the book. The academic press and the expert responses to the book helps establish Bostrom as an expert with initial credibility, drawing upon the expected ethos associated with academia. The structure and language of the book focuses on a technical audience, but contains moments in which Bostrom fulfills a prophetic role by moving into the public sphere.

The beginning of the book serves as a comprehensive introduction to the history of AI. Bostrom opens the first chapter saying, "We begin by looking back… we review the history of artificial intelligence. We then survey the field's current capabilities. Finally, we glance at some recent expert opinion surveys, and contemplate our ignorance about the timeline of future advances."[79] Bostrom's precise language indicates to the reader a straight forward introduction, with a subtle argument to follow. However, at the end of the first paragraph, Bostrom does let some argumentative statements slip when he indicates elements of ignorance in the history of AI. Bostrom's introduction also displays other's expertise and his knowledge that he can draw upon. Bostrom really does start with a large scale view of history, discussing human ancestors of millions of years ago, and explaining the development and evolution of humans. By framing AI in this manner, Bostrom emphasizes the importance of AI, arguing that the possibilities with superintelligence will have a great impact on the evolution of the human race. After this large overview, Bostrom explains to the reader the "changing tides" of AI and how experts have thought of or conceived the possibility of superintelligence. Bostrom overviews the rhetoric (opinions, language and arguments) around AI over the years. The overview establishes a neutral or unbiased stance like a true academic, but also allows Bostrom to demonstrate interactional knowledge on the subject. Mixed in with quotes and predictions from I. J. Good, Alan Turing, The Rockefeller Foundation, and other well-known theorists and experts in the field, Bostrom explains the concept of AI winter and AI summer, periods of time with reduced and renewed funding respectively.[80] Again, a comprehensive understanding of the history of AI signals to the reader that Bostrom has the knowledge to participate in the discussion. The first chapter, as well as a few that

directly follow, can also be conceived as Bostrom building ethos. He wants a technical audience to recognize him as credible participant in the debate, but also for a lay audience to trust him because he walked them through information that they may not have had previously.

The first chapter concludes with an explanation of current AI abilities. The best example of Bostrom addressing both audiences is in this section of the chapter is where Bostrom states that "Artificial intelligence already outperforms human intelligence in many domains. Table 1 surveys the state of game-playing computers, showing that AI now beat human champions in a wide range of games."[81] The table includes the games Checkers, Backgammon, Chess, Crosswords, Scrabble, Bridge, Jeopardy!, Poker, and Go, and each one is accompanied by the name of the world champion that was beat by AI as well as the year that the match occurred. Bostrom's examples is one that is easy to picture and imagine for many of his readers. He shows interactional expertise by knowing this information, but also uses an example that his lay audience will understand. The list of games is followed by other examples with "more weight" like algorithms that can find routes on a map, filter ambient noise, suggest books, and help make medical decisions as well as robots that can complete various tasks like cleaning, surgery, companionship, and mowing the lawn.[82] These examples demonstrate the importance of the rest of the book, continuing to build ethos for Bostrom's argument. AI can already do various tasks that are well integrated into our world, so we really should care about what comes next. Finally, Bostrom highlights the "when" not "if" assumptions of AI by discussing a FHI survey of experts' predictions for the development of AI.

The survey asked experts nuanced questions about when human-level intelligence in machined would be reached. Each participant was asked, “When will there be a 10% chance that human-level machine intelligence is attained?” as well as when there would be a 50% chance and a 90% chance.[83] Bostrom explains the averages and predictions in a table. The answers are broad and demonstrate that Bostrom is aware of the lack of consensus, outside the fact that AI is the future. There were two other questions included asking once human-level intelligence is reached, when would we achieve superintelligence, and what the expert believed the long-term overall impact for humanity would be when we reach human-level intelligent AI. More tables and graphs summarize the information. The survey’s presentation frames Bostrom as a neutral observer or scientist looking to answer a question, but the survey also serves as one of the first places we see Bostrom weave in his own opinions on AI.

To end the chapter Bostrom writes, “My own views differ somewhat from the opinions expressed in the survey. I assign a higher probability to superintelligence being created relatively soon after human-level machine intelligence. I also have a more polarized outlook on the consequences, thinking an extremely good or an extremely bad outcome to be somewhat more likely than a more balanced outcome. The reasons for this become clear later in the book.”[84] By giving his opinion within the context of a survey of experts, Bostrom places himself into this group, establishing his own expertise within the broader conversation. The last paragraph also provides a preview of his main argument, but requires the reader to keep reading and walk through the argument completely. The set up done in the first chapter not only frames Bostrom as an expert, but also begins to

set up the possibility of discussing AI in terms of both technological and ethical questions.

Bostrom's next chapters continue to walk the reader through the possibilities and fundamentals of AI including: "Paths to Superintelligence," "Forms of Superintelligence," "The Kinetics of an Intelligence Explosion," "Cognitive Superpowers," and "The Superintelligent Will." He continues to explain "the basics" and vital information to the reader, demonstrating interactional expertise, while starting to weave progressively more ethical information as the chapters progress. For example, Bostrom's defines superintelligence at the beginning of chapter two, "We use the term 'superintelligence' to refer to intellects that greatly outperform the best current human minds across many very general cognitive domains… To advance the analysis, it is helpful to disaggregate this simple notion of superintelligence by distinguishing different bundles of intellectual super-capabilities… Here we will differentiate between three forms: speed superintelligence, collective superintelligence, and quality superintelligence."[85] The definition, which is accompanied by a short statement of opinion that it is not a good definition, is followed by small sections clearly defining each of these types of superintelligence and providing examples. While the definitions of each type are clear, the details are not always simple. For example, "Collective superintelligence: A system composed of a large number of smaller intellects such that the system's overall performance across many very general domains vastly outstrips that of any current cognitive system,"[86] is described in fairly plain language. But Bostrom quickly gets into the weeds with more technical terms like discussing the "Pleistocene baseline." Later, Bostrom discusses the advantages that digital intelligence has and goes

into detail with many numbers about processing power (120 m/s or 200hz) which the average reader does not have reference for. Bostrom really begins to flex his technical knowledge in the early-middle chapters. The amount of detail and technical language increases, as do the number of complex thought experiments to help him explain examples.

In the chapter "The Kinetics of an Intelligence Explosion," Bostrom employs a gray text box in the middle of the chapter to signal an extremely technical example. He uses actual equations that contain Greek symbols to represent the ratio of change and optimization. The grey box signals a departure from his writing style that has attempted to blend technical and general language throughout. Although he leans technical, this is one of the most technical examples to this point in the book. General audience members can skip over it, but the extreme detail for the technical audience constructs a large amount of ethos for Bostrom. He concludes the box by stating, "These two examples are for illustration only; many other trajectories are possible, depending on the shape of the recalcitrance curve."[87] This "thought experiment" is one of many spread throughout the book and blends the technical information with Bostrom's background in philosophy, working to show potential for more ethical discussions.

A large shift in tone happens at the beginning of chapter eight which is titled "Is the Default Outcome Doom?" Bostrom begins by summarizing his information and "argument" thus far by saying, "We found the link between intelligence and final values to be extremely loose. We also found an ominous convergence in instrumental values…we [also] argued that the first superintelligence might well get a decisive strategic advantage. Its goals would then determine how humanity's cosmic endowment

will be used. Now we can begin to see how menacing that prospect is."[88] Bostrom is piecing together his argument here, helping the lay audience to understand the main points, but reminding the technical audience of what he knows. It is also distinctly darker, harkening back to his opinion in chapter one that the impact will either be extremely good or extremely bad. Discussing existential risk to the human race is decidedly more ethical than technical, and by framing the chapter to focus on the potential for destruction, Bostrom pulls both audiences in. He argues that the general public should be aware of the possibility as it impacts their everyday lives, but also that technical experts need to be considering these possibilities when working with AI. The call for awareness in this chapter is central to Bostrom's argument, but also marks the place in which the audience is asked to think more about ethical questions. Bostrom can also begin to demonstrate contributory knowledge and a different technical knowledge with this discussion due to his role as a philosopher focused on issues of AI and the future of humanity.

The next chapter discusses what Bostrom dubs "The Control Problem," or AI experts' expectation that they/we will not be able to control superintelligence. Bostrom continues to draw upon his previous arguments, walking his audience through step by step; he opens the chapter by saying, "If we suspect that the default outcome of an intelligence explosion is existential catastrophe, our thinking must immediately turn to whether, and if so how, this default outcome can be avoided."[89] Bostrom is "anticipating" the next set of questions the reader may have, but also walking the reader through the argument, ensuring that they will reach the appropriate thoughts and conclusions. The strategy Bostrom employs requires a thorough knowledge of the subject, but also well designed

argument. This chapter also includes another appeal to neutrality and academic norms. Bostrom works through a collection of proposed solutions for the "Control Problem," outlining the strategy and discussing their effectiveness. While discussing "stunting" Bostrom defines it, "Another possible capability control method is to limit the system's intellectual faculties or its access to information," but then immediately discusses the problems, "Stunting an AI in these ways would limit its usefulness. This method thus faces a dilemma: too little stunting, and the AI might have the wit to figure out some way to make itself more intelligent… too much, and the AI is just another piece of dumb software."[90] The explanation and drawbacks for each method are outlined in the chapter, and then summarized in a table at the end of the chapter. Bostrom refrains from offering a value judgment for what might be "best" but does nod to the solution that fits into his suggestions. Bostrom believes a modified version of "social integration," the possibility that AI's integration into society may teach it to have a nicer outcome for humans, as something that has some merit and will be discussed in later chapters. This is the most ethically focused strategy, many of the others are more technically focused. Bostrom demonstrates expertise in this chapter, but also begins to focus on his proposed solution for AI.

The first chapters show Bostrom's knowledge of the technical aspects of AI, the middle chapters contain technical information integrated with discussions of ethics, and the final chapters shift to primarily focus on the ethical solution Bostrom proposes with some integration of technical knowledge. Chapter twelve, titled "Acquiring Values," starts with Bostrom arguing that his solution is the most important. The chapter opens by stating,

> Unless the plan is to keep superintelligence bottled up forever, it will be necessary to master motivation selection… While the agent is unintelligent, it might lack the capability to understand or even represent any humanly meaningful value. Yet if we delay the procedure until the agent is superintelligent, it may be able to resist our attempt to meddle with its motivation system – and, as we showed in Chapter 7, it would have convergent instrumental reasons to do so. This value-loading problem is tough, but must be confronted.[91]

Bostrom pulls together information from earlier chapters, doing the work for his readers in drawing conclusions. He simultaneously justifies the importance of the strategy he proposes by emphasizing there is limited time to complete the decision making process and working to integrate our values with those of AI. This argument also emphasizes the importance of blending technical experts who build the AI with ethical considerations. The importance of Bostrom's ethos building pays off here, showing that his interactional expertise in AI when combined with his expertise in ethics and philosophy is the solution to the potential destruction of the human race. The combination is clear later in the chapter when Bostrom discusses explicit technical strategies to accomplish his goal like motivational scaffolding and associative value accretion, but argues that value learning is best. Bostrom even employs more equations in a gray box to emphasize the depth of knowledge in his solution. The end of the chapter is laymen friendly with a synopsis of all the options and the potential outcome of those options.

