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Advancing Sylvia Wynter's Reimagination of the Human and Counter-Poetics: A Critique of Contemporary Western Science Discourse in Cosmos a Spacetime Odyssey with Host Neil deGrasse Tyson

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Advancing Sylvia Wynter's Reimagination of the Human and Counter-poetics: A
Critique of Contemporary Science Discourse in *Cosmos: A Spacetime Odyssey* with Host
Neil deGrasse Tyson

A Thesis
Presented to
the Faculty of Social Sciences
University of Denver

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Claire E. Slattery-Quintanilla
June 2017
Advisor: Dr. Armond R. Towns

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Abstract

This thesis investigates the entanglements of “modernity/coloniality,” Western conceptualizations of time and space, and questions of the “human” as they are situated in contemporary Western science discourse and thought. Through a textual analysis of the 2014 science television documentary series *Cosmos: A Spacetime Odyssey* presented by famous black astrophysicist Neil deGrasse Tyson, I argue Tyson refuses to discuss race as it relates to Western science on three levels in *Cosmos*: the racialized logic inherent in Western science, the sociohistorical relationship between European colonial racial subjugation and the emergence of contemporary Western science, and Tyson’s experience as a black man in the sciences. I contend that this race-neutral framing of contemporary science discourse further entrenches the myth-lie of science objectivity and neutrality thereby upholding the God-like status of Western science, which as Sylvia Wynter argues, reifies a biologically absolute notion of the human and keeps race as the primary immutable social “organizing principle” of our contemporary global order.

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Chapter 1: Introduction

...like the overall crisis of modernity, the crisis, too, of our present order of knowledge, as the elaborated expression of our present understanding of man's humanity, and its correlated behavior-motivating schema, in which the culture-systemic conception, Man, is misrepresented as if it were the human itself. If this crisis is to be fundamentally resolved, therefore, this misrepresentation, together with the founding rhetorical strategy which makes it believable must be deconstructed.

Sylvia Wynter, "The Pope Must Have Been Drunk The King of Castile a Madman: Culture as Actuality, and the Caribbean Rethinking Modernity,"
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Yet *pari passu* with these dazzling natural and techno-scientific achievements stands the *underside costs* of the overall unquestionable 'triumph' of the West's now some 500 years' process of global expansion, including its large-scale territorial expropriation and correlatedly unstoppable military conquest of the majority of the world's peoples, as well as their/our subsequent racialized reduction to 'native' labor roles in a now globally incorporated world-systemic division of labor. While concomitant with, and central to, these imposed processes of subjugation was the missionary evangelization, religious Christianization, and secular initiatory 'epistemologization' by the West of the peoples it conquered.

Sylvia Wynter, "The Ceremony Found: Towards the Autopoietic Turn/Overturn, it Autonomy of Human Agency and Extraterritoriality of (Self-)Cognition," 188-189

On November 10, 2016, Dr. Neil deGrasse Tyson, a famous black astrophysicist and one of Stephen Colbert's favorite and most frequently invited guests, appeared on *The Late Show with Stephen Colbert* to "put things in perspective" after the election of Donald Trump:

COLBERT. Okay, take my mind off the election for a second. Tell me something that will blow my mind.

TYSON. Oh, I can do that. Well, first let me just say that I think we have a four-year mission now. I think what we need to do, let us together make America smart again

COLBERT. I'm a fan! I'm a huge fan of rationality and the scientific method! ("Our Four-Year" 00:01:02-32)

Then Tyson proceeds to "blow our minds" with a flashy account of the origin of the human species, the theory of relativity, and the development of lasers:

So a billion years ago two black holes collided and they released as much energy, in a tenth of a second, as ten times all the energy radiated by all the stars in the universe at that time. That created a ripple through the fabric of space and time, moving at the speed of light, a gravitational wave. There it was. A billion years ago on this earth our life ancestors were single-celled organisms trying to evolve into something more ambitious than microorganisms. A half a billion years ago, the Cambrian explosion of life, life got interesting. It developed limbs and eyes, locomotion. After that we fast forward. We have the dinosaurs. By the way, that ripple is still moving through space at the speed of light! So, 65 million years ago, the giant lizards that we call dinosaurs went extinct when an asteroid hit and our mammal ancestors, previously scurrying underfoot avoiding being hors d'oeuvres for T-Rex, could rise up and occupy this niche, freshly pried open by this asteroid. So this mammal branch would create a subset of itself known as primates, and among those primates some of them became humans. In the community of humans we developed big brains, the capacity to communicate, civilization, and we birthed someone called Albert Einstein! In 1916, he advanced the general theory of relativity, predicting the existence of these gravity waves. At that point, that gravity wave was one hundred light years from earth, and still headed our way. One hundred years later, last year, at the end of last year, that wave washed over the earth, just when we were able to turn on detectors to notice that would happen in the first place. And we used lasers to do so that were first predicted by Einstein back in-- (struggles to remember date: eyes closed tight, waving finger in air above his head). Einstein laid down for the equations for the development of the laser and a hundred years later we discover gravitational waves using lasers." (00:01:40-00:03:57)

As Tyson finishes up his speech, Colbert interrupts him and says, “Neil, Neil. I just got to stop you for a second, because I want to point out that about 30 seconds ago I think you blew your own mind there.” (00:03:58-00:04:04)

Astrophysicist, science communicator and pop icon Neil deGrasse Tyson is the focus of my object of inquiry for this thesis, specifically his science documentary television series *Cosmos: A Spacetime Odyssey*. The series premiered in 2014 on Fox Broadcast Network and National Geographic Channel, and was aired to 180 countries with over 135 million viewers that watched at least a portion of the 13-episode series (Kissell). *Cosmos: A Spacetime Odyssey* is a follow-up of the “Public Broadcast Service’s most successful show of all time,” *Cosmos: A Personal Voyage*, which premiered in 1980 and had an estimated 700 million viewers from across the globe. *Cosmos: A Personal Voyage* was produced and hosted by Tyson’s mentor, the astronomer and science communicator Carl Sagan. Three scientists—Neil deGrasse Tyson, Ann Druyan (Carl Sagan’s widow), and another producer of the original *Cosmos*, Steven Soter—were motivated to give life to *Cosmos* once again by creating a new series with Tyson as the host. Like Sagan and others involved in the first *Cosmos*, these three scientists felt that they needed to counter what they saw as surge of anti-intellectualism in the U.S., an ever-diminishing NASA budget, and a majority of climate-denying members of Congress. In an interview with the National Geographic Channel online, Tyson displays the importance he places on public science education:

What the original *Cosmos* did and what we do, is find stories about science, about scientists, and about culture, that represent the search for truth, no matter what the consequences...Science literacy is key to our future survival on Earth...So *Cosmos* will show why science matters. (Kiger)

Sagan's series and Tyson's sequel are both unique in that they are much more extensive and spectacular versions of the typical science documentary; they aspire to be popular entertainment for the American public. With Seth MacFarlane, the creator of the popular adult animated series *Family Guy*, as a key financial supporter and one of the main producers for the follow-up, putting together a piece for popular consumption was a priority. *Cosmos: A Spacetime Odyssey* features stunning special effects and animated depictions of figurehead scientists such as Isaac Newton, Ibn al-Haytham, and Cecilia Payne that were created by MacFarlane and his team. Like Sagan's earlier series, the recent version is promoted as serving to educate the public on the laws that govern the cosmos and life on this planet, and is rich with discourse that demonstrates the esteemed position science holds in our world today.

I open with this television appearance because Tyson's narrative and appearance on *The Late Show* provide a glimpse into the God-like status science holds in our society, and it displays Tyson's respected role as one of the most popular representatives of the science community and his passion to promote a scientific understanding of the world. Tyson as a figure is important to my thesis because I ask what it signifies to have a black man as the most prominent face of a field of knowledge production dominated by white representation, especially his field of astrophysics. This thesis argues that *Cosmos* and Tyson's articulation of contemporary science discourse present Western science as purely neutral because Tyson fails to mention his experience as a black scientist, ignores the sociohistorical relationship of racial, colonial subjugation and Western science, and doesn't acknowledge the racialized logic on which this tool was built and operates. I

argue that this race-neutral framing is a mechanism that continues the myth-lie of science as a purely objective and neutral and keeps Western science on an epistemological pedestal, therefore reifying our biologically absolute notion of the human and order of knowledge, maintaining a “degree of humanness” hierarchy based on the global, “symbolic organizing principle of race.” Additionally, I unpack Tyson’s account because it is a succinct summary of the scientific origin story, one critiqued by my main scholarly influence for this thesis, Jamaican philosopher Sylvia Wynter, who argues Western science has been key in the creation and maintenance of our white supremacist heteropatriarchal capitalist world order and hegemonic “answer we give to the question of who-we-are” in purely secular, biological and economic terms.

This thesis investigates the entanglements of “coloniality/modernity,” the global hegemony of Western science and theories of the “human” through a textual analysis of contemporary science discourse in *Cosmos: A Spacetime Odyssey*. I argue, in this television series, Tyson’s refusal to mention his experience as a black man in the sciences, the racialized logic inherent in this “ethno-class” tool, and the sociohistorical relationship between racism and Western science further perpetuate the myth-lie that science is purely neutral and objective, thereby maintaining the global onto-epistemic reign of Western science. My thesis discusses how this race-neutral framing of Western science discourse upholds what Sylvia Wynter calls the symbolic overrepresentation of Western bourgeoisie “Man,” and reifies Eurocentric, colonial spatial and temporal notions that place the West as the sole location of “modernity,” progress and freedom.

Neil deGrasse Tyson: Astrophysicist, Science Communicator, Author, Television Star, Science Popularizer Extraordinaire

Neil deGrasse Tyson was born in 1958 in the New York City borough of Manhattan near the Bronx to professional-class, first-generation immigrant people of color. Tyson's father, a black sociologist, Cyril D. Tyson, was born to parents from the Caribbean islands of St. Kitts and Nevis. Cyril was active in the civil rights movement, served as a human-resource commissioner under President Lindsay and ran anti-poverty programs in Harlem and Newark. Tyson's Latinx mother, Sunchita Maria Feliciano Tyson, was born to immigrants from Puerto Rico. Sunchita obtained a master's degree in gerontology while Tyson was in high school (Mead, "Starman").