Bostrom again anticipates questions by his readers, moving from value acquisition to how to decide which values to teach AI. This again is decidedly an ethical question, and ethics are the primary focus, but Bostrom includes technical knowledge for how to accomplish these goals. The chapter, "Choosing the Criteria for Choosing" begins with approachable language that emphasizes the importance of Bostrom's expertise, "Clearly, it is essential that we not make a mistake in our value selection. But how could

we realistically hope to achieve errorlessness in a matter like this? We might be wrong about morality; wrong also about what is good for us; wrong even about what we truly want. Specifying a final goal, it seems, requires making one's way through a thicket of thorny philosophical problems."[92] Bostrom, by this point in the book, has argued that the value loading proposition is the best solution for AI, and now argues that in order to implement the solution properly, philosophical questions must be answered. Bostrom's claim positions him as essential within the debate, as he can move between the technical and ethical discussions.

The last chapter takes the argument even further by emphasizing the tight deadline for the solution to be implemented. Titled "Crunch Time," Bostrom leaves behind technical language and focuses on an emotional appeal for his reader to consider and advocate for this approach. Bostrom utilizes many metaphors including the Fields Medal, an award in mathematics. He acknowledges that the medal is "important," but that the winner is a young scientist who has made "contributions" to the field, but may not have actually accomplished anything. Bostrom uses this example to emphasize that experts can make proposals and think about the AI issue, but not act; he argues that we need to act. By using less technical language, Bostrom focuses on his general audience, as he has hopefully already convinced his technical audience in earlier chapters. This chapter contains more prophetic rhetoric, where Bostrom hopes to suggest the ethics and values argument as a potential solution, and the conversation that the polity, or general public, should focus on. Bostrom implores, "The intelligence explosion might still be many decades off in the future. Moreover, the challenge we face is, in part, to hold on to our humanity: to maintain our groundedness, common sense, and good humored decency

even in the teeth of this most unnatural and inhuman problem. We need to bring all our human resourcefulness to bear on its solution."[93] Bostrom's appeal to humanity further emphasizes the importance of the issue, but both his role as a philosopher and the role of the general public to make decisions, even if that decision is directed by his, and other expert's arguments.

Case Studies: TED and Unexpected Sources of Inspiration (USI)

Bostrom takes the argument laid out in *Superintelligence* and converts into an even more simplified, "laymen's" version for both of the speeches to be examined in this chapter. The first speech is Bostrom's 2015 TED Talk entitled "What Happens When our Computers Get Smarter Than Us?" This shortly followed the publication of his book, and truly is a condensed version of the argument in *Superintelligence*. TED is short for technology, entertainment, and design.[94] The consequent short presentations at the bi-annual conferences cover topics ranging from art and design, to science and technology, even business.[95] It is designed to gather a lot of smart people in various areas to give short presentations that are capable of going viral. The condensed format works to not only support the viral nature of YouTube, but also holds short attention spans, and can be geared towards a lay audience. With a fifteen minute limit for each speaker, it is difficult to get too detailed on any one subject, and TED talks are frequently structured into a more narrative format. The stated goal of TED is to encourage public discourse, hence there are expectations that technical experts can translate their work into something more entertaining or accessible. The TED talk stands in contrast to more insular formats and venues that cater to more technically sophisticated audiences. Unlike many conferences that are open to a wide variety of spectators, TED conferences require an approved

application to attend and participate in the conference.[96] This implies a level of gatekeeping to ensure that speakers are experts, or well versed in their fields and on their topic. However, all of the presentations are uploaded to their website as well as YouTube to be available to anyone with internet access. This increases the viral nature of TED talks, and Bostrom's talk has 1.5 million views on YouTube, and 3.8 million views on TED's website. The format of TED, as well as the stated goals of TED as an organization, plays easily into Bostrom's role as a prophet. He takes his expertise and shares it in a public forum focused on increasing public discourse.

Bostrom gave a longer, and more involved version of this talk as the keynote speaker at the 2017 Unexpected Sources of Inspiration (USI) conference in France. USI describes their conference as, "A potent concentration of all things digital, the USI conference challenges, explores and questions the future; artificial intelligence, ethics, design, economy, philosophy neuroscience… The event offers an eclectic and impressive roster of speakers that provide our attendees with refreshing takes on new technologies."[97] The stated focus highlights one of the biggest differences between TED and USI, USI is explicitly more focused on technology and technical discussions than TED, which is just to increase public discourse. Although USI, like TED, is looking towards big problems, it is more specifically focused on digital problems. Aside from the more focused nature, USI is also a newer event and less renowned than TED, but also has a more specific audience than the general public. USI looks to reach those steeped in tech culture or working towards becoming experts in the tech field. Both organizations still state goals that emphasize the need to share information, knowledge is meant to be accessible to a variety of people. But again, the attendees of the conference are very specific, it is for

"Geeks and Bosses"[98] implying that some sort of formal connection to digital fields is required. Unlike TED, there is not an application for USI, but it is designed as a conference as well as a networking event. USI also uploads the majority of their talks on YouTube, and Bostrom's keynote has thirty-two thousand views. The USI keynote carries a clearer link to *Superintelligence,* even following the same structure as the book and including some of the same examples. These points are of a technical nature, but the arguments being made and strategies being used are within the personal and public sphere, mixed with prophetic rhetoric.

Building Ethos

As Bostrom's main argument is that we, as society at large and researchers specifically, need to focus on strategies to prevent AI from destroying the world, he spends ample time building ethos as a technical expert. In both the TED talk and USI keynote, Bostrom sets the scene by discussing large historical events that have greatly affected human history. Using graphs, he demonstrates that many historical events like World War One, the Great Depression, and others have not from a long-term standpoint have not made an effect on the quality of life. He claims that there are two fundamental changes to the human condition: the agricultural revolution and the industrial revolution. These examples do not require technical knowledge to understand, are assumed to be part of the public schooling curriculum, and carry weight as big events within the world. It also helps Bostrom perform the role of the expert and prophet by using technical data to come to a conclusion that nobody else has, or is not a common conclusion. This means that Bostrom has information that we do not, and thus should listen to his other arguments. This serves as even more ethos at the beginning of the presentation to use to

his advantage when he switches from primary source and interactional expertise to contributory expertise.

This comparison of defining moments in history is a bold one to experts as well because it emphasizes the importance of the current time period in which experts, and the public, can define or influence the outcome of this next big event in history. He follows the explanation of the industrial and agricultural revolutions up by claiming that AI is the third fundamental change to the human condition and compares it to the rise of homo sapiens. He argues the transition to the "artificial intelligence era" will be more fundamental than the evolution from apes to humans.[99] With this shift from history to predictive argument, Bostrom is asking the audience to trust his knowledge and believe this prediction that he is making. He then moves into familiar, and less technical examples, to support why the audience should believe his predictions. Bostrom "shows his work" more than some science advisors in their respective fields and he gives you many reasons as to why his prediction is right instead of purely asking for trust.

Another instance of gaining ethos through others is when Bostrom utilizes the same survey of experts that he uses in *Superintelligence*. It is a survey that his institute, FHI, conducted by asking "By which year do you think there is [an x] percent probability that we will have achieved human-level machine intelligence?"[100] He demonstrates to the audience that there is a range of opinions and he is fulfilling the role of academic or scientist by going to other sources outside of himself. The lack of consensus is not necessarily information that the public and his audience would have, so he shares some of his "exclusive" knowledge as a prophet and then moves forward to his own conclusions.

He even says we shouldn't put too much weight on the answer to the survey, but rather uses it to emphasize that the topic is important and that the audience should listen to him.

The Technical Sphere and Metaphors

Bostrom's academic and professional persona helps to build ethos in addition to his technical sphere arguments. His speaking style is similar to his writing style, somewhat dry and technically descriptive, and mixed with metaphors and stories. This persona is far more academic than is typical in the tech field, which is full of famous well-spoken CEOs, and less focused on the entrepreneurial aspects of Silicon Valley. For example, Steve Jobs commanded the stage with each Apple release, and gave one of the most popular graduation speeches in recent memory at Stanford University. Alexis Ohanian, the co-founder of Reddit frequently speaks on the internet and social media, as well as other tech topics, drawing large crowds at events. Steve Wozniak, a former Apple founder, speaks at many conferences and generates many sound bites. Elon Musk is a charismatic speaker on a variety of topics, and speaks at both tech conferences and popular culture events like SXSW (South by Southwest) and podcasts. Even Bill Gates is well spoken and has his own style. In contrast, Bostrom is less engaging, frequently stumbling through some of his sections, and falters with tone. He expresses physical discomfort in his speaking style, coughing and struggling with water bottles. His facial expressions suffer from what one might call "resting academic face," frequently grimacing and appearing uncomfortable. Bostrom does not smile frequently, only when he wants the audience to laugh, with his face mostly neutral and serious. This awkward academic speaking persona is reminiscent of a familiar character but also provides a large amount of ethos as the audience sees Bostrom performing his biography.

Aside from the performance of a professorial persona, Bostrom mixes much of his technical topics with techniques utilized within the public sphere like humor and metaphor. This is a defining characteristic of science advisors, and as an expert, Bostrom is expected to utilize strategies and techniques that allow him to move between the technical and public spheres. The clearest way that he does this is the narrative style used to discuss the current capabilities of AI. Initially, Bostrom describes AI as "super nerds," not one of the fully fledged robots of science fiction.[101] This metaphor demonstrates to the audience that current AI is only good at specific tasks, and suggests that they would not function well in society. The trope of the nerd is emphasized when Bostrom discusses the different tasks that AI can currently do, some tasks include things most humans cannot do, but they are all specific tasks. These include deep learning machines that can: caption images and also "hallucinate" images when the program is run backwards, generate a photo in the style of specific artists, photo shopping videos, teaching itself games like Pong and Go, and interpret audio information and translate it back. During this section of the USI keynote, not only does Bostrom give visual examples of everything without too much technical description, Bostrom describes the deep learning with human descriptors and verbs. He occasionally slips into "he" and "they" instead of "it" for pronoun use, and describes human-like actions they take like hallucinating, imagining, and dreaming.[102] This is in stark contrast from the TED talk and *Superintelligence* when Bostrom says that they should avoid anthropomorphizing AI.[103] This slip during the USI keynote, that only happens a handful of times, demonstrates that Bostrom unconsciously moves between the personal and technical as his role is so integrated with both spheres. He cannot choose between remaining objective with "it" or

humanizing AI as might be expected in the public or personal sphere. It is possible that the slip between “it” and “they/he” is purposeful and therefore Bostrom demonstrates how subtly he performs the role of the prophet by moving back and forth.

In addition to the commonly understood examples that Bostrom uses for current AI, he also relies on popular myths and thought experiments that the audience is likely familiar with to discuss the “control problem” of AI. In his USI keynote, as well as his book, he uses the “paperclip thought experiment.” The thought experiment imagines how humans giving AI a simple task like running a paperclip factory, could end in all of the humans on earth having their atoms turned into paperclips. This example is what he refers to as “cartoonish,” but it is a simple example for even the least technical person in the room as it requires no knowledge of technical aspects, but is also to picture. Paper clips are objects that almost everyone interact with on a fairly regular basis. The scaling and size is also absurd, emphasizing the extent to which AI could affect the world. This humorous example also lessons the weight of the ethical claim to place humans above machines and makes light of the potential destruction of the human species. The paperclip example allows Bostrom to insert some seriousness and importance to his topic without inciting panic in the audience. It is also less grim than his initial example in the TED talk.

In the middle of the TED talk, Bostrom discusses the lack of connection between intelligence and what humans believe is a worthwhile task as AI is so focused on optimization. With superintelligent AI, the goal of optimization could extend far past what humans would like it to, or even possibly think of. He says, “Suppose we give an AI the goal to make humans smile. When the AI is weak, it performs useful or amusing

actions that cause its user to smile. When the AI becomes superintelligent, it realizes that there is a more effective way to achieve this goal: take control of the world and stick electrodes into the facial muscles of humans to cause constant beaming grins."[104] In the example, AI would only understand smiling as a neurological function, not an expression of happiness or natural reaction to certain feelings. Bostrom's explanation is accompanied with an old photo of a doctor holding some type of tool to a patient's face who has a large, unnatural smile. The image alongside the scenario that nobody, but Bostrom, is thinking about emphasizes the gravity of possible human consequences. Bostrom illustrates the possibilities that could happen if we do not listen to his prophetic advice. In these laymen examples, Bostrom brings in tacit knowledge to help elevate the average person to understand the complicated and grim nature of the future of AI.

In both talks Bostrom also includes the myth of King Midas, a popular children's fable. He says, "If you create a really powerful optimization process to maximize for objective x, you better make sure that your definition of x incorporates everything you care about."[105] He says that it's not just a metaphor for greed, but also the values of having specific goals and values for AI. It is also significant that he chooses a fable, as they are typically used to promote or suggest proper values or teach a lesson. This choice fits very well within the debate as Bostrom is trying to frame it as ethical not technical. It also shows that Bostrom moves easily between technical and public spheres. If the other examples that Bostrom uses are too complex, this example is so common within the public and has also been tweaked slightly to fit his goals, meaning that these examples works for anyone in the audience.

The Personal Sphere and Humor

Not only does Bostrom move between the technical and public sphere, he also utilizes aspects of the personal sphere to gain likeability or credibility with his audience. The most notable example is of this is in the form of lame jokes he makes during his USI keynote, sometimes at his own expense. While he is reviewing the rapid improvements recently made by AI, he plays a section of music generated by a computer. It sounds like music, but not particularly good music and he remarks, "It's not great… I wouldn't want to buy the record. But it is kind of locally good so if you listen to a second or two it would sound pretty good. But again…"[106] He gets a few laughs out of the crowd, but it falls mostly flat. Similarly, a joke about how quickly the field of AI is improving does not go over very well, "It's like the field is in dog years. One year is actually seven years of work."[107] These low feeling jokes feel like attempts to demonstrate to the audience, "he's just like us," but they feel robotic.

When venturing in to more "tech" jokes, there is a slight increase of audience response, and Bostrom begins to use these jokes as transitions into main points of his argument or emphasize an important point. Towards the last fourth of his talk, Bostrom puts up a timeline for the future potential of AI consisting of "now," to "short term," "long term," and finally reaching a "crazy sci-fi stuff" that is struck through and replaced with "Deep Future."[108] He references science fiction in his TED Talk as well, but only as a way of connecting with the audience's understanding of technology.[109] Bostrom could also be attempting to draw upon the inherent ethical qualities of science fiction. Audience members who have seen a science fiction film are familiar with the difficult questions

these films ask, which are similar to the ethical and philosophical questions that Bostrom is asking.

The second tech joke he makes is a visual one when explaining the "paperclip" thought experiment or "paperclip AI." According to Bostrom, this is a thought experiment that addresses the consequences of AI by imagining an AI run factory that makes paper clips, but to become more efficient it disrupts human control and eventually takes over the world by turning every atom into paperclips. The visual joke that the audience chuckles along to is internet famous Clippy, one of Microsoft Word's "helpers" from older versions of the software. The help speech bubble from the cartoon on the slide says, "It looks like you're writing a letter. Can I transform all your atoms into paperclips?" then there are two options that both say "Yes," and a "Don't show this tip again."[110] This joke contrasts heavily with one of the first mentions of mass destruction of the human race, coming quite late with only four minutes left in the lecture.

This Clippy joke takes away from the sting of human destruction and allows Bostrom to frame his argument as an ethical dilemma. It also allows Bostrom to demonstrate that he is part of the "in group." He is simultaneously a member of the technical community while also having access to information that some other members of the group do not, qualifying him to fulfill the role of the prophet. Bostrom is not looking for fear necessarily, he wants awareness of potential problems and for the focus of AI research to be on proactively preventing big problems, while addressing his viewpoint of placing humans above AI within the ethical debate.

Bostrom has more success when he uses self-deprecating humor in relation to his book *Superintelligence*. He comes to a slide in his presentation that has a screenshot of the cover of his book accompanied by a one-star review from Amazon stating, "I read it in 3 days and I'm profoundly depressed."[111] He couples this with the comment, "I wrote a book a couple years ago on [machine intelligence] which made an impression on some people."[112] This gets more of a response, and as the audience laughs at his joke, Bostrom fidgets with his water bottle at the speaking podium, something he's done a few times. This not only serves to relate Bostrom to his audience, but also gains him ethos by subtly demonstrating contributory expertise to the field.

However, Bostrom then uses this transition point of a joke to go into one of the first hard stances he has taken on AI during the presentation, "I would like to take this opportunity to say that I'm actually not that down on it, I think the potential is huge…"[113] Bostrom moves between personal, public, and technical spheres in the span of a few minutes, again demonstrating his role of prophet, and emphasizing the importance of listening to his advice. The personal sphere, or joke, creates levity and proves to his audience he is relatable. The comment itself, and his tacit, contributory knowledge being out in the world, acts in the public sphere gaining ethos as an expert. And finally, the technical sphere is when Bostrom transitions into the great potential for AI and the approach that needs to be taken to maximize the potential and minimize human destruction.

Bostrom's use of humor in the USI keynote is different from the TED talk in which he only makes two jokes. One is a reference to the terminator, in which he laments that all the articles in popular media about the future of artificial intelligence include an image

of Schwarzenegger's character. The other is when he references to a human's "off switch" being their neck, and mimes a choking motion. This comes in the middle of a discussion on why we can't expect to just turn off artificial intelligence if it gets out of control. The humor in the USI keynote highlights a shift in Bostrom's strategy that appeals to a non-technical audience in a different way. It works in tandem with his professor persona, and also provides some relief from what could be a very heavy topic; strategies that should be implemented to prevent he destruction of humans. Bostrom navigates multiple spheres, and by doing so acknowledges that only technical knowledge cannot win the argument. He uses humor to provide examples and take away the severity of the conversation, but also as a transition point into more serious claims and arguments.

Bostrom the Prophet

Bostrom stands squarely in the role of the prophet in the final minutes of both speeches. He mirrors *Superintelligence* in both instances, but does not include nearly as much detail. Bostrom merely proposes, "The answer here is to figure out how to create superintelligent AI such that even if – when – it escapes it is still safe because it is fundamentally on our side because it shares our values. I see no way around this difficult problem."[114] Bostrom does not actually suggest what the values are we should teach AI, nor does he say who should choose these values. This may seem unsatisfactory as an answer, but for Bostrom works to emphasize the importance of his role as a prophet who can guide the general public as well as other technical experts to these answers. Bostrom's lack of concrete answers is also in line with Walsh's claim that prophets do not have the answers, they start discussions within polities so that the general public can reach a decision.[115] By not providing the answers in his speeches or in his book, he

maintains his role as prophet by having information that we do not. *Superintelligence* has a much more technical and philosophical version of this with more detailed suggestions, but the public talks which are more focused on the laymen than other experts, works to firmly keep the role of prophet in his possession.

Bostrom uses his role as a prophet and associations with academic institution to build the ethos of a professional or academic expert who has a unique and neutral view on the AI debate. By moving back and forth between personal and public sphere arguments Bostrom relates to the audience, and uses shared languages, experiences, and narratives to explain the difficult nature of the debate in an approachable way. Simultaneously, Bostrom works to build technical ethos with both his laymen and technical audiences by demonstrating lower level tacit knowledge mixed with some contributory knowledge. Once he has built his ethos sufficiently and built rapport with the audience, Bostrom transitions into his own personal beliefs and claims that they are the best options within the AI debate following his professional and neutral assessment. In all the examples presented, he works to walk the audience completely through his argument, making sure that the audience reaches the conclusion that he wants. Bostrom does so by placing an emphasis first on technical language, but then integrates this technical language with techniques like metaphor and humor to reach a general audience.

Chapter Three: Elon Musk, a Populist Prophet

Expertise is frequently defined by academic or formal credentials like advanced degrees from accredited universities in a particular the field of study. Journalists, politicians, other academics, and other officials frequently call upon academics to provide opinions on topics that they possess expertise for. Recently this has been called into question, do academics hold all of the expertise and answers; traditional forms of expertise are being called into question.[116] The rise of celebrities, influencers, social media, and vast amounts of information at fingertips complicate questions of expertise. Celebrities in particular serve as influencers and when they make endorsements, there can be rhetorical consequences. It becomes more complicated when this celebrity status blends with more traditional forms of expertise. Elon Musk positions himself as a celebrity and entrepreneur, drawing upon the performances most related to entertainers (large twitter following, guest appearances). His appeals to traditional notions of academic expertise are largely secondary to his status as a celebrity. Musk is difficult to define as he leverages his expertise through his behaviors, quirks, and good ideas. Even though Musk claims that most people do not know what he does, many people assume that he must be an expert through the odd, celebrity entrepreneurial persona he constructs.

Entrepreneurial Rock Star

Musk was born in Pretoria, South Africa and lived there before moving to Canada to study economics and physics at the age of seventeen.[117] He was accepted to a doctorate program in applied physics and material sciences at Stanford University, before quitting after two days to found a startup called Zip2. Musk later sold the company and moved on

to found many other technology companies like the precursor to Pay Pal, Tesla, and SpaceX.[118] Musk plays into the "bootstrap" or "blue collar" American narrative associated with Silicon Valley, where tech experts build themselves up with hard work and good ideas. This role as celebrity and entrepreneur provide a unique way for Musk to construct his expertise in the AI debate. The beginning of this chapter will analyze the general ethos appeals that Musk makes before moving on to examine how these appeals to expertise materialize themselves in two texts.

The BBC recently referred to Musk as, "one of the world's most prominent business figures," who has a wide variety of interests, "includ[ing] solar energy and artificial intelligence, a high speed travel system involving tubes and magnets, plus he has designs on Mars."[119] Musk frames himself as an innovator developing companies and new technologies to fill what he sees as gaps in the world. SpaceX is intended to pick up where NASA has left off, working to make space travel, and living in space, affordable in the future; Tesla builds luxury electric cars and solar energy products to help solve fuel issues with current transportations; the Boring Company digs tunnels that can be used for "loop" transportation or for water transit to alleviate traffic; NeuraLink works to build technology that would be inserted in the brain to interface with artificial intelligence at a higher processing capacity than humans have on their own. All of these companies develop novel technologies that "only Musk" could propose. His flair for these new, and often quirky ideas, work to construct ethos as a general technology expert.

Musk positions himself as an innovator and not an investor. Unlike other entrepreneurs, Musk never invests in other ventures and shies away from defining his role as an investor.[120] This effort to distance himself from the financial elements of innovation

cultivates an ethos of being more involved in the development of a company than an overt concern of the fiscal health of the company. Many investors just contribute money and do not contribute ideas or get their hands dirty on a regular basis. Musk's effort to differentiate himself from investors helps muddy an understanding of his actual role in any one of his companies. Such vagueness enables Musk not only to redefine his role as needed, but also to allow his audience to assume which topics he has expertise in. We are not sure if Musk is actually in the lab creating or holding contributory expertise, but we give him the benefit of the doubt because he has so many good ideas.