Tyson attended public schools in the Bronx until graduating from the Bronx High School of Science, and then went to Harvard to pursue a degree in physics. Tyson did graduate work at the University of Texas at Austin and then a Ph.D. at Columbia University. Later, Tyson held a postdoctoral position at Princeton University continuing his Ph.D. research on "the chemical composition and the velocity of the stars in the 'galactic bulge'—the dense zone of stars at the center of most spiral galaxies" (Mead, "Starman"). Throughout his education, Tyson received many disparaging, racist comments from educators and others he encountered in academia about his pursuits to become an astrophysicist. As Tyson narrates in his memoir, *The Sky is Not the Limit*:

To spend most of my life fighting these attitudes levies an emotional tax that constitutes a form of intellectual emasculation. When the Ph.D. was conferred on me in 1991, it brought the national total of Black astrophysicists from six to seven (out of four thousand nationwide). Given what I experienced, I am surprised that many survived. (124)

Besides being one of the few black astrophysicists in the nation in the 1990s, he also stood out from the typical stereotypes of astrophysicists because he was athletic, gregarious, and a talented communicator and educator. In 1996, the board of the American Museum of Natural History offered Tyson a position as Director of the Hayden Planetarium where he remains today.

Tyson has written many books in service of popularizing science, including *Death by Black Hole and Other Cosmos Quandaries*, *Astrophysics for People in a Hurry*, and *Welcome to the Universe: An Astrophysical Tour* (co-authored with Michael A. Strauss and J. Richard Gott III). Tyson's own experimental research and publication career is a lot less robust than other scientists with similar credentials and experience; however, he stays informed on current scientific theory and research, which he is committed to interpreting and presenting to the public through various media outlets such as television appearances or on his radio show "StarTalk." Tyson's passion for promoting a scientific worldview is evident in all his endeavors. The production of *Cosmos: A Spacetime Odyssey* was of great importance to Tyson. In an interview with *Parade Magazine* Tyson stated that *Cosmos* would provide:

...a level of exposure for science and why science matters that I think has never been reached before. The force that it could bring to bear on our scientific sensibilities as a nation, and I'd like to think as citizens of the world, may be long overdue given that we need to be good shepherds of this planet...given that the major political issues where if you were scientifically informed, you could vote intelligently about them...to be empowered by an understanding of how science works and our place in the universe. (*Parade*)

Tyson is important to my thesis because I consider the role Tyson plays in the articulation of contemporary science discourse. Tyson puts forth these old scientific scripts that perpetuate Western notions of biologically absolute categorizations of

difference (i.e. race, gender, sexuality), yet gives no acknowledgement of his blackness in *Cosmos*. Using secondary sources, including his memoir and radio interviews, I argue that Tyson is refusing to discuss race in the context of Western science discourse. Even though Tyson does not mention race in *Cosmos*, being a black scientist and host of this series brings race to the foreground in ways that he is unable to prevent. It's important to acknowledge that Tyson's role and Tyson's figure as a black scientist are articulating different things. Tyson's role in *Cosmos* promotes a race-neutral perspective of Western science, whereas Tyson's black body, as figure, pushes forward the discussion of race. However, in this thesis, I am overwhelmingly concerned with Tyson's role in the articulation of contemporary Western science discourse. I focus on his refusal to mention race in the setting of contemporary Western science discourse alongside the moments *outside* of *Cosmos* where Tyson does mention race, arguing that this race-neutral framing of Western science discourse further entrenches the myth-lie of science as a neutral tool.

Sylvia Wynter's Counter-Poetics, Counter-Cosmogonies and Reimagination of the "Human"

Sylvia Wynter is the scholar who inspired my investigation of contemporary scientific thought and discourse. Wynter's black feminist theories of the human have provided revelatory insights into Western colonial modes of thinking and doing that dominate our global order. My analysis of *Cosmos* revolves around Wynter's main theory of the symbolic overrepresentation of Western bourgeoisie "Man," a phenomenon in which the only recognized mode of being human is represented as a white cisgender heterosexual middle-class male subject. This hegemonic "descriptive statement of the human" is "rhetorically over-represented as if it were isomorphic with the being of being

human, and thereby necessarily definable as the human-as-a-species itself” (Wynter, “Ceremony Found” 232). Wynter traces the origins of the invention of Man to medieval Christian Europe, discussing the significance of the project of secularization that was initiated by Renaissance humanists. Wynter’s theories tell the story of the relationship between Judeo-Christian and secular, scientific thought and how these perspectives have worked together to form our current order of knowledge and concomitant mode of being human. Wynter demonstrates how these Eurocentric hegemonic ways of thinking and doing, came to be and how they shift forms, but ultimately subsist to uphold a mode of being human that naturalizes the subjugation of the masses to keep the few elite on top. Wynter also reveals how secularism and its surrogate—science—were key to Western colonial projects and the formation of our contemporary violent, stratified world order. I forefront Wynter’s theories on antiblackness throughout this thesis to highlight the contradiction of Tyson’s role in *Cosmos* and his representation in the sciences.

Wynter’s philosophies move us toward a radical reimagining of our notion of the human. She views this thing that we call the “human” as a site of potentiality for creating different ways of being and doing by empowering people to recognize that they are storytelling beings, *homo narrans*, that narratively construct their world and therefore have the potential to create new worlds and new understandings of what it means to be human outside of the narratively inscribed social reality. Wynter writes:

Human beings are magical... Words made flesh, muscle and bone animated by hope and desire, belief materialized in deeds, deeds which crystallize our actualities. ‘It is man who brings society into being.’ And the maps of spring always have to be redrawn again, in undared forms. (“The Pope” 35)

Wynter inspires us to ask: What does it mean to be human? Why are so many people complicit in a system that is inherently anti-human and self-destructive? Why do we commonly operate and accept this world as the only option, as the only schema, and that alternative worlds are not plausible? What is preventing us cognitively and socially from believing that we can be and do otherwise? Wynter argues that these questions are problematically absent from our work as academics and activists that want to cultivate a more just world. If we do not consider the terms on which we define what it means to be human, we will fail to create meaningful change.

Wynter's philosophies of the human build off Frantz Fanon's insights, specifically his concept of sociogeny (Wynter uses the term hybridity and sociogeny interchangeably). Sociogeny, as Wynter explains it, is the idea that "human *Skins* can only *become human* by also performatively enacting them/ourselves as *human* in the always-already, cosmogonically chartered terms of their/our symbolically encoded and fictively constructed *genre-specific Masks*" ("Ceremony Found" 198). Wynter explains that sociogeny allows for the recognition that humans are both *mythoi* and *bios*, storytelling creatures (*homo narrans*) that have written a narrative of themselves in purely secular, biologically absolute terms.

Sylvia Wynter has had an expansive influence on black studies, inspiring a plethora of generative, critical theorizations that challenge Western ontologies and epistemologies. The scholars that guide my inquiry—Wynter, Katherine McKittrick, and Walter D. Mignolo—expose how the global project of race is foundational for the (re)production of the "colonial matrix of power" (Mignolo, "DELINKING" 455). Antiracism is a central logic of today's Western ethno-class Totality, and black studies

offers an epistemology and methodology to challenge this Totality. Alexander Weheliye writes:

Although much of the critical, poetic, and quantitative work generated under the auspices of black studies has been concerned with the experiences, life worlds, struggles, and cultural productions of black populations around the world, the theoretical and methodological protocols of black studies have always been global in their reach, because they provide detailed explanations of how techniques of domination, dispossession, expropriation, exploitation, and violence are predicated upon the hierarchical ordering of racial, gender, sexual, economic, religious, and national differences. Since blackness has functioned as one of the key signifiers for the sociopolitical articulation of visual distinctions among human groups in modernity, black studies has developed a series of comprehensive understanding and dismantling the political, economic, cultural, and social exploitation of visible human difference. (Weheliye 3-4)

In this ethos, I use black feminist epistemology, ontology, and geography to challenge the onto-epistemic control of Western science that is entrenched in a worldview that produces “knowledge” that ultimately serves “Man” at the expense of our planet and all other “genres of the human” that do not fit into “Man’s” image.

Method

For my examination of the science documentary television series *Cosmos: A Spacetime Odyssey* and presenter Neil deGrasse Tyson I utilize textual analysis as my method. I conceive of the term “text” in the way described by Radhika Parameswaran, in her article “Reading the Visual, Tracking the Global: Postcolonial Feminist Methodology and the Chameleon Codes of Resistance.” Parameswaran argues that media studies can problematize the term “text” through a methodology that does not situate the “text” as an “inert object or the transparency of a mimetic surface for the reproduction of reality,” but rather view the “texts” as “performative practices of ‘iteration,’ mediated utterances that react to and coalesce with a host of other typologies of ‘iterations’...” (420)

Parameswaran, echoing Stuart Hall, argues that cultural critics must always acknowledge texts within their social context. Parameswaran writes that texts are:

Arising in the midst of myriad personal, social, and economic interactions, media texts should thus be reconceptualized as recoverable material evidence and as performative practices that contain clues to active and diverse sociohistorical practices of representation. (422)

In the article, “In Defense of Textual Analysis: Resisting Methodological Hegemony in Media and Cultural Studies,” Michelle Phillipov discusses the push to engage with more socio-scientific methods in the humanities. Phillipov explains that in cultural and media studies, there has been an “ethnographic turn” in the study of popular media forms, and “in recent years, media and cultural studies have sought a renewed and intensified engagement with sociology and sociological methods” (210). In this call for more empiricism and “grounded” methodologies such as participant interviews, textual analysis is often critiqued as merely offering “abstract theorizations” from the perspective of the critic and is disengaged from the public’s “actual” position. However, Phillipov argues that this critique ignores the “systemic limitations of empirical research” (213). First, there is the obvious limitation of partiality in all forms of inquiry, but what is more problematic for Phillipov is that critics of textual analysis claim that more empirical, ethnographic, and/or sociological methodologies are better equipped than textual analysis at getting closer to the “‘real’ understanding of cultural production” (215). Also, Phillipov points out that interview-based and ethnographic methods capture “what can be easily observed recorded, and verbalized,” while critiquing textual analysis for these same limitations. Interview-based methods privilege the direct verbalization of the participant’s viewpoint or observed behavior; however, Phillipov explains these methods often do not

speak to the hidden sociocultural and discursive norms and ideologies from which participants are operating. That is, there is a supposition that participants “can fully account discursively for their cultural practices” (216).

Phillpov writes that all methods are “inevitably abstractions from the ‘real’ conditions of existence and experience” (220), and argues that textual analysis can offer important insights because this methodology seeks to uncover the underlying sociocultural, historical, economic factors and dimensions that are often not readily accessible. By bringing into conversation Wynter’s unique ontology and epistemology with the figure of Tyson and *Cosmos* I am able to articulate those things that are not easily seen and heard to provide important insights into our contemporary ways of being and modes of thinking.