Musk is the founder of many companies and assumed to be an expert in many fields, thus he is frequently asked to sit on panels and is quoted in many articles and other works discussing the future of AI.[121] He frequently plays up his celebrity and vague tech involvement while proposing his new ideas, cultivating an ethos of presumed technical knowledge of the development of AI. Many successful tech entrepreneurs like Steve Jobs are given celebrity or "rock start" status.[122] Musk helps generates this rock star persona through his involvement on social media, building a cult following of self-described nerds to support him. Musk frames himself as a loveable nerd who has the means to actually act out ridiculous thoughts or ideas that many cannot, and his fan base buys into it, constantly watching his Twitter feed for updates. All of these antics, which is not expected in academic or more traditional experts, add to Musk's appeal. His followers are willing to give him latitude, and thus other members of the general public are also willing to give Musk the same benefit. All of this latitude due to antics or rock star persona generates more ethos, and Musk is afforded more latitude; we assume he must know what he is talking about because we want him to know what he is talking about.

For example, The Boring Company that is currently digging massive tunnels in Los Angeles was started as a joke. The joke being that it is a funny name for a company, and his friends or close colleagues also thought it was funny.[123] Musk loves a good double entendre and pun, but he takes the joke further through the "merchandising" aspect of the company. After he got the company up and running, the expenses were, and still are, covered by merchandise sales. The expenses of a company are generally covered by investors, but Musk uses the merchandise to demonstrate that he is in on the joke, he gets the reference. The acknowledgement of the joke is taken well by other self-described nerds who are also in on the joke. Not only does this add to the list of stunts, but it also hides the fact he potentially could not get funding for the project, and allows him complete control to do it "his way."

The stunts and jokes all contribute to the public thinking he must know what he's doing. The first product The Boring Company sold was a hat that simply said "The Boring Company," and it sold out in a matter of days. The next item was "(Not Really) Flame Throwers."[124] The idea of the flame thrower came from a short section of the movie *Space Balls*, a self-referential cult classic in which the main characters find the "merchandise area" where the movie "actually makes money."[125] The Boring Company sold 20,000 flamethrowers along with Boring Company branded fire extinguishers. Musk's reliance on inside jokes, playing off shared cultural references, helps communicate that he is "one of them." However, Musk also separates himself as the one with the big ideas and the exorbitant abundance of resources. Musk is someone that other nerds aspire to be because of his success, and since Musk gets the jokes, it comes across as sincere. Musk started as one of the "nerds" enjoying the in jokes but now is a

successful tech entrepreneur. The audience that understands the joke is willing to assume some expertise for Musk, or at least listen to what he has to say.

Another example of this are jokes hidden in the newest Tesla software update. In popular culture, Easter Eggs refer to text, images, visual or dialogue jokes that are intentionally hidden inside another piece of media for the enjoyment of the audience.[126] This strategy has become increasingly popular, and creates an in group of fans who are particularly passionate or paying close attention. Creators use Easter Eggs to acknowledge these groups, and participate in a larger cultural discussion. Frequently following the release of particularly popular media, like films, are followed by articles that point out the joke to those not in the know.[127] There is now an "Easter Egg drawer" menu in the Tesla center console that includes Atari video games, a drawing app, "romance mode" which plays cheesy saxophone music and displays a crackling fire on the screen, and an app that makes the car fart called the "Emissions Testing Mode."[128] The joke here is not only a lot of pop culture jokes hidden in the complex technology of a luxury car, hence the Easter egg title, but also that Tesla makes completely electric cars that are emissions free. Musk makes connections with his fans through not only understanding the "in" jokes and making fart jokes in a luxury car, but he also does this while sales are down, and there are reportedly issues with the cars being produced.[129] Musk works hard to make sure that his fan base believes in his abilities, and also defends him online, potentially at the cost of other important figures like investors and government officials taking him seriously. Antics like the Easter Egg drawer may suggest that Musk cares more about cultivating his fan's view of him, and acknowledging the amount of ethos he gains from them.

Musk's Online Presence

Musk's Twitter feed is active, creating the persona of the ultimate nerd and someone who is up to date with all of the current Internet memes, jokes, and trends, while integrating the success of his popular companies. There are two types of posts that Musk shares jokes and positive posts about his companies. Puns are a frequent fixture, like a meme with a picture of his face over a sunset and the caption "Elon Dusk" or even renaming the account "Elon Tusk" with an elephant emoji.[130] He also shares currently popular meme formats like Laurence Fishburne's "what if I told you" and "hello, this is dog." This not only references relevant popular culture like *The Matrix*, but communicates to his fans that he understands internet culture and is current with jokes enough to participate in the jokes. These memes stand alongside photos of himself, both silly and doing general "science" activities like holding flame throwers and watching the tests for his new SpaceX rockets.[131]

In contrast, Musk posts positive news stories about his companies. Recently, this has included a CNN Business report detailing Tesla3 as the bestselling luxury car of the year, and an article announcing SpaceX has gotten NASA approval for a specific launch.[132] By juxtaposing this business success with jokes, Musk further cultivate an authenticity as a successful nerd. This gives the impression to his audience that Musk is experiencing success throughout his companies, which boosts his wide range of expertise. If he is high achieving throughout his ventures, this not only reinforces that his ideas are good ideas, but it also leads the audience to listen to him. Musk then serves as an aspirational figure to many of his fans, he is someone to aspire to.

However, building a playful persona with cheeky jokes is not without its pitfalls. For example, Musk has recently come under fire for what he shares on Twitter, specifically regarding Tesla. Although his unregulated style of Twitter may win credibility with some of his fans, Musk has also caused controversy and has been disciplined by the US Securities and Exchange Commission (SEC). Musk tweeted, "Am considering taking Tesla private at $420. Funding secured."[133] Musk settled on these charges, and he and Tesla were each fined twenty million dollars. This brought Musk's capabilities as CEO into question, but he was allowed to remain in the position, partially due to the cult fan base he amassed. Around the same time, Musk was called into question for smoking marijuana on *The Joe Rogan Experience* podcast live-stream, and later the same week made inflammatory comments about a member of a rescue team in Thailand.[134]

Both events lead to more controversies, questions from the media, and Tesla stock prices fell to their lowest point since the creation of the company.[135] However, none of this information made its way to his Twitter feed, thus it is difficult to say exactly how it affected Musk's ethos. On the one hand, these antics seem to fit into Musk's persona and none of the negative press made it onto his Twitter feed. However, there is negative press and questions of his abilities within his role as CEO, which could lead to doubt in his expertise for those that are not members of the cult or nerd fan base. Despite this negative press, Musk maintained his role as CEO, which suggests that his ethos with his fans is more beneficial than the negative press and doubts as a result of his negative antics. The persona of the successful nerd resonates with fans, and with buyers or investors,

ultimately leading to success in his businesses. Others involved in the businesses recognize that Musk's ethos is a large reason as to why the businesses are successful.

The Flipside of Fame

In February 2019, Musk took to Twitter again to make predictions about where Tesla is headed and what their future earnings may look like. This is a clear example of Musk utilizing his ethos as both a "super nerd," or part of the "in group," and his success to demonstrate prophetic ethos to his audience. By utilizing prophetic ethos, Musk can use some non-standard business practices like tweeting out projected numbers. In one tweet Musk says, "Tesla made 0 cars in 2011, but will make around 500K in 2019."[136] He amended this quickly by tweeting, "Meant to say annualized production rate at the end of 2019 probably around 500K, ie 10K cars/week. Deliveries for year still estimated to be about 400k."[137] Musk is sharing this information with his group of fans, another way to create an "in group," and separate himself from other entrepreneurs and business owners.

However, these potential results are exactly what lead the SEC to file a complaint against Musk, claiming he violated the agreement reached the prior year. Fans flooded to Twitter to defend Musk against the allegations, and Musk re-tweeted and interacted with them. For example, when a fan pointed out that what Musk had tweeted was in the quarterly expense report for Tesla, something that can be obtained, Musk replied, "Exactly. This has now happened several times. Something is broken with SEC oversight."[138] This response not only demonstrates that Musk is approachable, but the fans' defenses also emphasizes that Musk is always right, or at least knows what he is talking about. Musk demonstrates some knowledge that others may not have as well,

hinting at his role as prophet by projecting what success he will have in the future. This disagreement lead to more speculation over Musk's "erratic behavior" and fitness as CEO and public face for his companies. This erratic behavior is part of how he has built ethos with his fans, but it diminishes his ethos with officials and regulators. The behavior also works to establish premises for later enthymematic work as Musk's fans begin to give him latitude for some of his crazier antics, maybe even justifying it as Musk working against the establishment in a positive way.

CNN Business went as far as referring to Musk as a "loose cannon" claiming, "Musk is undoubtedly the genius behind the industry-changing electric cars Tesla builds. But he is also the driving force behind the volatility in Tesla's stock and the revolving door of top executive talent at the company."[139] This can help Musk's ethos and role as an expert because on the one hand he is the reason his companies experience success both because of his ideas and his persona. However, on the other hand, Musk's work to build that persona hurts his ethos with some as he is breaking the rules. But the rule breaking distances Musk from traditional experts, and can in turn build ethos through showing "innovation" and difference. The power of his ethos can be demonstrated by the continued success that Musk still has despite the antics. The author of a recent "Business" article also notes, "Musk is irreplaceable. Staying with Tesla would be a net positive for the company. His product vision, focus on pace of innovation and delivering great customer experiences are not easily replicated. The execution of that vision has often fallen short. Tesla is famous for missing deadlines and targets… Still, Tesla's current owners are among Musk's biggest fans… Customers treat Musk like a rockstar."[140] Musk's fans and other members of the public are willing to overlook, ignore, or not

search out his bad press as his ethos as celebrity tech guru and "one of the nerds" is all that they to trust what he says.

Musk marshals this persona to frame his prophetic ethos as having sufficient technical expertise to weigh in on the AI debate. I will now explore two specific instances in which Musk wins ethos to deploy specific arguments about AI. The case studies demonstrate two different points in time and instances of Musk making two very different arguments or suggestions. By ingratiating himself with his fans as part of the group, they trust him, leading to credibility as a technical expert, innovator, and entrepreneur. His business success and non-traditional persona lend itself to Musk "knowing" things, and his audience is then inclined to listen to him. This persona begins to function enthymematically to support his ethos when discussing AI. For example, because Musk is not one of the standard experts he critiques, his audience concludes that he really is the expert. Musk does not call himself an expert, he relies on his rock star persona, business success, and in-group jokes to build ethos, and lets his audience fill in the technical expertise in AI.

Case Study One: South by Southwest (SXSW) 2018

The media savvy Elon Musk is often found participating in casual speaking engagements such as one-on-one interviews. He can be found on larger discussion panels, but saves most of his contributions for the Q&A portion. There are almost no examples of Musk giving formal speeches, with the exceptions of a commencement speech for the University of Southern California Business School and two TED Talks that focused on Tesla and the future of Tesla. Musk's choice of venues suggests a preference for more

intimate rhetorical settings that eschew the formalities associated with business presentations or technical knowledge declarations found in academic settings. One example of Musk's informal style is his "talk" at South By Southwest (SXSW) in 2018. SXSW is a relatively new festival-conference hybrid hosted in Austin, Texas every year that covers a wide array of topics including film, technology (cryptocurrency, coding, "intelligent futures," and more), food, social and global issues, and music, just to name a few.[141] The conference hosts numerous exhibitions for entrepreneurs, health and medicine, film and TV, and sports, while simultaneously running concerts, comedy shows, and food demonstrations throughout the length of the festival.