Overview of Chapters

In the following chapter, I build up the theoretical narrative through which I will examine *Cosmos: A Spacetime Oddysey* and the role of Tyson. Chapter one is broken into two overarching theoretical themes: Wynter’s theories of secularization and critique of scientific objectivity, and Western colonial conceptions of time and space. I begin chapter two with a discussion of Wynter’s theory of the symbolic overrepresentation of Man and her exposition of the secularization of medieval Judeo-Christian Europe and the subsequent emergence of the physical and natural sciences—the Copernican and Darwinian epochs—that forever changed our understanding of what it means to be human. Then I discuss Wynter’s critique of Western science objectivity, which she does by way of Frantz Fanon’s concept of sociogeny.

In part two, I elaborate on Wynter's and McKittrick's theories on Western spatial and temporal understandings inherited from the projects of New World colonization that continue to classify geographies within the old feudal-Christian Eurocentric dualism of "habitable and inhabitable zones." Then I detail Walter Mignolo's theory on the "myth and rhetoric of modernity" that reveals how European colonization, the invention of modernity, and Eurocentric conceptualizations of time and space are always implicated. I also discuss Johannes Fabian's and Anthony Pagden's theories on the secularization of time and the trope of barbarian and primitive used in the creation of the "Other."

In chapter three, I provide a textual analysis of *Cosmos* and the figure of Tyson to explore the ways in which science discourse upholds Western colonial notions of time and space and a monohumanist, biocentric notion of the human. I argue that the figure of Tyson is a contradiction because in the articulation of these scientific narratives he never once mentions race, which continues the myth that Western science is a neutral tool that serves all genres of the human. Finally, I conclude my thesis with a brief chapter that summarizes the previous chapters, and a discussion of questions that came out of my analysis and areas for future inquiry.

Chapter 2: The Myth of “Man” and “Modernity,” Western Colonial Notions of Time and Space, and the Origins of Wynter’s Aporia

The only remaining question is to what degree Western culture, or some meaningful part of that culture, can free itself from the delusions (for they are delusions) on which the ideology of science is based, and find the resources to compose an alternative narrative about what it means to be human.

Curtis White, *The Science Delusion*, 11

Let us note here in passing that the term *genre*, meaning kind of human (as in the case of our present kind of human, Man, which sociogenically defines itself, in biocentric terms, on the model of a natural organism), as the model which aprioristically underlies all our present disciplines, stems from the same etymological roots as the word *gender*.

Sylvia Wynter, “On How We Mistook the Map for the Territory, and Reimprisoned Ourselves in Our Unbearable Wrongness of Being, of *Desêtre*: Black Studies Toward the Human Project,” 114

For the only life we humans live is our prescriptive *representations* of what constitutes symbolic life, as well as what constitutes its *Lack* or mode of *symbolic death*.

Sylvia Wynter, “The Ceremony Found: Towards the Autopoietic Turn/Overturn, its Autonomy of Human Agency and Extraterritoriality of (Self-)Cognition,” 210

These are black geographies (and nonblack geographies, too), but they are not where blackness comes from. There is no from. There is no there, or somewhere, or place that a black from is anchored to. This means that our historically present black geographies—the Africas and the prisons and north stars and 124—are from nowhere. They are inventions, just as we are.

Katherine McKittrick, “Commentary: Worn Out,” 9

Introduction

Science philosopher Sandra Harding argues that science is held in such reverence that “Neither God nor tradition is privileged with the same credibility as scientific rationality in modern cultures” (Harding 16). How and why did Western science come to hold the God-like position in our global order? Sylvia Wynter provides the crucial sociohistorical exposition of the transmutation of medieval-Christian Europe’s theo-Scholastic understanding of the world to the secular, scientific one that now reigns supreme. Wynter’s philosophies bring to light the partial narratives and perspectives that have been fabricated by the West, and how these stories have come to form our contemporary hegemonic onto-epistemology that undergirds our “globally incorporated world-systemic capitalist economic order in its now neoliberal and neo-imperial, *homo oeconomicus* bourgeois ruling-class configuration at a world-systemic level—of which the United States is still its superpower hegemon” (McKittrick, *Sylvia Wynter* 26).

Wynter is a prolific scholar, her inquiry vast, and her political project all-encompassing. This chapter will not do justice to all the philosophies she has gifted us over the decades. Rather it focuses on Wynter’s main argument that the secularization of Western Europe’s theo-Scholastic order and modes of cognition gave rise to the Scientific Revolution and later the Darwinian Revolution (from which the physical and natural sciences emerged), and came to form our current “descriptive statement of the human” in purely secular biological and economic terms. This “bioeconomic” understanding of the human upholds a “monohumanist” dictatorship over our modes of being and doing and reifies a conceptualization of difference in biologically absolute

terms (i.e. race, gender and sexuality). Wynter argues that this hegemonic, monohumanist “answer we give to the question of who-we-are” is at the core of maintaining our violent, stratified planetary order. Wynter insists that we must reconceptualize what it means to be human by acknowledging that humans are hybrid (*bios/mythos*), storytelling creatures (*homo narrans*). That is, humans are always already socialized and biological beings that have “storytellingly” fabricated an understanding of themselves in purely secular, biocentric terms. Wynter elaborates:

...the human is *homo narrans*. This means that as a species, our hybrid origins only emerged in the wake of what I have come to define over the last decade as the Third Event. The First and Second Events are the origin of the universe and the explosion of all forms of biological life, respectively. I identify the Third Event in Fanonian-adapted terms as the origin of the human as a hybrid-auto-instituting-languaging-storytelling species: *bios/mythoi*. The Third Event is defined by the singularity of the co-evolution of the human brain *with*—and, unlike those of the other primates, *with it alone*—the emergent faculties of language, storytelling. This co-evolution must be understood concomitantly with the uniquely *mythmaking* region of the human brain... (*Sylvia Wynter*, 25)

Because humans are simultaneously genetically and languagingly regulated, human behaviors are “performative enactments”; being human in Wynter’s conception is “praxis rather than noun” (McKittrick, *Sylvia Wynter* 33).

Wynter’s genealogy of Western secularization and the concomitant formations of “Man,” or dominant descriptive statements of the human, is necessary for my argument that this purely secular “bioeconomic” understanding of the human (and global organizing scheme it supports) is upheld by contemporary science discourse and thought, which is epitomized in *Cosmos: A Spacetime Odyssey*. Science, in its God-like stance, provides the epistemological legitimization of the ideation of human-as-natural organism, creating a system in which Western bourgeoisie “Man” is represented as the apex of

humanness, and is the only subject with “ontological sovereignty.” Wynter’s exposition of how we came to the Western, secularized, modes of being that direct our global neocolonial world order allow me to challenge the onto-epistemological reign of Western science as well as the other Westernisms associated with this ethno-class tool of understanding, namely the idea of “modernity” and conceptualizations of time and space.

While this chapter is largely a discussion of Wynter’s theories, I also pull from other scholars who are in conversation with or extend Wynter’s philosophies, such as Walter Mignolo and Katherine McKittrick. I break this chapter into two parts based on two major theoretical themes. Part one is a discussion of Western secularization with its concomitant formations of “Man” and how this relates to the privileged position of Western science with its claim to a supreme way of knowing. Part one includes two sections: the first section provides Wynter’s theories on the secularization of medieval Christian Europe and theories of the human, namely, her theory of the “symbolic overrepresentation of Man.” The second section discusses Wynter’s critique of scientific objectivity and how Western science operates as an “ethno-class” tool that has immense ecological costs and largely serves those that fall within Man’s image.

Part two describes theories on Western notions of space and time and how these conceptualizations were crucial for the project of European colonization. These spatial and temporal notions continue to shape the geopolitical configurations, which mirror the colonial ontological projects. Part two is broken into three sections. The first section discusses the connections Wynter makes between feudal Christian geography, antiblackness and colonization, and how Katherine McKittrick expands on these connections in important ways. In the second section, I detail Walter Mignolo’s theory of

the “myth of modernity,” which reveals that New World colonization and the epistemic colonization of space and time was crucial for the creation of the idea of “modernity.” These Eurocentric colonial notions of time and space and Western notion of “modernity” are part of contemporary scientific thought and discourse.

This chapter provides the theoretical background, which is essential to demonstrate how these old colonial conceptualizations are part of contemporary Western science discourse that reify our current “bioeconomic” notion of the human and what Wynter calls our closed, “bio-Scholastic” order of knowledge. Finally, I conclude this chapter with a brief summary of the theories covered and a glimpse of the textual analysis of *Cosmos* to come.

Part I: The Project of Secularization and the Invention of Man

Section 1: The Renaissance Humanist Revolution, “Degodding” the Descriptive Statement, and the Overrepresentation of “Man”

The making of Man is a process, connected to broad and violent classificatory systems and local contextual experiences.

Katherine McKittrick, *Demonic Grounds: Black Women and the Cartographies of Struggle*, 127

Wynter emphasizes that secularization has been key in the creation and maintenance of our violent, hierarchical western colonial world order. The secular is an aporia. Wynter elaborates:

This aporia, I propose, is one specific to, because the price originally paid for, the West’s post-medieval transformative mutation effected by the discourse of Humanism in both its original Renaissance civic humanist and later (neo)Liberal humanist configurations...that is as one humanly emancipatory process on the one hand, and humanly subjugating processes on the other, are each nevertheless the lawlike condition of the enacting of the other. (Wynter, “Ceremony Found” 189)

Wynter traces the genealogy of Western secularization beginning in feudal Latin-Christian Europe, detailing the modes of cognition and sociocultural forces that led to our current global social schema and purely secular biologically absolute understanding of the human. Wynter highlights the importance of Renaissance humanist revolution in Latin-Christian Europe during the late fifteenth century, which she identifies as an “epochal shift.” Wynter describes this epochal shift as the move from a primarily “Judeo-Christian symbolic representational or cultural system to its later secular variants” (“1492” 13). Wynter cites J.G.A. Pocock’s postulation that the Renaissance humanist movement was in large part based on the transfer of redemptive processes: securing the otherworldly goal of redemption from “Adamic Original Sin” to the this-worldly goal of securing the political and economic dominance for the state. Wynter notes that a key force in the move to a secular “subjective understanding” of the world, was the desire of lay intellectuals, like Christopher Columbus, to increase their socio-economic status and authority in a society dictated by a theo-Scholastic order that kept power in the hands of sovereigns. As a result, these lay intellectuals proposed a pivotal perspectival change in the relationship between man and God. The dominant, theological notion during the European Renaissance was that God created the “universe for the sake of His own glory.” Renaissance humanists would reverse this notion and propose the poetics of *propter nos homines*. Wynter writes:

...the humanists' revalorized conception of a more egalitarian relation between natural man and a Christian God, reconceived as a Caring Father who had created the universe specifically for man's sake (*propter nos homines*, for our human sake), that provided the counter-ground for the Copernican rupture with the orthodox Christianized astronomy that had been inherited from the Greeks. It was the new premise that God had created the world/universe for mankind's sake, as a premise that ensured that He would have had to make it according to rational,

nonarbitrary rules that could be knowable by the beings that He had made it for, that would lead to Copernicus's declaration (against the epistemological resignation of Ptolemaic astronomy, which said that such knowledge was not available for mere mortals) that since the universe had been made for our sake by the best and wisest of master craftsmen, it had to be knowable. (Wynter, "Unsettling the Coloniality" 278)

Wynter explains that the Renaissance humanist revolution allowed for an upheaval of the theo-Scholastic hegemony and led to the rise of the physical and biological sciences—the Copernican and Darwinian revolutions—that have indelibly influenced our understanding of what it means to be human today.