In 2018, there was a large exhibit for HBO's *Westworld*, and featured a panel of the creators and main actors and actresses. Musk happened to be at SXSW with his children and showed up to the panel. As a celebrity in the audience, he was invited on stage and started answering questions from one of the show's creators. This impromptu contribution to the panel fits Musk's "cool" persona as one able to discuss questions of AI, even though his notoriety stems from technically innovative companies that are not directly related to the development of artificial intelligence. On a panel about *Westworld*, we would expect experts from the creative industry or AI development, but Musk is neither. However, the positive reaction to Musk suggests that he should be listened to. The unorganized and spontaneous nature of just showing up to a popular event to talk with fans "off the cuff" builds Musk ethos of an expert. Musk is asked questions and just begins to talk, the confidence in his answers as well as the impromptu style paint the picture that Musk knows what he is talking about. The unorganized nature also connects with his audience, as he is taking time out of his busy schedule to do something for the

audience's benefit. Musk ends up being asked about a variety of topics, but spends a good amount of time on AI.

At the beginning of the Q&A, Musk receives a large amount of ethos from his introduction from John Nolan, *Westworld*'s creator and the host of the session. Nolan begins with a narrative of his skepticism when pitching *Interstellar*, an incredibly successful film about space travel, because he believed that the kind of space travel planned for the movie would not happen or was not possible. Nolan goes on to detail how he met Musk and began to believe in future possibilities, "I think, personally, Elon is the one moving the needle back in the other direction [towards the importance of space travel]. Kind of by himself at this point… more than anyone I can think of. So the net result of this is I think we are going back to the moon, we are going to Mars, and I think a lot of it is because of you."[142] Nolan adds to Musk's ethos as a visionary and sets up a broad range of expertise. In the narrative he says that Musk is almost single handedly swinging the exploratory possibilities of space back in the "right" direction, or a direction that encourages science. This builds on top of Musk's celebrity status by suggesting that his ideas and work are moving society forward, leading the audience to believe that they should listen to his advice and decisions. Before Musk speaks for himself, his ethos as an expert and celebrity is beginning to build as a result of his existing persona and Nolan's introduction.

Musk does cultivate ethos on his own by mixing technical language in various places in the conversation, however it is mixed in with Internet jokes and lame puns. Much of his language is casual and slangy, like referring to the rocket his company is building as "codename BFR," which he will not explain, but goes on to make a joke

about size, “it is really big.”[143] This cheekiness is similar to much of his language on Twitter, which constructs and pulls together his large fan base. But then Musk drops comments like listing what will be needed to colonize Mars, “propellant, power stations, glass domes in which to grow crops, all the fundamentals,” to demonstrate technical knowledge through using technical language.[144] Musk later says, “We are building the first ship, the first Mars, or interplanetary ship. We’ll be able to do short flights… This is a very big ship, the lift off thrust of this would be twice that of a Saturn Five.”[145] He does not go into much detail about what the language means, ensuring that the general public relies on him to understand that information. It also demonstrates tacit, interactional expertise as Musk understands the terms well enough to use them in conversation casually, but does not quite reach contributory expertise.[146] Soon after his assessment of the fundamentals for Mars, Musk makes a statement about the next step, as well as a terrible pun: “Then there will be an explosion of entrepreneurial opportunity, because Mars will need everything from iron foundries, to pizza joints to nightclubs… Mars should really have great bars. Um, a Mars bar. I love Dad jokes, alright? I’m a dad.”[147] By using humor in quick succession with his technical knowledge, continues to create the suggestion that we should listen to him.

Within the first two minutes of the Q&A Musk is asked, “Mars: how can we help?” and he states the issue is getting the rocket built. However, once he gives the simple answer, he begins making predictions, “We’ve built it, we just need to make it worthy of space travel… we need burden of proof. Once we can show other countries that don’t believe it’s possible, and we do it and show them it is, then they will up their game and they will build interplanetary transport vehicles as well.”[148] Musk is ruminating on

the future with conditional predictions, based on what he and his companies are already doing, as to not only what the future of space travel looks like and what other countries around the world will be doing in this area. The prophetic nature of this ethos not only works to benefit Musk himself, but also his companies; the success of his companies results in more money for Musk, but also more success to build ethos with. Because the argument is based on his exclusive knowledge and actions his company is taking, he relies on the ethos around his company, as well as his interactional expertise to convince the audience that his predictions are correct. In combination with his relaxed demeanor and the setting, the answers seem obvious, and the audience believes Musk, as a few minutes after these comments audience members are raising their hands to volunteer as Mars colonists. Musk blends technical knowledge with predictions, "So, I'm feeling pretty optimistic about the timeline, although I can be a little, sometimes my timelines are a little you know… [pauses as crowd laughs] People have told me my timelines have historically been optimistic, and so I'm trying to recalibrate to some degree. But I can tell you what I know is currently the case…"[149] Musk's audience laughs because the fans in the audience understand the reference to his incorrect prediction of the Tesla3. He uses self-deprecating humor shows that Musk is self-aware of his small bit of "failure," which buffers critique. Despite the failure, Musk's ethos and acknowledgement of his group of fans keeps his fans interested and listening to him. Musk uses his already set ethos to admit that his timelines are frequently not correct, what he terms "optimistic," but in the same sentence continues to make predictions anyway.

As a transition point, Nolan asks Musk about his day to day with SpaceX, and Musk uses the opportunity to build ethos by performing contributory expertise with the

company. Nolan prompts Musk by saying, "You're very hands on with the details, but you're also looking at the bigger picture. How do you manage your time? How do you…how do you parse you know? How do you zoom in and zoom out and make sure that all these things are coming together?"[150] Musk responds by saying with SpaceX, he spends about eighty to ninety percent of his time on engineering and design while someone else takes care of business operations. Musk is working to convince his audience of his contributory expertise by telling everyone how involved he is with the creation of rockets on a daily basis. By noting he is intimately involved with the creation of the rockets, Musk is suggesting that he possesses tacit knowledge of rocket science. This intimacy with the day-to-day production suggests that he has a similar relationship with all his companies. Musk does not in fact do that much design work with all his other ventures, and if he is splitting his time evenly, the eighty to ninety percent is not actually that much time. This quote suggests that he values tacit knowledge of a technical manner, "Yeah, I think in order to make the right decision you have to understand something, you have to understand something at a detailed level, if you don't you cannot make a good decision."[151] Musk is telling the audience, that in order to make a good decision, then you need to have detailed knowledge. In other words, he is crafting an endorsement for the virtues of tacit knowledge, and to a certain degree suggests that he has this tacit knowledge. With these two pieces of information, Musk again makes the enthymematic argument that because he has at least some of this contributory knowledge, he can make good decisions, and if he can make good decisions, we should listen to him and follow these decisions or implement them ourselves.

Despite this established ethos and cultivated persona of the expert, Musk actively works to separate himself from the pool of experts in AI. After discussing The Boring Company at length Nolan says, "A lot of experts don't share the same level of concern about AI as you do…" which Musk interrupts and declares, "Ha, fools! Famous last words."[152] Nolan works to include Musk in the group of experts, or at least associate Musk with traditional AI experts, whereas Musk works to disassociate himself and create space between himself and the traditional AI experts. Musk creates rhetorical space between himself and traditional experts, and this space allows for his fans and audience to fill in Musk's expertise. This rhetorical space is where enthymematic arguments occur. Musk goes on to create more space and make a prediction:

> The biggest issue I see with 'so called' AI experts are that they think they know more than they do. And they think they're smarter than they actually are… We're dumber than we think we are by a lot. This tends to plague smart people. They define themselves by their intelligence and they can't stand the idea of a machine being smarter than them, so they discount the idea which is fundamentally flawed. That's the wishful thinking situation. I'm very close to the cutting edge in AI and it scares the hell out of me.[153]

Musk suggests that traditional AI experts do not see the consequences and dangers of AI, which he sees as a flaw in traditional experts as a whole. Traditional experts do not see the dangers because they are too focused on the technical feasibility. The implication is that Musk's business involvement gives him distance from that and allows him to recognize the implications of this technical knowledge. By saying, "smarter than they actually are" and saying that this is one of the biggest issues with these experts Musk calls out the hubris of traditional experts. Since he has also created space between himself and traditional experts, the enthymematic argument from Musk is that he is as smart as he thinks he is, and his intelligence is not a problem. Musk does not have the same issues

that traditional experts in AI have because he is not one of them. The other part of the unsaid conclusion is that Musk is a "cool" expert because he is not part of a group that takes themselves too seriously. However, Musk is also successful in his critique of traditional experts because of his technical ethos.

Musk uses this rhetorical space to make predictions about AI while continuing to employ an enthymematic argument structure. When he brings up the game AlphaGo, one of the recent tasks AI developers have set for their creations, he details that the timeline was much faster than expected by other experts:

> Nobody expected that rate of improvement. If you ask those same experts, who think that AI is not progressing at the rate that I'm saying I think you will find that their predictions for things like Go, and other AI advancements… their batting average is quite weak. It is not good. We'll see this also with self-driving, I think probably by end of next year, self-driving will encompass essentially all modes of driving and be at least a hundred to two hundred times safer than a person, by the end of next year. We're talking, like, maybe eighteen months from now.[154]

Again, Musk is working to separate himself from traditional AI experts by using the third person to refer to them and placing their predictions in direct opposition to his. Musk does not come out and say that his predictions were right, but he does say that traditional expert predictions were not very good. He uses juxtaposition to develop inferences that his arguments or predictions were better than traditional experts. Because Musk demonstrates technical knowledge, his audience can assume that this knowledge combined with his business role gives distance for him to see the answers clearly. When his audience accepts his superior knowledge, they can then listen to the next prediction he makes about timelines involving technology. In addition to the space and opposition he has set up to gain ethos for his prediction, Musk's company Tesla works in the industry of self-driving cars that are highly reliant on development of AI. Thus, since the audience

has already bought into his contributory expertise for each of these companies, the audience has many reasons to believe the timeline.

A few minutes later in the conversation, Nolan starts to ask Musk how to tackle the issue of AI being a danger. Musk advises: "We need to find a way… have to figure out some way to ensure that the advent of digital superintelligence is one which is symbiotic with humanity. I think that is the single biggest existential crisis that we face and the most pressing one."[155] This argument is one that Musk's fans are very familiar with as he is known for being more fearful of AI, as Nolan brings up when the subject is first discussed. Musk begins with the comment on ensuring symbiosis to advise the general public on what needs to be done, or what might be considered the ultimate role of the prophet.[156] Nolan's next question is how to ensure symbiosis, Musk's solution is fairly simple and not very detailed, but he provides even more ethos to what he is saying by emphasizing the danger of the situation:

> I'm normally not an advocate for regulation and oversight… But this is a case where you have a very serious danger to the public and it's therefore there needs to be a public body that has insight and oversight, to confirm that everyone is developing AI safely. This is extremely important. I think the danger of AI is much greater than the danger of nuclear warheads by a lot. And nobody would suggest that we allow anyone to just build nuclear warheads if they wanted. That would be insane. Mark my words, AI is far more dangerous than nukes. So why do we have no regulatory oversight? This is insane.[157]

Musk uses many qualifiers like "very," "extremely," and "far more" to emphasize the danger to the public. The comparison of AI to nuclear warheads further emphasizes the danger by making reference to the Cold War scares, as well as current anxieties of mutually assured destruction. The emphasis on the danger makes Musk's role as prophet and his predictions that much more important. If the audience already has bought into the

importance of his predictions and his high level of expertise, than by "showing" the audience through comparison his words and role become more influential than they already were.

At this point, Nolan asks an unrelated question and moves on from AI, but Musk is still making predictions. By making predictions about the dark ages, a potential World War III, and what the focus for the next generation should be Musk can cement his broad range of knowledge. For example, Nolan asks, "Other than what you are worried about or focused on, what should the next generation be worried about?"[158] Musk pauses, but his response becomes, "Things on longer time scales… obviously some of the things I believe in…" and goes on to detail the importance of bases on Mars and the Moon, both projects he is heavily invested in. By ignoring Nolan's prompting of "other than what you're interested in," Musk does not have to say that what he is working on is the most important, it is implied when he just begins to talk about his work. Musk gets asked more questions about sustainable energy and even what he would want the world to look like.

In answering what the ideal world would look like, with all the problems he is working on solved, Musk continues to show his expertise and role as prophet by pushing a new company. Throughout his description of his ideal world, Musk makes references to Isaac Asimov, one of the most popular science fiction writers of all time, JRR Tolkien's *Lord of the Rings*, and notes that he has to be careful about his jokes because "not everyone understands irony."[159] These references signal to the nerds and super fans in the audience that Musk is one of them, but he is the rock star version because he is on stage. The audience skews towards Musk's fan base, they understand Musk's references and jokes, but fans are also apparent as Nolan begins to ask questions from fans on Twitter.

The last piece of the new world discussed is that humanity has found a way to have benign superintelligence and has found some sort of symbiosis with the AI. Musk references others' thoughts, potentially including Nick Bostrom and Sam Harris although he does not include direct references to them, about symbiosis and optimization. Musk believes that the solution to symbiosis is solving a bandwidth problem for interfacing with AI, something he is conveniently working on through a new company, NeuraLink. Musk uses his business association or role to avoid talking about technical elements. In other words, he cannot demonstrate technical expertise here, but all of his past performances in the discussion to establish ethos through his other companies allows the audience to grant him credibility. The audience can assume that these predictions are rooted in technical knowledge, even though he cannot share this knowledge due to proprietary concerns. In addition to this lack of detail, Musk makes light of the "large potential security issue" with the human brain. The comment is in stark contrast to his scathing warning of the danger of AI, yet some members of the audience chuckle along with his "joke." This tells us two things, that Musk's influence as a prophet is high if he can get fans excited about this company while also convincing them of the danger of AI, but also that he is arguing that when we trust his ventures, the same danger does not apply.

Following the conclusion of the second AI discussion, the Q&A dies down, and Musk ends up donning a cowboy hat and singing with his brother following a discussion about the early days of Tesla. Rounding out the session this way further emphasizes the "cool" persona of Musk and endears him to his audience after spending roughly an hour detailing and providing exclusive information about important future topics. Throughout

the entire session Musk seamlessly transitions between various ethos building techniques and making predictions, including suggestions for what the general public should do about AI.

Case Study Two: *The Joe Rogan Experience* Podcast

As discussed earlier, Musk experiences controversy in the public and media spotlight as a result of his cheeky persona and various stunts through his company. Following the SXSW Q&A, Musk's authority was questioned frequently by the media following a string of gaffes and fluctuations in Tesla's stock.[160] Musk's appearance on *The Joe Rogan Experience* only fueled the debate around his fitness as CEO of Tesla, and involvement with his other ventures. The podcast describes itself as, "A long-form, in-depth conversation with the best guests from the comedy world, the sports world, the science world and everything between… This show has something for everyone."[161] Rogan, the host, is a former comedian and current TV Host and UFC commentator who has a vast range of interests which is reflected by the various guests and topics discussed. Rogan's wide range of topics mirrors Musk's persona very well as Musk works to build perceived expertise and ability to prophesize about a wide range of topics that are loosely related to humanity's future and technology. The majority of Rogan's interviews are over two hours long, and ramble to different topics naturally after some structured questions. This held true with the interview of Musk. One key difference between the SXSW interview and this podcast interview, despite some similarities in questions and answers, was Musk's actions and responses were immediately questioned by the media and non-fans online. Not only was the interview posted on various podcast platforms, but it also

was streaming live on YouTube. However, the speculation and critique did not happen in the moment, Musk experiences a friendly audience in Rogan.

In contrast to the SXSW interview where Musk dons a leather jacket and looks comfortable throughout the discussion, leaning back in an arm chair legs crossed, in the Rogan interview, Musk's body language and demeanor is very uncomfortable from the beginning of the podcast. There is a grimace on his face and his posture is rigid, and Musk pauses and thinks between questions for longer, not rambling through topics as much as he did during the SXSW Q&A. Musk's sentences and thoughts seem incomplete, and many of his logical connections are not clear. This suggests more comfort with interpersonal interview styles in front of a crowd that he can play to than a more intimate setting of Musk by himself with a host. The rapport between Musk and Rogan is clearly uncomfortable during the beginning of the interview. In a later episode of the podcast Rogan interviews Sam Harris, a friend of Musk's, and they discuss podcasting in general, but also how difficult the Musk interview was,

> Rogan: "Elon took a while… we had to start drinking."
>
> Harris: "No that was brutal… You know how much I was trying to micro-manage behind the scenes… You didn't take my advice."
>
> …
>
> Harris: "I feel like you both got unlucky with where he was in his life at the time… What that podcast showcased, at least for the first, I don't know, twenty minutes, was how many user interface problems you can have with Elon. Right? He just kinda showed up as fairly weird right? He's not always like that by any stretch, he can give a very loose interview. But you were working so hard, doing absolutely heroic work keeping that conversation happening."
>
> …

> Harris: "He was just so stressed and overworked, and had so many fires everywhere to put out… People were reading him as so different than he actually is."
>
> Rogan: "Well, what was interesting is he was very different when he first got here from when the mic came on. When he first got here he pulls out the blow torch and starts shooting this flame thrower in the middle of the hallway. We're laughing, I think 'he's going to be easy, this is great,' and then we sat down and stiff as a bat."[162]

Rogan and Harris point out a disconnect in his behavior in the public eye and his personality. Musk is fighting between the jovial, internet celebrity, and traditional expert, but is also trying to navigate business pressures. This discomfort takes away from the persona he builds online, but provides ethos to more technical experts and the media. The combination of corporate pressures and attempts at being involved in more technical issues suggests that this shift in personality is more focused towards an audience of critics, not the fan base he has already established. Musk must take into account a separate audience from his fan base, one that calls for more traditional expertise and moving away from the rock star persona he worked to develop.

Rogan begins the interview by playing off of Musk's persona and helping Musk to establish a wide range and high level of expertise across many fields. Rogan's first question is, "How does one, in the middle of doing all the things you do, creating cars, rockets, all the stuff you're doing… constantly innovating, decide to just make a flame thrower? Where do you have time for that?"[163] Rogan's question implies a wide variety of tasks and paints a picture of Musk as someone who has their hand in everything. It also reminds fans of all the companies he's running, like Tesla and SpaceX without naming them. Rogan also tells the audience that Musk is constantly innovating, marking Musk as a forward-thinker, again invoking the idea that Musk has good ideas and therefore we

should listen to him. Musk's response is to dive into the standard joke about The Boring Company, but is much more straightforward about the reference the flame thrower is making: "I like *Spaceballs* the movie. And in *Spaceballs*, Yogurt goes through the merchandising section and they have a flamethrower in the merchandising section, of *Spaceballs*. And… the kids love that one. That's the line, when he pulls out the flame thrower, so I was like, 'we should do a flame thrower.'"[164] Musk's movie reference works to demonstrate he is one of the nerds, but his explanation of the joke also enables more of the audience to understand the reference and view Musk as the nerdy and fun loving CEO. In contrast to the SXSW Q&A, Musk tells the audience he is part of the group instead of demonstrating or showing the audience he is one of them.

During the explanation, Rogan cuts him off asking, "Does anybody tell you no?" along with all the implications of a stunt like selling a flame thrower can have for a CEO. Musk's response is, "Yeah. It's a terrible idea. You shouldn't buy one. I said, 'Don't buy this flame thrower, don't buy it. Don't buy it.' That's what I said, but still, people bought it. There was nothing I could do to stop them."[165] To this Rogan laughs, and the implications are humorous, that Musk understands the implications of his actions, but does them anyway. He acknowledges that the flame thrower is a bad idea, but people did not listen to his suggestions, and bought one anyway. This speaks to the power of his celebrity ethos, and the exclusivity of having a limited edition product from Elon Musk. This is clear when Musk notes they sold 20,000 of them in four days. Rogan laughs at all of this even though Musk is somewhat awkward, suggesting that Musk's ethos as an eccentric tech guru, known for his stunts is an engrained or natural part of his persona.

Rogan moves the conversation forward by asking similar questions to Musk, including what are all the things that Musk does and where he finds the time to do all of it. Rogan even asks about the logistical details to digging a giant hole in the ground in Los Angeles, or what the audience likely knows to be The Boring Company's current project. Musk's response should act against his ethos as a prophet because he says, "I'm not claiming it's going to be successful… but so far, I've lived there for sixteen years. And traffic has always been awful... So in desperation, we are digging a giant hole."[166] Musk is up front saying he's not claiming it will work, this statement can serve to hedge his bets, but it also can be read as Musk downplaying his own abilities. However, the rest of Musk's reply contains another enthymeme, implying that his ideas have worked before and will work again, but also that since nobody else's ideas have worked out, we should shift to his. The level of ethos Musk has built contributes to the ability for Musk to contradict himself in the same sentence, but because the audience is making the conclusion that his solution is the best or will work, Musk is extremely persuasive.

The conversation shifts in a similar direction to what Musk actually does for a living or with his companies. Musk clears up the misconception that he is an investor, this time referencing that his Wikipedia page says he is a "business magnate," which he turns into a pun with magnet, asking his fans to change the page for him. Musk, similarly to the SXSW answer, claims that most of his time is spent as an engineer, again arguing for a particular type of tacit expertise. He even creates a long list for the audience: "No, it's like hardcore engineering. Designing things… Structural, mechanical, electrical, software, uh user interface… aerospace engineering."[167] Rogan emphasizes the uniqueness more than most interviewers and asks Musk if he realizes that he's an oddity,

or special in some way. Rogan works to further elevate Musk's status as a unique individual who has a unique ability to do things that others cannot. The unspoken argument is that we should listen to Musk. Rogan continues by saying, "When I watch you doing all these things, I think how can this motherfucker have all this time and all this energy and all these ideas, and people just let him do things."[168] The crass description fits with rock star persona Musk has built, and that goes further when Musk does not correct him. Musk suggests that he is not human, probably an alien, a running joke with his fans online.[169] His short joke allows Musk to affirm that he is different while connecting with his fans. Despite the uncomfortable start, and stiff interview, Musk is still moving between jokes, expertise, and predictions like the SXSW Q&A.