In the article "Unsettling the Coloniality of Being/Power/Truth/Freedom: Toward the Human, After Man, Its Overrepresentation—An Argument," Wynter elaborates one of her most important theories: the symbolic overrepresentation of Man. This is the phenomenon in which the only recognized mode of being human is represented as a white bourgeois cisgender heterosexual male subject, represented as if "it/he is the only available mode of complete humanness" (McKittrick, *Demonic Grounds* 123). Wynter writes that "Man" is an "ethnaclass or Western bourgeois biocentric descriptive statement of the human... a model which enables it to over-represent its ethnic and class-specific descriptive statement of the human as if it were that of the human itself..." (Wynter, "How We Mistook" 115).

Wynter describes how the invention of Man came about in two forms that have led up to our current iteration of the "descriptive statement" of the human in purely secular biological and economic terms. These two forms she dubs Man1 and Man2.

It was to be implemented by the West and by its intellectuals as indeed a 'Big Bang' process by which it/they were to initiate the first gradual de-supernaturalizing of our modes of being human, by means of its/their re-invention of the theocentric 'descriptive statement' Christian as that of Man in two forms.

The first was from the Renaissance to the eighteenth century; the second from then on until today, thereby making possible both the conceptualizability of natural causality, and of nature as an autonomously functioning force in its own right governed by its own laws (i.e. *cursus solitus naturae*), with this, in turn making possible the cognitively emancipatory rise and gradual development of the physical sciences (in the wake of the invention of Man1), and then of the biological sciences (in the wake of the nineteenth century invention of Man2). (“Unsettling the Coloniality” 263- 264)

Elsewhere, Wynter explains that Christopher Columbus and other Spanish colonizers in the Americas were operating simultaneously under the imperial state and the papacy: securing wealth and land for the Crown and converting pagans to Catholicism. The Spanish colonizers attempted to legitimize the expropriation of indigenous land through a theo-juridical document called the Requisition that “proclaimed to the indigenes that Christ, who was king over the world, had granted this sovereignty to the pope, who had in turn granted the lands of their ‘barbarous nations’ to the king of Spain, who had sent the expedition members as his emissaries” (“Unsettling the Coloniality” 294). Additionally, under the guidance of the papal bulls, Spain designated the New World territories as “the lands of no one” (*terra nullis*), meaning that because Spanish sovereigns did not own these lands they were justly expropriated. However, there was a glaring limitation to these largely theologically based justifications for expropriating land and enslaving Native Americans: “indigenous peoples of the New World could not be classified as Enemies-of-Christ, since Christ’s apostles had not reached the New World, never preached the Word of the Gospel to them” (Wynter, “Unsettling the Coloniality” 291).

The Spanish Crown was motivated to find alternative modes of thinking that could rival the dominant theological framework. Wynter, citing historian Anthony

Pagden, discusses how the Spanish Crown was determined to find a more robust justification for their colonial projects and hired a series of juntas comprised of jurists and theologians. These juntas looked to ancient Greco-Roman theories of knowledge, “making heavy use of Aristotle’s *Poetics*.” Significantly, they adapted “the category of *natural slaves* from Aristotle, in order to represent the indigenous peoples as ones who *were by nature different from the Spaniards*...expressed in degrees of rationality...seen as an *innately* determined difference” (Wynter, “1492” 35). Secular ideologies, Europe’s burgeoning economic desires and religious aims initiated the metastasis of European colonization of the New World; the search to ease European conscience was a key contributor to the “victory” of the secular. Moreover, Renaissance humanist thought promoted the concept of non-homogeneity of the human species (another concept inspired by Aristotelian philosophies) that would have a huge impact on European conquerors’ view of New World social schemas. The European idea of human difference categorized people by degrees of humanness based on the now elevated, secular value of “rationality.” The concept of rationality on which the idea of human non-homogeneity was based, transformed the Judeo-Christian concept of “True-Self” to “Rational Self.”

In the wake of the West’s reinvention of its True Christian Self in the transmuted terms of the Rational Self of Man¹, however, it was to be the peoples of the militarily expropriated New World territories (i.e., Indians), as well as the enslaved peoples of Black Africa (i.e., Negroes), that were made to reoccupy the matrix slot of Otherness—to be made into the physical referent of the idea of the irrational/subrational Human Other, to this first degodded (if still hybridly religio-secular) ‘descriptive statement’ of the human in history, as the descriptive statement that would be foundational to modernity. (Wynter, “1492” 266)

Secularization, Columbus's "discovery" of the New World and the subsequent colonial, Eurocentric ontoepistemological and social schemas would give rise to the construct of race as we understand it today. Wynter, goes on to write:

Race' was therefore to be, in effect, the non-supernatural but no less extrahuman ground (in the reoccupied place of the traditional ancestors/gods, God, ground) of the answer that the secularizing West would now give to the Heideggerian question as to the who, and the what we are. ("Unsettling the Coloniality" 264)

Moreover, while Renaissance humanism with its new poetics of the *propter nos homines* was a significant departure from the theo-Scholastic order of knowledge, it was still operating within old European modes of cognition, notably the "knowledge of categories" ("1492" 20). Wynter builds off of a theory proposed by Daniel Sperber, and defines the purpose of knowledge of categories:

...to make use of empirical reality as well as of factual data concerning that reality (data that are meticulously and rigorously secured), in order to validate the a prioristic classificatory schema on whose basis each order's mode of 'subjective understanding' is secured as a mode of perception and cognition shared by its subjects. ("1492" 20)

The knowledge of categories was operative in both Judeo-Christian and Renaissance humanists' subjective understanding, which were both heavily influenced by Greco-Roman philosophy and ideology. Wynter explains that our current secular social organizing systems and modes of being human are embedded in what she calls the Judeo-Christian matrix. The relationship between European Judeo-Christian traditions and secularism have never been separate; these two perspectives have operated together to form the contemporary hegemonic global colonial, Westcentric modes of thinking and being.

Wynter also argues that what Michel Foucault missed in his concept of episteme, which he delineated as a clearly marked, discontinuous epoch, was that in actuality there was a continuous cultural framework undergirding the dominant Eurocentric subjective understanding of the world. That continuous framework is what Wynter calls a “biocentric Scholasticism or bio-Scholasticism” (McKittrick, *Sylvia Wynter* 20). Wynter explains:

Man1 (as political subject), then as Man1 becomes Man2 (as a bio-economic subject), from the end of the eighteenth century onwards, each of these new descriptive statements will nevertheless remain inscribed within the framework of a specific secularizing reformulation of that matrix Judeo-Christian Grand Narrative. With this coming to mean that, in both cases, their epistemes will be, like their respective genres of being human, both discontinuous and continuous. (“Unsettling the Coloniality” 318)

Wynter contends that an episteme should also be thought of as a change in the “politics of being,” which she describes as the struggle over how the dominant genre of the human (i.e. Man) will define the normative mode of being human.

Moreover, the notion of non-homogeneity of the human species would become more entrenched after the emergence of Charles Darwin’s *On the Origins of Species* in the nineteenth century. Darwin’s theory of evolution by natural selection would “demolish the argument from divine design on which the earlier notion of order and social hierarchies of the preindustrial landed orders had been based” (Wynter “1492” 38). This resulted in a “pure biologization” of our cultural modes of being and a “bioevolutionary notion of order” that would set up, in W.E.B. Du Bois’s term the “Color Line.” The dichotomy between Western bourgeois Man and his genres of human Others after the Darwinian Revolution would be legitimated by the notion of an inherent, *genetic* difference between species as evidenced through physiognomy. Wynter explains that the

“degodded” conception of Man with its new origin story of Natural Selection/Evolution were “...all the more dependent on the function of its Other as the extreme term of an ostensibly genetically nonselected, because nonevolved, mode of biologized being” (“1492” 42). Wynter also underscores that black Africans “Would come to be made...into an indispensable function of the enacting of our present Darwinian ‘dysselected by Evolution until proven otherwise’ descriptive statement of the human on the biocentric model of a natural organism” (“Unsettling the Coloniality” 267).

Wynter also discusses the influence of Thomas Malthus’s ideas on population science and his concept of Natural Scarcity, which is essentially the notion that human population growth is unlimited while resources are finite. Wynter explains that Malthus reasoned that because Natural Scarcity is a “law of nature” there are inherently going to be dispensable bodies that will not master this law. Wynter writes that Malthus’s ideas caused:

...the second transumed reformulation of the matrix Judeo-Christian formulation. Enslavement here is no longer to Original Sin, or to one’s irrational nature...Rather, enslavement is now to the threat of Malthusian overpopulation, to its concomitant ‘ill’ of Natural Scarcity. (Unsettling the Coloniality” 320)

The new “master code” of Natural Scarcity with its contemporary gentry—the “capital-owning bourgeoisie as the new ruling elite”—would initiate a change in the descriptive statement of Man², and therefore a change in the category of “Human Otherness.”

Wynter explains:

...the jobless, the homeless, the Poor, the systematically made jobless and criminalized—of the ‘underdeveloped’—all as the category of the economically damnés, rather than, as before, the politically condemned. With the result that if inside Europe, it will be the Poor who will be made to reoccupy the earlier proscribed interned places of the Leper and the Mad, in the Euro-Americans, it is the freed Negro, together with the Indians interned in reservations, or as peons on

haciendas, who will now be interned in the new institution of Poverty/Joblessness. (“Unsettling the Coloniality” 323)

Wynter goes on to discuss how Britain’s Industrial Revolution and the resulting order of knowledge that allowed for U.S. imperialism and neoliberalism-as-global doctrine to take hold, secured the hegemonic mode of humanness represented as “secular Western, (neo)Liberal-monohumanist genre of being hybridly human Man(2)” as *homo oeconomicus* with its telos of “economic growth and development” (Wynter “Ceremony Found” 212, 235).

Wynter’s exposition of the “politics of being” (i.e. the formations of “Man”) elucidate how secularism came to be the contemporary global orthodoxy and Western science the “master discipline” of our current order of knowledge. Wynter’s genealogy of the transmutation of Europe’s theo-Scholastic order to our current purely secular, scientific order is key to her critique of our current bioeconomic mode of being human. The Renaissance humanist revolution produced a new order of knowledge allowing for the emergence of the biological and physical sciences with their claim to the a supreme way of knowing. Wynter argues that the consequence of this process of secularization has created an aporia that denies the recognition of our co-humanity as a species; this aporia is sustained by the symbolic social organizing principle of race conceived as by-nature, immutable difference.

Section 2: Fanon’s Sociogeny, The Limits of Scientific Objectivity, Origin Myths, and Truth-for Adaptive Terms

One of Wynter’s primary influences is philosopher, psychiatrist and revolutionary Frantz Fanon and his insights into the connection between European colonization and subaltern subjectivity. Wynter’s exposition of Western secularization and imperialism is

ultimately a call for a reimagination of the human that centers Fanon's idea of sociogeny, which is the concept that human beings are always already socially and biologically constructed, simultaneously *mythoi* and *bios*. Wynter proposes:

What I am putting forward as a challenge here, as a wager, is therefore that the human is, meta-Darwinianly, a hybrid being, both *bios* and *logos* (or, as I have recently come to redefine it, *bios* and *mythoi*). Or, as Fanon says, phylogeny, ontogeny, and sociogeny, *together, define what it is to be human*. With this hypothesis, should it prove to be true, our system of knowledge as we have it *now*, goes. Because our present system of knowledge is based on the premise that the human is, like all purely biological species, a natural organism; or the human is defined biocentrically and therefore exists, as such, in a relationship of pure continuity with all other living beings (rather than in one of both continuity and discontinuity) (McKittrick, *Sylvia Wynter* 16-17).

Wynter explains that “degodding” the descriptive statement led to a biologically absolute notion of the human based on the “organizing principle” of race. However, Wynter asserts, “If humans are conceptualized as hybrid beings, you can no longer classify human individuals, as well as human groups, as naturally selected (i.e., eugenic) and naturally dysselected (i.e., dysgenic) beings” (McKittrick, *Sylvia Wynter* 17).

Wynter contends that Fanon's concept of sociogeny was equally as groundbreaking a “root expansion of thought” as Copernicus's proclamation that the Earth revolved around the Sun. Fanon challenged the Freudian-dominated psychological field that focuses on the individual and assumes the Western ontological concept of an essential interior “Self.” Wynter writes:

What Fanon recognized was the central role played in our human behaviors by our always linguistically constituted criteria of being (that is, our human skins, represented masks). For it is on the template of these masks/criteria and governing codes of symbolic life and death...which they express, that all individuals can alone be socialized as the condition of their realization not only as culture-specific subjects, but also as ones able to experience themselves as symbolically conspecific with the other members of the ‘we’ with whom they are

narratively/linguistically bonded as they are biologically programmed to be. (Wynter, “1492” 45-46)

Therefore, Wynter urges that we must conceive of a new politics of being, one that embraces Fanon’s method to “look for the explanation of our human behaviors not in the individual psyche of the ostensibly purely bio-ontogenetic subject, but rather *in the process* of socialization that institutes the individual as human, and therefore, *always* sociogenetic subject” (Wynter, “1492” 47).

In the article “Towards the Sociogenic Principle: Fanon, Identity, and the Puzzle of Conscious Experience, and What It Is Like to Be ‘Black,’” Wynter uses Fanon’s idea of sociogeny to consider the limits of Western science, specifically a scientific explanation of the enigma of human consciousness. Wynter explains that Fanon’s concept of sociogeny rose out of

...his lived experience of being both *Man* (in its middle class definition) and its liminally deviant Other (in its race definition), that Fanon will be enabled to carry out his dually first and third person exploration of what it is like to be at one and the same time, both *Man* in the terms of our present ethno-class conception of the human, and the embodiment of its anti-Negro, anti-human criterion. (“Sociogenic Principle” 44)

Fanon’s concept of sociogeny “overturned one of the fundamentals of the West’s inherited philosophical/epistemic traditions. This fundamental is that of the ostensible *indubitability* and *self-determined* nature of consciousness as expressed by the Cartesian *ego cogito*” (Wynter, “Ceremony Found” 201). Fanon asserted that an individual’s subjective understanding through which one views the world, themselves and other human beings is largely dictated by their environment and their sociocultural conditioning, and these factors influence biological reactions. As Wynter puts it:

...there are subjectively experienced processes taking place, whose functioning cannot be explained in the terms of only the natural sciences, of only physical laws...in the case of humans, culturally and thereby socio-situationally determined, with their determinations in turn, serving to activate their physicalistic correlates. (“Sociogenic Principle” 37)

Fanon exposed a crucial flaw in a foundational assumption in Western epistemology: we cannot interiorly understand who we are or what it is like to be “human” without the referent of our sociocultural symbolic representational system; we must recognize that social norms, systems, and modes of thinking drive the biological or “physicalistic” aspects of our being and vice versa. Fanon challenged the “bio-ontological” understanding of consciousness that the Western mindset has upheld, and the Western science supposition that humans can study a phenomenon “objectively.” How can objectivity—a tenant of the scientific method—exist if conscious experience and therefore all human beings’ subjective experience are not measurable or reduced to a universal or general understanding? Wynter illuminates the paradox of the pursuit for a scientific understanding of consciousness:

For what becomes clear here is that our human orders of consciousness/modes of mind cannot exist outside the terms of a specific cosmogony. Therefore, human orders of consciousness/modes of mind cannot preexist the terms of the always already mythically chartered, genre specific code of symbolic life/death, its ‘second set of instructions’ and thus its governing sociogenic principle—or, as Keith Ward puts it, its nonphysical principle of causality (McKittrick, *Sylvia Wynter* 35).

Western science is operating within a specific “ethno-class” or “genre-specific” vantage point that it calls objectivity. The cognitive constructions of an individual’s subjective experience preclude the ability for the existence of “objectivity.” Remember: science is *observer* dependent. Wynter writes that Fanon:

...centrally challenging the purely biocentric premise of our present culture's conception of the human, as this conception is elaborated not only by psychology, but by all the disciplines that comprise the human sciences. For, as he argues here, these disciplines 'have their own drama,' and it is a drama based on a central question. Should the inquirer postulate, as in the standard approach, a 'type for human reality and describe its psychic modalities only through deviations from it'? Or should the imperative of the inquirer be rather that of striving 'unremittingly for a concrete and ever new understanding of man.' (Wynter, "Sociogenic Principle" 37)

Fanon's philosophies revealed the hypocrisy of Western ontology and epistemology that claim a universal, unbiased vantage point.

Wynter also discusses the critical role that the scientific origin narrative plays in our dominate genre-specific "symbolic representational system" that promotes the epistemic reign of Western science and our current iteration of our dominate "bioeconomic" descriptive statement. Wynter elucidates that origin narratives play a significant role in society because they frame the telos of the cognitive and social organizing schemas of a culture. Wynter writes that, "*we humans cannot pre-exist our cosmogonies or origin myths/stories/narratives* anymore than a bee, at the purely biological level of life, can pre-exist its beehive...cosmogonies function to enable us to 'tell the world and ourselves who we are'..." (Wynter "Ceremony Found" 213). Wynter goes on to elaborate on the importance of origin myths:

...the imperative to which we respond is that of helping those with whom we are languagingly co-identified; those with whom we are made symbolically conspecific by our orders of discourse, and their systems of symbolic representation, both of which I shall further propose here, are generated from the templates of the origin narratives that are universally common, to all human cultures, including our contemporary own. Given, as I shall further propose, humans as a third level of hybridly organic and *languaging* life and therefore as a species, can be made conspecific with others of the group to which we belong *only* through these founding narratives. In effect, *we are co-identified only with those with whom our origin narratives and their systems of symbolic representations, or cultural programs* (italics mine), have socialized us to be

symbolic conspecifics of, and therefore to display altruistic behaviors toward those who constitute the *nos* on whose behalf we collectively act. (1492” 30-31)

In fact, Wynter argues our contemporary “genre-specific Western-bourgeois representation of origins” precludes any chance for mutual-recognition with other genres of the human because it perpetuates the descriptive statement of the human “on the *natural scientific model of a natural organism,*” which upholds the belief in genetic non-homogeneity of the human species (McKittrick, *Sylvia Wynter* 21).

Wynter explains that there was a dismissal of mythic knowledge (e.g. biblical origin story) that has now been replaced by scientific knowledge, but functions in the same way as the Christian origin narrative of Adam and Eve. Wynter writes that Darwin’s theory of evolution by natural selection is such a commanding origin story “...due to the fact that it is the first in our human history to be not only *part myth* but also *part natural science*” (McKittrick, *Sylvia Wynter* 36). Wynter argues that this

...bio-cosmic representation of origins is also taken, and mistakenly so, to be the true origins or basis of our being human, and thereby serves to charter and legitimate the anthropological (and general Western academic/intellectual) projection of the notion that their/own own purely secular cum biocentric origin myth is somehow ‘real and true.’ (Wynter, “Ceremony Found” 215).
The scientific origin myth or the “...genre-specific, Western-bourgeois

representation of origins or ethno-class ‘legend of descent’...” (“Ceremony Found” 215) is connected to Wynter’s concept of “truth-for adaptive terms.” Truth-for adaptive terms refer to the subjective beliefs, ethics, and goals of different genres of the human that are operating within a specific order of knowledge and influenced by their particular sociocultural and environmental factors. Different genres of the human produce their own adaptive truth-for terms through the tools of understanding they invent. Therefore, Western science is operating within our contemporary adaptive truth-for terms. Man’s

ethno-class tools of understanding the world (i.e. the sciences) produce knowledge within its/his subjective understanding in relation its/his own Westcentric, ethno-class goals.

The present-day, dominant social organizing arrangements and modes of thinking are generated from a white Western classed vantage point, which has created a symbolic representational system where Western and Westernized people are unable to recognize that that are operating within genre-specific goals that serve the small ethno-class of Man. Wynter explains that the “conflation of Man/human then enables the well-being of this specific category of the human, Man to be represented as if its well-being, too, were isomorphic with the well-being of the human species as a whole...” (“The Pope” 29).