This discussion sets up the conversation on AI. The SXSW Interview and the Rogan podcast reflect a change in attitude and framing on AI for Musk. Typically, this could undermine expertise, but Musk's rhetoric, because of his established ethos, functions to save face. The shift is not questioned, there was no critique of the shift from his fans during or after the interview, and Rogan continues to assume his ethos. Rogan expresses concern about the dangers of AI, repeating much of what Musk has said, and adding, "And nobody's paying attention too much, except people like you, or people who are obsessed with technology… Is AI one of your main worries?"[170] The acknowledgement that Musk is one of the few thinking about the issues places Musk squarely in the role of prophet and expert, setting him up to explain the dangers and make comparisons as he did during the SXSW interview. However, Musk shifts his framing of the issue:

> Musk: "Yes… it's less of a worry than it used to be. Mostly due to taking a more fatalistic attitude.
>
> Rogan: "Hm. So you used to have more hope? And you gave up some of it and now you have less worry about AI. It is just what it is?"
>
> Musk: "Pretty much… yes… well. It's not necessarily bad, it's just… definitely going to definitely be out of human control."
>
> Rogan: "It's not necessarily bad?"
>
> Musk: "Yes. Now, the thing that's going to be tricky here is what it's going to be very tempting to use AI as a weapon. In fact, it will be used as a weapon. So… the… on ramp to serious AI, the danger is going to be more humans using it against each other, most likely, that will be the danger."

The attitude that AI is "not necessarily bad," is a change in attitude from the SXSW interview where Musk paints AI as the ultimate danger, even more dangerous than nuclear weapons. He has shifted to framing AI as an inevitability. Inevitability as a narrative allows Musk to make more sweeping claims about timelines and make predictions without being wrong. This narrative can result in more ethos through success, but also serves as an avenue for more enthymematic arguments. Musk's vague arguments and speculations provide a lot of space for the audience to fill in as they see fit. The change in viewpoint can also be thought of as in line with what he was saying before, and plays into Musk's assessment that "nobody was listening to him."

Rogan asks Musk what lead to the change to a more fatalistic viewpoint, prompting Musk to assume the role of the prophet more clearly than earlier in the interview. When asked if it was a specific occurrence, Musk says, "I tried to convince people to slow down AI, to regulate AI, this was futile. I tried for years. Nobody listened… nobody listened."[171] This jeremiad that Musk starts serves to cement his role as a prophet through another enthymematic argument. The unspoken conclusion that can be reached from this statement is that we should have been listening to Musk, and

because nobody has listened, nothing can change or improve in the current AI landscape. Another implicit argument is that technical AI experts are not listening to the ethical or regulatory questions of AI; they are concerned with the question of possibility and have not asked the question of if AI should be created. Musk's shift also suggests that it's too late to do anything now. If Musk himself has moved on, the general public should as well. Musk says he met with then President Barack Obama, solely to speak with him about AI as well as all fifty state governors. Nothing happened during the Obama presidency in regard to AI legislation, and Musk believes that may be due to the fact that nobody "seemed to know where this was going," despite his efforts to change that.[172]

Musk also works to convince his audience to adjust their focus with him by framing regulation as slow and inefficient. Rogan concedes at one point, whether from personal beliefs, Musk's arguments, or a combination of the two is not clear, that he is not sure he wants the US government regulating AI in the future. Musk supports this by saying, "I think… the way that regulations work are very slow, very slow indeed. So… usually there will be something, some new tech, it will cause damage or death, there will be an outcry, there will be an investigation, years will pass… There will be an insight committee, some sort of rulemaking, then oversight. This timeline is not relevant to AI."[173] Musk's assessment of regulation is negative although regulation is what he had previously argued for in terms of AI. This framing of slowness reinforces the narrative that nobody listened to Musk and now it is simply too late, so now we must shift to make sure that we can keep up with Musk's newest assessment. This focus on timelines also reinforces Musk's prophetic ethos, demonstrating his is looking to the future in addition to the present.

The framing of inefficiency and ineffectiveness for regulation continues through a comparison to the auto industry. Ford and other companies fought against seat belts for a long time, and there were a lot of people who died when there was no regulation on it. The unspoken argument here is that because there is no regulation for AI, it is possible that there will be deaths as a result of AI as well. Musk suggests that the traditional method and approach is no longer working, the audience needs to shift focus as he has. In this shift back to the public sphere, appealing to his audience at large, Musk is essentially claiming that he is right, without proof, something he does somewhat frequently, which can be very dangerous. But that danger is outweighed by the potential danger of AI that he is predicting, and he has the support of his prior ethos and expertise to make these claims.

Once regulation is established, Musk shifts back to making predictions for AI's relation to the human race. After Rogan asks about a timeline estimation for when it will be "too late," Musk says, "It's not necessarily a doomsday countdown, it's an out of control countdown. People call it a singularity, which is probably a good way to think about it. It's hard to predict… once the genie is out of the bottle what's going to happen?"[174] Musk contradicts himself twice here. The first is saying that AI is no longer a doomsday scenario, which is in direct opposition to his comparison of AI and nuclear weapons previously. He also claims that the singularity is hard to predict, but attempts to do so anyway, but not necessarily in timeline format. Musk has made assessments of timelines and not been successful in the past, instead he shifts to strategy suggestions to ensure success. Musk seems to be hedging here as he says, "It could be terrible, and it could be great. It's not clear. But one thing is for sure we will not control it."[175] Soon

after he argues for NeuraLink and the "merge" scenario with AI, "The merge scenario with AI is the one that seems like probably the best (for us), like if you can't beat it join it… you know. So, from a long term existential standpoint that's the purpose of NeuraLink. To create a long-term, high bandwidth link to the brain so that we can be symbiotic with AI. We have a bandwidth problem. You just can't communicate, the brain's too slow."[176] Musk's shift in opinion coincides with a new avenue of business success in the creation of NeuraLink. This statement also allows Musk to demonstrate tacit knowledge through the involvement of his company, but also uses colloquial examples to make sure that the general public understands him. Musk declines right after this to say where the company is, or what it's going to do by saying, "We'll probably have something exciting to announce here in the coming months… It's probably better than anyone thinks is possible. I just don't want to jump the gun on it."[177] The restraint shown in the second set of specific predictions is unlike Musk, but plays up the role of the prophet as signals to everyone he has knowledge that they do not, and we would be wise to listen to him because of this exclusive knowledge. Musk stands to directly benefit from this advice, but that is less apparent than the ethos he cultivates through the prophet role and interactional expertise he shows in this example.

Following the discussion of AI, Rogan asks about cyborgs and the conversation begins to flow more easily. Musk works to disassociate NeuraLink with the thought of cyborgs, wanting instead to focus on how a cell phone can be viewed as a technological enhancement of the body. Musk even suggests that technology is not making us happier. From there the interview begins to branch out into a variety of topics, further emphasizing Musk's broad range of expertise as he is knowledgeable enough to speak on

a variety of issues. Rogan implied in the same Sam Harris podcast, that once they had a few glasses of whiskey the conversation opened up. However, the majority of the interview was overshadowed by Musk smoking marijuana during the second half of the interview. This act is in line with the rock star persona, and distracted many from the shift in Musk's framing of AI. The enthymematic arguments in combination with Musk's celebrity allow him to play the role of prophet extremely well as his audience of the general public is making conclusions for him.

Both interviews follow a similar pattern: Musk works to build ethos through his success in business while also relying on the in-group of fans, then he moves to separate himself for traditional experts, which creates space for his audience to fill with assumed expertise. Once this expertise is filled in, Musk can use technical language in combination with humor, his persona, and success to make predictions and suggestions for the future of AI. Because of Musk's constructed ethos through his successful business, and some involvement within those businesses, Musk is difficult to dismiss when it is unclear whether he holds contributory or tacit knowledge in the subject. By having some technical knowledge, and also winking towards or referencing popular Internet jokes, Musk builds prophetic ethos, and the combination can serve as prophetic rhetoric.

The *Joe Rogan* interview demonstrates Musk's evolving prophetic rhetoric with a shift in viewpoint and framing of the debate. Musk takes a more inevitable narrative, paired with the suggestion that nobody listened to him while he has been working to warn the public and other officials of the dangers of AI. More enthymematic arguments appear here, suggesting that because it is too late now, we must act, and Musk is conveniently

there to function as an advisor for the situation. The podcast also highlights the connection between Musk's role as prophet and the potential success of his businesses. If Musk can be successful as a prophet by nudging the public in the direction he suggests, his companies will therefore be more successful, specifically NeuraLink and Tesla. What could be a conflict of interest, actually works to build ethos with his audience. His companies are successful, and he personally came up with the ideas, so he much have extensive knowledge on the topic.

Joe Rogan also highlights the tension between Musk's rock star persona and a more traditional expertise. Musk's antics and presence within the in-group of his fans can invite critiques from the other partners in his business and the media. Although the progression of the interview follows a similar structure, Musk works to explain more of the jokes made, and is not as relaxed or confident in podcast interview. The tension changes his strategies, but in both the podcast and the SXSW interview, the antics and connections with fans supersede the need to please media critics, and business partners or investors. Musk's ethos as an aspirational nerd is more important than playing the role of traditional businessman.

Chapter Four: Conclusion

The consensus in the AI debate is one of inevitability. While some of the technical problems and questions remain unresolved, the public debate around AI has shifted toward more public policy questions. When these policy questions arise, we frequently turn to technical expertise to answer them. However, as many scholars have argued, technical expertise does not always result in credible contributions to public policy debates.[178] Just presenting technical arguments using technical language is not enough to persuade audiences outside of the technical sphere. To resolve this, we rely on interlocutors who pull strategies from multiple discursive spheres to make persuasive claims. This invites the question of who and what qualifies as an expert in the AI debate. Many of the purely technical experts in the AI debate do not use a diverse collection of rhetorical strategies, but the experts with some technical expertise and experience working with ethical questions or the general public attempt to fill this role. Nicholas Bostrom and Elon Musk work to position themselves as experts in the AI debate, work to position the debate in an ethical manner, and share similar solutions for the potential dangers of AI, they ultimately use very different methods to do so.

Bostrom is a more traditional academic expert who walks his audiences through his arguments completely, to ensure that they reach the conclusion that he wants. In other words, Bostrom's rhetorical style is typical of the technical sphere. Bostrom explicitly states and details the premises, arguments, evidence, and conclusions of his claims. He rejects enthymematic strategies that are more popular in public discourses. Bostrom's argument hinges on integrating ethical dimensions into the creation of AI, which dictates

the strategy of guiding both a technical and general audience through every aspect of the argument.

In other words, Bostrom believes ethical knowledge must be woven together with technical knowledge in the development of AI. To that end, Bostrom must appeal to a wide variety of audiences including AI experts, nontechnical experts in public policy, but also the general public, demonstrating both technical expertise of AI and command of the social and cultural stakes of AI development. Bostrom begins constructing his expertise with *Supterintelligence* by advancing his command of technical knowledge of AI, like engineering, construction, and logistics, before moving to integrate ethical discussions and arguments into the traditionally technical debate. His systematic unpacking of the argument allows him to display technical knowledge, anticipating possible critiques from the technical community of his lack of AI related technical knowledge. It also allows for integration of more technical knowledge in ethics. Bostrom identifies openings in the debate like the middle and closing chapters of his book, and uses strategies like humor and metaphors in his keynotes, to insert ethical considerations. Throughout his argument Bostrom demonstrates interactional expertise, but when articulating the need for ethical integration he positions himself as a contributory expert, and builds the compelling ethos that comes along with this highly specialized expertise. As Collins notes, contributory experts possess tacit knowledge through actual doing and Bostrom highlights this with regards to AI by suggesting ethics based solutions to programming problems.

Bostrom works to address two distinct audiences: the technical experts within the AI debate and the general public. His strategies towards both of them are similar, but Bostrom performs the role of the prophet clearly with the general public. In both of his

keynotes at the TED and USI conferences, Bostrom uses public sphere elements to both relate to his audience, and to explain his argument to add ethical considerations to AI development. Through these strategies, Bostrom and the AI technical debate becomes more approachable to a general audience, but it also is walking his audience through the argument to completion. Bostrom does the work to set up the debate, giving his audience a primer, and then breaks down each argument, ultimately leading them to the conclusion that we should integrate ethics into the debate. This also cements his role as an expert because if the audience believes we need to discuss ethics in AI, Bostrom can continue to fill this role because his contributory expertise is needed.