Extending anthropologist Maurice Godelier’s philosophes on extrahuman agency, Wynter contends that these adaptive truth-for terms have produced “mechanisms by means of which we have been able to invert cause and effect, allowing us to repress the recognition of our collective production of our modes of social reality” (Wynter, “Unsettling the Coloniality” 273). Further Wynter explains that since the nineteenth century, Western science is now the primary global extrahuman agency, replacing the previous hegemonic extrahuman agency of as a monotheistic God. Wynter writes:

... we projected our own authorship of our societies onto the ostensible extrahuman agency of supernatural Imaginary Beings. This imperative has been total in the case of all human orders (even *in the case of our now purely secular order, the extrahuman agency on which our authorship is now projected in no longer supernatural, but rather that of Evolution/Natural Selection together with its imagined entity of ‘Race’*). (Italics mine) As if, in our own contemporary case, Evolution, which pre-adapted us by means of the co-evolution of language and the brain to self-inscript and auto-institute our modes of being human, and thereby artificially program our own behaviors—doing so, as the biologist James Danielli point out in a 1980 essay, by means of the discourses of religion, as well as of the secular ones that have now taken their place—still continue to program our hybrid ontogeny/sociogeny behaviors by means of unmediated genetic programs. (Wynter, “1492” 273)

Wynter argues that the projected authorship of society by an extrahuman agency—whether that agency is represented as a secular or religious entity—is at the root of our inability to breach the aporia and reimagine the human.

Contemporary Western science discourse purports that Western science is a global language and tool that serves all humanity; this genre-specific mode of knowledge production dictates our contemporary system of symbolic representation. Our current genre-specific mode of being human, Man, is operating within its/his own subjective understanding of the world and behaving within its/his specific *propter nos*. Wynter argues that the ruling genre of the human—overrepresented Western bourgeois “Man”—has created a “globally incorporated Western and Westernized hegemonically secular world of contemporary modernity” through the epistemic and material conquest of Man’s “Others” (McKittrick, *Sylvia Wynter* 24). As a result:

All the peoples of the world, whatever their religions/cultures, are drawn into the homogenizing global structures that are based on the-model-of-a-natural-organism world-systemic order. This is the enacting of a uniquely secular liberal monohumanist conception of the human—Man-as-*homo oeconomicus*—as well as of its rhetorical overrepresenting of that member-class conception of being human (as if it is the *class of classes* of being human itself). Guess what happens? Its empirical results, for both good and ill, have been no less large-scale. Yet at the same time, no less *genre-specifically* caused! (McKittrick, *Sylvia Wynter* 21)

Western science is a “master discipline” of our contemporary episteme that naturalizes a purely secular, bioeconomic understanding of the human. Western scientists are operating within ethno-class goals and a genre-specific subjective understandings, which are cloaked by the guise of purported pure objectivity and neutrality. Christopher Columbus robbed indigenous people of their lands and humanity in the name of his own *propter nos*, which was driven by his belief in the imminent Second Coming of Christ

and securing his own socioeconomic privileges. Similarly, Western scientists are operating within a “*nos* represented as *if* it were the *propter nos* of the human species itself” (Wynter, “1492” 28).

PART II- Western Conceptualizations of Time and Space, Antiblackness, Coloniality/Modernity

Section 1: Feudal Christian Geography, Man’s Geographies, and the Space-Time Dualism

I want to suggest that we take the language and the physicality of geography seriously, that is, as an imbrication of material and metaphorical space.

Katherine McKittrick, *Demonic Grounds: Black Women and the Cartographies of Struggle*, xii

Renaissance humanist Aristotelian-inspired thought, feudal Christian geographic notions, along with colonization of the New World worked together to set up our contemporary understanding of race “as the naturalized and secular organizing principle of those global relations that are wedded to the Darwinian Malthusian macro-origin stories that iterate and normalize” the bioeconomic understanding of the human (McKittrick, *Sylvia Wynter* 10). Wynter’s article “1492: A New World View” details the historical, sociocultural, and cognitive-behavioral genealogy of medieval Latin-Christian Europe to uncover how Christopher Columbus was able to embark on his 1492 voyage despite the fact that his expedition was widely viewed to be geographically impossible. Medieval European geographers believed that the lands outside of their prescribed “boundary markers, Cape Bojador (or the torrid zone) and the Straits of Gibraltar” were, since the biblical flood, submerged underwater, “uninhabitable” because outside “God’s redemptive grace,” while Europe was the only divinely chosen, habitable land because above water (Wynter “1492” 22). Therefore Europe “was made into that part of a

nonhomogenous earth that alone was providentially habitable for mankind” (Wynter, “1492” 22). Columbus, emboldened by the humanists’ new poetics of the *propter nos homines*, his desire for socio-economic power gains, and millenarian belief in a Second Coming of Christ, was able to challenge the habitable/uninhabitable dichotomy and radically propose that “All was now one sheepfold, and if not intended to be *made* so” (Wynter “1492” 28).

Wynter illuminates how the making of Man, antiblackness and feudal Christian geographic notions are implicated from European colonial projects of the New World onward. Wynter writes that Europe’s feudal-Christian geographic beliefs were largely based on medieval Islamic accounts of the people and land of “non-Islamic black Africa.” These beliefs allowed medieval Islam and Europe to create a stereotyped image of the peoples of Africa, symbolically detaching Africans from their lands, which was critical for creating a genre of the human that was “legitimately enslavable” (Wynter, “1492” 11). The stereotypes of black Africans were derived from the myth “common to all three monotheism—‘that the sons of Ham were cursed with blackness, as well as being condemned to slavery’” (“Unsettling the Coloniality” 303). This myth worked in conjunction with the idea that those places outside the Scholastic God’s redemptive grace were geographically uninhabitable and inferior. These Eurocentric geographic imaginaries were mapped onto the bodies of the people that were subject to European colonization in the Americas and Caribbean, which resulted in the beginnings of our contemporary racial hierarchy. Wynter calls this racial schema the “triadic formal model” that consisted of Western European colonizers, indigenous people of the Americas, and African slaves. The triadic model was also influenced by the notion of non-homogeneity

of the human species, an “essentially Christian-heretical” notion that would come to form the “new symbolic construct of Race” (Wynter, “1492” 36). Wynter explains the link between these New World social hierarchies, idea of non-homogeneity, and antiblackness:

And as one whose foundational premise of nonhomogeneity, which was now to be mapped onto a projected, ostensibly divinely created difference of substance between rational humans and irrational animals, would also come to be mapped at another "space of Otherness" level. This level was that of a projected Chain of Being comprised of differential/hierarchical degrees of rationality...between different populations, their religions, cultures, forms of life; in other words, their modes of being human. And while the West placed itself at the apex, incorporating the rest...and was to legitimate its relation of dominance over them all in the terms of its single culture's adaptive truth-for, it was to be the figure of the Negro (i.e. the category comprised by all peoples of Black African hereditary descent) that it was to place at the nadir of its Chain of Being; that is, on a rung of the ladder lower than that of all humans, lower even than that of Sepulveda's New World homunculi. (“Unsettling the Coloniality” 300-301)

Katherine McKittrick offers important insights on Wynter’s discussion of the influence of feudal Christian geographers’ conception of the non-homogeneity of lands (habitable/inhabitable) and racial triadic formal model that have come to form what McKittrick calls our modern “biocentric spatial organizations” (McKittrick, *Demonic* 143). McKittrick explains:

Wynter traces the biocentric codes that arose out of these new encounters and examines how ideologies of ‘difference’ were extensions of what Columbus’s contemporaries considered geographically uninhabitable and unimaginable. She does this by looking specifically at what Columbus’s contemporaries and his colonial descendants assumed to be ‘naturally geographic’ (the uninhabitable/underwater). This geographic dichotomy, after 1492, unraveled into New World cultural exchanges that settled onto a rigorous nonhomogenous human model. Humanness became a classificatory text, distinguishing white, native (nonwhite), African (native/Other/nigger) from one another and identifying subtypes of human Otherness, such as class, gender, sexuality. This model, traceable into the present, comes to pivot on the middle-class model of Man2 and guarantees a foundation for what constitutes a ‘normal being’ and therefore a normal way of life. (*Demonic Grounds* 130)

McKittrick's work merges "traditional geography," black studies, and black feminist epistemology to expand upon Wynter's theory of the symbolic overrepresentation of Man. McKittrick argues that "Man's geographies" also produce overrepresented and naturalized notions of place. As McKittrick puts it, "If Man is an overrepresentation of humanness, Man's human geographies are an extensions of this conception" (*Demonic Grounds* 128). McKittrick takes Wynter's discussion of feudal Christian geographic notions and European colonization to describe the ways these conceptions and violent legacies continue to materialize today. McKittrick, explains that these previously unimaginable, uninhabitable spaces after 1492 became desirable because they were realized to be "profitable and workable lands." However, these spaces also became, "grids of racial-sexual management and geographic growth..." (*Demonic Grounds* 130) Moreover, McKittrick explains: "To transform the uninhabitable into the inhabitable, and make this transformation profitable, the land must be a site of racial-sexual regulation, a geography that maps a 'normal way of life' through measuring different degrees of inhabitability" (*Demonic Grounds* 130).

Man's geographies are an extension of the bioeconomic descriptive statement and its concomitant order of knowledge; these geographies have produced what Wynter calls "poverty archipelagos"— the spaces of "human Otherness." As a result, "Those who occupy the space of Otherness are always already encountering space and therefore articulate how genres or modes of humanness are intimately connected to where we/they are ontologically as well as geographically" (*Demonic Grounds* 133).

The Western spatial imaginaries that emerged out of European epistemic and colonial projects of domination are also a product of a long tradition of Western binary thought, which many scholars argue is the source of our violent world order. Feminist geographer Doreen Massey explains that Eurocentric conceptualizations of time and space take “the form of a dichotomous dualism” (“Politics” 71). Western bourgeoisie Man’s epistemology privileges Time, which is characterized as dynamic—the realm of politics and History. This conception has been key for the creation of Western ways of knowing and being. Time conceived as a linear, teleological “category of reckoning” was crucial for Europe’s invention of a “modern” subject (Mignolo, *Darker Side* 151). In the book *The Theological Origins of Modernity*, author Michael Allen Gillespie explains that “To be modern is to be self-liberating and self-making, and thus not merely to be in history or tradition but to make history. To be modern consequently means not merely to define one’s being in terms of time but also to define time in terms of one’s being...” (2).

On the other hand, space has been characterized in racialized and feminized ways because it is all that time is not: static, empty, ahistorical and apolitical. Space in this conception is something to be acquired, conquered, and controlled. Doreen Massey argues that these Western characterizations have drastic effects on our understandings of gender: the space/time binary both mirror and construct our sexist society. Massey explains space is either seen as a site of stasis or as “chaotic depthlessness,” and void of all temporality. Massey writes:

Thus time is dynamism, dislocation and History, and space is stasis, space is coded female and denigrated. But where space is chaos (which you would think was quite different from stasis; more indeed like dislocation), then time is Order...and space is *still* coded female, only in this context interpreted as threatening. (Massey 74)

Sharon Patricia Holland has also made important insights on the significance of these Eurocentric characterizations of time and space and how they uphold our sexist, racist global colonial order. Holland argues that black people are also relegated to space, and writes “It is precisely because the black subject is mired in space and the white subject represents the full expanse of time that the meeting of the two might be thought of as never actually occurring in the same temporal plane...” (Holland, 18). McKittrick writes that implication for the idea “...that space and place are merely containers for human complexities and social relations, is terribly seductive: that which ‘just is’ not only anchors our selfhood and feet to the ground, it seemingly calibrates, and normalizes where, and therefore who, we are” (McKittrick, *Demonic Grounds* xi).

Section 2: The Colonial Project: The Myth of Modernity, Making the “Other,” and the Secularization of Time

Whatever the conceptualization of ‘time’ in the social sciences today, the humanities, or the natural sciences, it is caught and woven into the imaginary of the modern/colonial world-system.

Walter D. Mignolo, *The Darker Side of Western Modernity* 152

Walter Mignolo has investigated the formation of Western “modernity” and Western epistemic hegemony for decades, building off of the work of Sylvia Wynter, Anibal Quijano, and other anti-colonial thinkers such as the Zapatistas. Mignolo’s theories on modernity are an expansion of the work of Anibal Quijano who made the link between politics, economics and epistemic hegemony, what Quijano termed the “coloniality of knowledge” (“DELINKING” 451). In *The Darker Side of Western Modernity*, Mignolo defines modernity as “a complex narrative whose point of

origination was Europe; a narrative that builds Western civilization by celebrating its achievements while hiding at the same time its darker side, ‘coloniality’” (3). Mignolo argues that modernity and “coloniality” are always (re)produced simultaneously through what he calls the “logic of coloniality.” Mignolo explains that “the myth of modernity” was formed as a tool of colonization, which was spread by means of the “rhetoric of modernity.” Mignolo describes the function of this rhetoric:

The ‘rhetoric of modernity’ works through the imposition of ‘salvation’, whether as Christianity, civilization, modernization and development after WWII or as market democracy after the fall of the Soviet Union. Thus, the geo-political—rather than the postmodern—of modernity focuses not only on reason as the reason of terror (as Dussel pointed out) but also, and mainly, on ‘the irrational myth that it conceals’, which I understand here as the logic of coloniality. If coloniality is constitutive of modernity, in the sense that there cannot be modernity without coloniality, then the rhetoric of modernity and the logic of coloniality are also two sides of the same coin. (“DELINKING” 463-464)

Mignolo argues that postmodern critique is limited because it does not recognize that colonialism and modernity are always already implicated. Therefore, Mignolo urges not for a “postmodern” critique of Western “Totality” (the material and epistemic effects of the West’s claims to a universal, superior epistemology), but rather a critique of Totality from the perspective of the “logic of coloniality.” This frame of analysis is necessary in order to expose how the logic of coloniality and the myth of modernity are simultaneously reproduced; the existence of one necessarily implies the other.

Importantly, Mignolo discusses how “the concept of modernity as the pinnacle of a progressive transition relied on the *colonization of space and time...*” (“DELINKING” 470). Mignolo first points out that the myth of modernity relies on a linear understanding of time.

Modernity, progress, and development cannot be conceived without a linear concept of time defining a point of arrival. To understand what tradition and underdevelopment means, it was necessary to have, first, the concept of modernity and progress/development, since they (tradition and development) are non-existing entities outside the discourse of modernity and development. (Mignolo, *Darker Side* 163)

The invention of “modernity” was created through Eurocentric conceptualizations of space and time that positioned Western Europe as the exclusive location of modernity. Everything outside of Europe was temporally and spatially deemed ancient, barbaric, primitive, therefore, *not* modern. These temporal and spatial conceptual moves put forth by Christian European men fabricated a separation between Europe and everywhere else. The myth of modernity proclaims a clear distinction between modernity and tradition. This division is window dressing for the project of Western hegemony:

If there is no *outside* of capitalism and western modernity today, there are many instances of *exteriority*: that is, the outside created by the rhetoric of modernity (Arabic language, Islamic religion, Aymara language, Indigenous concepts of social and economic organizations, etc.). The outside of modernity is precisely that which has to be conquered, colonized, superseded and converted to the principles of progress and modernity. (Mignolo, “DELINKING” 462)

These colonial temporal and spatial notions were necessary as a means for “Christian men of letters” to distance themselves from the lands and people outside of Western Europe, stereotyping and dehumanizing non-Europeans, and thereby legitimizing exploitation and violence against brown and black people. European spatial and temporal colonization was part of the project of categorizing the Amerindian people and African slaves in New World racial, cultural hierarchies.

Mignolo highlights the European fabrication of a temporal line between modernity and the past (or tradition) as an essential ingredient in the invention of Western bourgeoisie Man's "Other." Mignolo writes that:

...[Western Europe's] spatial colonial difference was constructed not on the bases of previous European history (e.g., the European Middle Age), but from non-European histories, or better yet, from people without history. People without history were located in space.... ("DELINKING" 471)

Moreover, Mignolo argues these Eurocentric conceptualizations of space and time underwent secularization with the spread of natural, biological and social scientific sciences that Charles Darwin's theories helped spread. Mignolo explains how secularization of time was central for the spread of the conception of "modernity":

If the sixteenth century was when the global distinction between space and time emerged, including a linear concept of time linked to sacred history, the eighteenth century celebrated the final victory of 'time' by opening up the links between time and secular history. Secular history redefined the logic of coloniality, and 'time' became a central rhetorical figure in the self-definition and self-fashioning of modernity: modernity is a 'time' based concept. (*Darker Side* 163)

Johannes Fabian's article "How Anthropology Makes the Other" details the secularization of time and the role secular time played in the invention of the "Other," specifically focusing on how it has been used in his field of Anthropology. Fabian writes that the secularization of time was "Prefigured in the Christian tradition, but crucially transformed in the Age of Enlightenment, the idea of knowledge of Time which is superior knowledge has become an integral part of anthropology's intellectual equipment" (10). This parallels Wynter's discussion of the transfiguration of European Judeo-Christian modes of cognition to their "secular variants." Fabian explains that:

Enlightenment thought marks a break with an essentially medieval, Christian (or Judeo-Christian) vision of Time. That break was from a conception of time/space

in terms of a history of salvation to one that ultimately resulted in the secularization of Time as natural history. (26)

With the advent of Charles Darwin's theory of evolution by natural selection and its widespread adoption throughout the social sciences, time would be conceived in evolutionary terms. Fabian explains that:

Paradoxically, the utilization of Darwin became possible only on the condition that a revolutionary insight that had been absolutely crucial to his views, namely a new conception of Time... Only then could it be applied to various pseudoscientific projects supposed to demonstrate the operation of evolutionary laws in the history of mankind. (12)

That is, the secularization of time rendered Darwin's theory of natural selection applicable to the social sciences.

Importantly, Fabian explains that the secularization of time led to the *spatialization* of time, which was accompanied by the visual imagery of the tree, promoting a "taxonomic approach to socio-cultural reality" (15). Ultimately the spatialization of Time would influence the natural and social sciences, and for anthropology, in particular, would be key to defining the relation to the "Other" as "affirmation of difference as *distance*" (16). Fabian elaborates:

It is not the dispersal of human cultures in space that leads anthropology to 'temporalize' (something that is maintained in the image of the 'philosophical traveler' whose roaming in space leads to the discovery of 'ages'); it is the naturalized-spatialized Time which gives meaning (in fact a variety of specific meanings) to the distribution of humanity in space. The history of our discipline reveals that such use of Time almost invariably is made for the purpose of distancing those who are observed from the Time of the observer. (25)

Fabian also points out that the spatialization of Western time functioned to epistemologically replace "real ecological space" with "classificatory, tabular space"

(Fabian 19). This epistemic translation was necessary for colonial violence that required distancing and therefore dehumanizing strategies.

Fabian identifies four uses of time within the discourse of anthropology (although these uses are identifiable across the humanities): physical time, mundane time, typological time, and intersubjective time. All four uses of time serve to create temporal distance between the Western subject and the Other. These temporal “distancing devices” create what Fabian calls the “denial of coevalness,” which he defines as a “persistent and systematic tendency to place the referent(s) of anthropology in the Time other than the present of the producer of anthropological discourse” (31). The denial of coevalness essentially concedes that the Other occupies another time entirely.

Historian Anthony Pagden is another scholar who has studied the ways in which European temporal and spatial notions have been used to stereotype and dehumanize people outside of Europe. Pagden details the etymology and sociohistorical uses of “barbarian” and “primitive” in his book *The Fall of Natural Man*. Pagden writes that after the Spanish and Portuguese conquerors’ “discovery” of the New World, a flood of European travelers came to the New World and were inclined to classify the never-before encountered flora and fauna they saw, as well as the indigenous people, which they labeled barbarians. Pagden explains that the origins of “barbarian” are based on the “teleological view of nature to which all Greeks (and subsequently all Christians) subscribed... a scale of humanity going from the bestial at one end to the god-like at the other. On this scale the Greek, who alone had access to virtue, was the norm” (18).

The Greek thought of barbarians as people who lacked reason (*logos*) because they could not speak Greek or “form civil societies—since these were the clearest

indications of man's powers of reason—were also the things that distinguished man from other animals” (Pagden, *The Fall* 16). In the Greek conception, the creation of the city and “civil society” is what distinguished men from the barbarians. Pagden writes, “In the Greek worldview, and in the conceptions of generations of Europeans to live in the state of nature, to live like a ‘barbarian’ or a ‘savage’ meant living as something less than human” (Pagden, *Idea* 41). European colonizers in the New World employed this word with similar intentions.

Also, Mignolo explains that, “By the eighteenth century, when ‘time’ came into the picture and the colonial difference was redefined, ‘barbarians’ were translated into ‘primitives’ and located in time rather than in space” (*Darker Side* 153). After the Enlightenment, time acquired an increasingly privileged position because it was used in fabricating the notion of a European “progress narrative.” Both the stereotype of the barbarian and primitive were used by Western European “Christian men of letters” to write a narrative of themselves as superior. That is, time became more important to create the myth that European men are the pinnacle of humanity. European men alone had the agency to “progress” unlike other primitive people who were stuck in the past. Mignolo explains:

History as ‘time’ entered into the picture to place societies in an imaginary chronological line going from nature to culture, from barbarism to civilization following a progressive destination toward some point of arrival. Hegel, as it is known, organized Kant’s cosmo-polis on a temporal scale that relocated the spatial distribution of continents (Asia, Africa, America, and Europe) in a chronological order that followed a certain directionality of history, from East to West. The planet was all of a sudden living in different temporalities, with Europe in the present and the rest in the past. (*Darker Side* 151)

Western colonization has always been rooted in spatial and temporal imaginaries of people and lands outside of the Europe. These colonial notions of time and space promoted through the “rhetoric of modernity” are central operatives by which secular, scientific knowledge maintains its epistemological supremacy.