In contrast to Bostrom, Musk works to build ethos as a technical expert and innovator through his role as an entrepreneur, while creating space between himself and traditional technical experts. His audience then fills in this space with their own conclusion, persuading themselves to believe in Musk and his expertise. Musk can then use this assumed contributory expertise to begin to make predictions about AI and participate as an expert in the debate. Musk is able to use enthymematic appeals in a way that Bostrom cannot, because Bostrom is primarily focused on technical aspects of the debate as well as ethical, but also because Bostrom needs to walk his audience to the correct conclusion. Aristotle states that enthymemes are difficult to use in scientific and technical arguments, because one of the defining features of enthymeme is brevity and simplicity to enable your general public audience to make the appropriate conclusion.[179] Musk instead uses enthymematic appeals to suggest hands-on business acumen. The implied hands-on work and his penchant for innovation reflects technical expertise that he uses to engage in prophetic rhetoric

Musk cultivates his rock star and "cool guy" persona in the tech world, building fan following. As a tech guru in Silicon Valley who has experienced success and fame, other people want to be like him. This success can translate into wanting to be like Musk, and since he is successful, we assume he must know what he's talking about. But his persona also suggests that he is a member of the in-group that has been successful through innovation and unique ideas. Musk values his persona as a tech nerd over his business success. Musk's Twitter feed and antics online demonstrate that he is "one of the nerds," and creates the sense that he is just like his fan base. Musk started as a nerd with all these ideas and has built an empire of successful companies out of it. The jokes shared, like The Boring Company flame thrower, signal that Musk is part of the group, but also demonstrates that he is not a typical expert. Because Musk tries to rhetorically distance himself from traditional experts, he's innovative and cool, he must know what he's talking about; he's not like other stuffy business men who profit off of others' ideas. Musk's audience fills in the premises that his performance is reflective of his knowledge about a given topic, leading to the assumption of contributory knowledge. His audience accepts his statements and conclusions about AI because they give him credibility to claim expertise. Bostrom demonstrates his expertise through careful construction of argument and walking his audience through everything. Whereas Musk uses enthymematic appeals to great effect as his audience comes to the conclusion that he possesses technical expertise that he can then leverage it in a number of debates, including the AI debate.

Prophets of the AI Debate

Bostrom primarily relies on arguments and strategies from the technical sphere to establish his expertise, whereas Musk primarily uses public and personal sphere arguments to connect with the audience and prove that he is one of the nerds; however, both can be seen to functioning as prophets in the AI debate. Bostrom's prophetic rhetoric is more traditional, relying on his associations with science and traditional technical expertise, but explaining his arguments in a way that the general audience understands. This combination of technical and public translates to the prophetic in Bostrom's suggestions for the future of AI. Bostrom implies that all his technical expertise makes him the ideal expert or prophet, but he lacks credibility with general audiences. This is clear in the difference between *Superintelligence* and his keynotes. Bostrom's book is much more formal and technical because it is aimed at a more technical audience. However, his keynote speeches use common comparisons, ample metaphors, and jokes to communicate his arguments with the audience. Musk is thus a technical expert who can present the information to the general public in a less technical way with the goal of helping the public come to a decision on AI; in other words he serves as a prophet.

Musk's role as a prophet is less clear than Bostrom's as he primarily focuses on making predictions. Walsh argues that the prophet, or science advisor, should start the conversation but does not necessarily come up with an answer to the problem.[180] Musk primarily focuses on solutions or answers to AI, although it can also be said that he is prompting discussion of AI within the general public. However, Musk calls upon well-established ethos, which enables him to perform the role of prophet well. His power as

prophet is evident in the changes in argument. Initially Musk argued for AI as the ultimate danger, even more so than nuclear weapons, and later Musk takes a more fatalistic attitude, that it is too late and we must work to integrate with AI. This switch is justified with another enthymematic argument, leaders and members of the general public did not listen to Musk, and no it is too late and we must shift focus. Musk's audience is meant to assume that it is bad that we did not listen previously, so we must listen now in order to prevent destruction at the hands of AI.

Implications

The AI debate carries implication for not only the debate itself, but how scholars can think about expertise and how speakers build expertise. Bostrom, the traditional expert, is ultimately less successful than Musk at utilizing prophetic rhetoric and generating expert ethos in the AI debate. Bostrom's jokes do not land, and ultimately his rhetoric can seem formulaic. He relies completely on his technical knowledge and ability to leverage his academic persona to convince his audience of his claims. While walking his audience through all the premises, claims, and conclusions, there is not much space for additional strategies. It is possible that Bostrom does not do enough of the "extras," like effective humor, creating and in-group, demonstrating knowledge of the audience, which Musk does, and thus his audience not easily persuaded. Bostrom's style of expertise and prophetic rhetoric seems more effective for a technical audience that has primary source knowledge, or maybe even interactional, but not the complete layman. Although he works to use examples that can help him to reach the laymen, the conferences analyzed here, and the above average level of difficulty of *Superintelligence*, suggest that Bostrom is more focused on first convincing the technical AI experts that

they need to program while keeping ethics in mind, and if he convinces the public as well he can leverage the public to help him. Overall, Bostrom's rhetorical strategies to supplement his technical knowledge and interactional and contributory expertise do not go far enough in the AI debate. This may be because the non-AI technical knowledge is still technical knowledge, just in a different academic field. Bostrom ultimately does not use enough strategies from the personal and public sphere effectively to connect with his audience.

Musk's success in generating ethos through his celebrity suggests a new way to access expertise. Collins and Evans suggest that the best types of expertise are interactional and contributory expertise, which requires experts to have hands-on knowledge. Musk may or may not have that, we're not quite sure, but he is able lead his audience to conclude that he does. Musk's mix of technical, public, and personal skews towards the public and personal more than the technical. Musk is able to construct an in-group of nerds that identify with Musk as an expert. Musk creates the feeling that he is one of them, just a more successful version. As Aristotle argues, enthymeme is a powerful technique for persuasion.[181] It is possible that since Musk's expertise in AI is, at least partially acknowledged through conclusions made by the audience, the audience is more inclined to listen to what he has to say when he moves to prophetic rhetoric. However, the uncertainty around his expertise also invites the question of whether we should really listen to Musk. His expertise is built off of enthymeme and ethos of his celebrity, and he lacks the contributory expertise that Bostrom has. As scholars, it is important to consider the gate keeping within technical debates and consider if expertise generated this way can or should be leveraged into prophetic rhetoric.

This seems to be in line with Nichols' suggestion that technical arguments or expertise are not carrying as much weight in debates.[182] Bostrom's traditional expertise does not carry the same weight, but Musk's method of generating ethos through personal and public sphere techniques is more effective. Musk also relies heavily on the creation of the "in-group" and connection with the audience, while also showing that he is part of the group. Musk frames himself as an enigma, his ideas, success, and persona is unique, which may be more important as it contrasts from Bostrom's traditional expertise that is similar to other experts. The ethical context of the AI debate also invites questions of whether this type of debate is open to additional forms of expertise than more technically focused debates.

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Caitlin Kirby

EDUCATION

Wake Forest University Winston Salem, NC

Master of Arts 2017-2019

Communications student focusing on rhetoric and rhetorical criticism.

MA Thesis: *Expertise, Ethos, And Ethics: The Prophetic Rhetoric Of Nick Bostrom And Elon Musk In The Artificial Intelligence Debate*

University of Wisconsin- Madison Madison, WI

Bachelor of Arts
2010-2014

Double major in Communication Arts: Rhetoric and Communication Science and English Literature.

Senior thesis in rhetoric titled "Stretching Boundaries with Love in Science Fiction." Analysis of *Doctor Who, Battlestar Galactica,* and *Her* focusing on themes and meaning of love between humans and non-human androids or robots.

EXPERIENCE

Wake Forest University- Communication Department Winston Salem, NC

Teaching Assistant 2017-current

Assist the instructor on record with Wake Forest's undergraduate Public Speaking class, running two lab sections including activities, small lectures, and facilitating group work, as well as grading of speeches.

Assist the instructor on record with the undergraduate Quantitative Research Methods with lectures, grading, creating assessments, and leading review sessions.

Wake Forest Writing Center Winston Salem, NC

Peer Writing Tutor 2017-current

Working with students in a peer tutoring environment with students in all disciplines throughout the writing process including: brainstorming, outlining, drafting, and finalization.

Lead various workshops on feedback, and working with groups of writers.

simoneink, llc McLean, VA

Summer Intern 2018

Research, write, edit, and format press releases for various clients and events.

Design and implement new social media strategy for simoneink and clients.

Monitor and measure success and interactions on Twitter and Instagram.

Assist in other research and writing as needed.

Epic Verona, WI

Application Trainer 2015-2017

Considerable experience in front of customer and internal classes ranging from 2 trainees to 38 trainees.

Maintained an average evaluation rating of 9.2/10.

Research, write, and maintain "Healthcare Essentials" learning modules for new Epic employees.

Design, write, and edit training companions and assessments.

University of Wisconsin SOAR Program Madison, WI

Parent Program Intern and New Student Leader 2013 & 2014

Organized and facilitated the parent program at new student orientation.

Facilitated discussions and presentations to groups ranging from 10 to 550.

PEOPLE Program Madison, WI

English Tutor 2011-2013

Worked with students in the PEOPLE program to improve writing skills, review school and college essays, and study for the ACT.

CONFERENCES

Popular Culture Association 2019 National Conference Washington, DC

How Do You Argue with Fox Mulder?: Perpetuating and Debunking Conspiracy Theory and Pseudoscience on the X-Files April, 2019

- Paper presented as part of the Science Fiction and Fantasy Division

Popular Culture Association 2018 National Conference Indianapolis, IN

Scully to STEM: Dana Scully as a Scientific Role Model March, 2018

- Paper presented as part of the Science in Popular Culture Division

Wake Forest Argumentation Conference Winston Salem, NC

Panel Chair April, 2018

AWARDS

Tutor of the Year Wake Forest Writing Center, 2017-2018

- Award for excellence in tutoring.

- Based off of student (tutee) feedback, and chosen by the Director of the Writing Center.
- Named Tutor of the Month in September and March.

Wake Forest Alumni Travel Award Wake Forest Graduate School, Nov. 2017

- Recipient of funds for academic conference travel

Training Deep Impact Award Epic Systems, Sept. 2016

- Award for excellence in training, as well as other training and company-wide projects.
- Voted for by team and division members.

RESEARCH INTERESTS

- Scientific controversies – Artificial Intelligence, Climate Change, Health Crisis (AIDS), Fluoridation, Algorithms and Big Data
- Process of Policy Making that Involve Science
- How Technical Information is Disseminated to the General Public
- Women's Health, specifically Reproductive Rights
- Health Policy, and the Effects of Social Categories (Gender, Socio-Economic Status, Race, etc)
- The American Healthcare System

SKILLS AND QUALIFICATIONS

- Extensive writing and editing experience in various fields and settings.
- Experience in both Qualtrics and SPSS.
- Experience designing and executing an original research study.
- Background designing and writing curriculum and assessments.
- Public speaking experience including: speeches, teaching, facilitation of group sessions, training, and some debates.