Conclusion

This chapter provides the theoretical narrative through which I examine the science discourse in the television series *Cosmos: A Spacetime Odyssey* and consider the role of host Neil deGrass Tyson. I use *Cosmos* and the persona of Tyson to serve as a sight of inquiry that allows me to explore the connections between coloniality/modernity, the (re)production of “Man,” Western notions of time and space, and the epistemic reign of Western science.

In this chapter, I detailed Wynter’s philosophies on the historical, cultural, economic, and political forces that have worked together to create our contemporary purely secular, planetarily extended, bioeconomic descriptive statement of the human, now represented as Man² *homo oeconomicus*. I elaborated Wynter’s discussion of the project of Western secularization that was initiated in medieval Christian Europe with the emergence of Renaissance humanist thought that allowed for the rise of the European scientific revolution. I then detailed Wynter’s theories on truth-for adaptive terms and the significance of origin stories and extra-human agencies, which are all formulated from Man’s vantage point. As Wynter’s theories reveal, Western science, with its precept of producing universal and generalizable “laws of nature” to understand the world for the

good of all “*Mankind*” has from its inception been in synch with Western colonization and epistemic hegemony.

In part two, I focused on the theme of Western colonial conceptualizations of time and space. This included Wynter’s and McKittrick’s theories on the continued racial and sexualized “grids of domination” that “Man’s geography” has imprinted on our modes of being and doing. I also detailed Mignolo’s theories on the fabrication of “modernity.” European conceptualizations of time and space were foundational for European colonialism, and the myth of modernity places non-European bodies and ways of knowing as stuck in space because behind in time. In addition, part two included a discussion of Fabian’s theory on the secularization of time and the creation of “Other” through the “denial of coevalness,” as well as Pagden’s history on the tropes of barbarian and primitive.

This chapter gave the theoretical background of the ideologies, and political and cultural influences that came to produce our purely secular biocentric mode of being human and concomitant order of knowledge. In the next chapter, I provide a textual analysis of *Cosmos* and Tyson to demonstrate how the concepts covered in this chapter are realized in contemporary science discourse. Specifically I argue that Tyson’s race-neutral articulation of Western science discourse and thought further cements the myth-lie that science is a purely neutral tool, thereby perpetuating the supremacy of Western science that promotes the symbolic overrepresentation of Man and Western colonial notions of time and space that privilege Western geographies and epistemologies

Chapter 3: A Critique of the Mythmaking of “Man,” the Colonization of Space and Time, and the Onto-epistemic Reign of Western Science in *Cosmos: A Spacetime Odyssey* with Host Neil deGrasse Tyson

Tyson’s Cosmic Dreams and the Myth-Lie of Science Neutrality and Objectivity

Unjust and inequitable social systems, like racial capitalism, are underwritten by a refusal of black humanity and a refusal to recognize the *struggle* to assert black humanity; this is a refusal, then, of both black humanness and the praxis of being human.

Katherine McKittrick, “Commentary: Worn Out,” 98

Neil deGrasse Tyson recounts a “turning point” in his life during his sophomore year of college at Harvard in his memoir *The Sky is Not the Limit*. Tyson wrestled for the university team, and one day after practice he was talking to one of his teammates, another black man, who asked about his academic major. When Tyson replied physics with an emphasis in astrophysics, his teammate said vehemently, “Blacks in America do not have the luxury of your intellectual talents being spent on astrophysics” (114). Tyson was devastated. This comment threw his life pursuits into question. He felt isolated and became aware that his fellow black graduates were going on to work in occupations that are conventionally perceived as fields that promote equity or justice, such as economics and law. Tyson writes:

I knew in my mind that I was doing the right thing with my life (whatever, the ‘right thing’ meant), but I knew in my heart that he was right. And until I could

resolve this inner conflict, I would forever carry a level of suppressed guilt for pursuing my esoteric interests in the universe. (115)

Tyson goes on to describe another moment in his life that would resolve this “inner conflict.” Toward the end of his doctoral program at Columbia University, Tyson received a call from the local Fox News affiliate station asking if he would report on recent sun explosions that had been captured by a newly launched solar satellite. He was called to make a public appearance to ensure the public that these sun explosions were not going to harm Earth’s inhabitants. As Tyson tuned in at six that evening to watch his television appearance, he writes:

I had an intellectual out-of-body experience: On the screen before me was a scientific expert on the Sun whose knowledge was sought by the evening news. The expert on television happened to be Black. At that moment, the entire fifty-year history of television programming flew past my view...Of course there had been (and continued to be) Black experts on television, but they were politicians seeking support and monies for urban programs to help Blacks in the ghetto...For the first time in nine years I stood without guilt for following my cosmic dreams. I realized as clear as the crystalline spheres of antiquity that one of the major barriers to successful relations between Blacks and Whites is the latent supposition that Blacks as a group were just not as smart as Whites...The most pervasive expression of the problem is the casually dismissive manner in which many Whites treat Blacks in society. (117)

Essentially Tyson is making an argument that representation matters: If black people could see renowned scientists like himself, this would encourage them to become scientists too. With this increased representation in the sciences, white people will realize that blacks are just as smart as whites. *Voilà!* The “Color Line” is resolved! Tyson’s belief that he is contributing to dispelling the myth that black people are inferior to whites by serving as an ambassador of this elite, white discipline of astrophysics is, as Wynter might put it, “missing the territory for the map.”

In this chapter I argue that Tyson and *Cosmos* perpetuate the myth-lie of science neutrality and objectivity by refusing to mention race at three levels: the relationship between European colonial racial subjugation and the emergence of contemporary Western science, the racialized logic that is part and parcel of this tool, and Tyson does not mention his experience as a black man in the sciences. This refusal to mention race as it relates to Western science at the personal, socio-historical, and epistemic level upholds the symbolic overrepresentation of Man and Western colonial conceptualizations of time and space, supporting the naturalized, privileged position Western science holds over our ways of being and doing in our neoliberal capitalist, white supremacist global order.

Wynter explains that Western science is a “master discipline” of our contemporary episteme that reifies the biologically absolute, (neo)Liberal descriptive statement of the human overrepresented as Man² *homo oeconomicus*, in which other “genres or kinds of being human, cannot be imagined to exist” (“How We Mistook” 116). In the article, “No Humans Involved an Open Letter to my Colleagues,” Wynter argues that Western intellectuals, of which I would argue Tyson is one, cling to the notion that we can create a more just world through increased opportunity and representation for the wretched. However, this fails to question the “the validity of our present order of knowledge itself,” and how this order is upholding a notion of the human that normalizes the dehumanization and violent oppression of black people (57). Wynter elaborates on this theory in her article “How We Mistook the Map for the Territory, and Reimprisoned Ourselves in Our Unbearable Wrongness of Being of *Desêtre*: Black Studies Toward the Human Project.” Wynter writes:

... because the negative connotations placed upon the black population group are a function of the devalorization of the human, the systemic revalorization of Black peoples can only be fundamentally effected by means of the no less systemic revalorization of human being itself, outside the necessarily devalorizing terms of the biocentric descriptive statement of Man, over-represented as if it were by that of the human. This, therefore, as the territory of which the negative connotations imposed upon all black peoples and which serve to induce our self-alienation, as well as our related institutionalized powerlessness as a population group is a function, and as such, a map. (116)

I argue Tyson is operating within an order of knowledge that naturalizes a biologically absolute notion of the human, which belies the recognition of his humanness. Tyson's representation in the elite, white field of astrophysics does not fundamentally challenge our biocentric mode of being human and its concomitant (neo)Liberal, neocolonial, Westernized order of knowledge. In fact, Tyson's race-neutral articulation of Western science reinforces the myth-lie of science objectivity and neutrality that upholds the God-like status of this master discipline. Wynter explains that secularist, scientific thought is an aporia that has created an order of knowledge with rigid, naturalized ways of being and doing, and relies on the notion of the "bioevolutionarily determined differential" of race. This aporia, Wynter explains, has led to:

...the negation of our co-humanity as a species via the "*Color Line*," as well as to the 'general wrong' of Gerald Barney's (and Aurelio Peccei's) 'global *problematique*' and its intractable 'problem' of the looming possibility of our and other species' extinction as a result of the related threats of global warming, climate change and general ecological cum environmental degradation. For all these 'wrongs' collectively function as the underside costs of the *aporia* of the *secular* West, as an aporia generated by our performative-enactment and behavioral-praxis of the planetarily extended, secular Western, now neo-Liberal-monohumanist *genre* of being hybridly human *Man(2)*, itself over-represented in *homo oeconomicus* cum neo-Darwinian terms as *homo sapiens sapiens* as if this self-definition were isomorphic with the *being* of being human as *Homo Narrans* itself. ("Toward the Sociogenic" 222)

Additionally, Denise Ferreira da Silva argues that racism is baked into the logic of Western science from the inception—the core of the scientific method is already based in racialized thinking.

Tyson rarely provides commentary on race. His memoir, *The Sky is Not the Limit*, is one of the few places he discusses his own experience as a black man or his own opinions about “race relations” in the U.S. In the few instances he has discussed this publicly, he takes the stance that is something like: “race is not a problem, unless I make it problem.” In an interview on the podcast “Waking up with Sam Harris,” Tyson states:

My sense of it is: The loudest statement I can make is to not ever mention it [race] again. And it’s not a cop out. It may sound like that. As long as I make it an issue, then if you have people commenting about me will make it an issue, but if it’s not an issue there’s no fodder there for you to load your cannon with... What I do know is that as recently as ten years ago, there were taxis that would not pick me up going North of Manhattan... this is a numerically measurable thing. It used to be two out of five wouldn’t pick me up, now it’s one out of ten. (00:04:37-00:05:55)

This also appears to be the position Tyson adopts in his role as presenter of *Cosmos*. In my analysis I considered what role Tyson plays in *Cosmos*. I argue that Tyson’s race-neutral articulation of Western science discourse perpetuates the normalized belief that Western science is a completely neutral tool of knowledge production. Tyson does not mention his experience as a black man in the sciences, the racialized thinking that undergirds this “ethno-class” tool, or the connection between racial subjugation in New World colonial societies and the emergence of Western science. This race-neutral framing of science discourse allows for the (re)production of the symbolic overrepresentation of Man and the onto-epistemic dominance of this Western science over our ways of being. I support my argument about the role of Tyson in the following

sections. First, I want to note the few times Tyson does acknowledge difference in *Cosmos* (gender and class in this case) and why they are limited. Next, I will discuss how *Cosmos* perpetuates Western notions of time and space through the rhetoric of modernity—temporal and spatial conceptualizations inherited from European colonization that continue to mark the West as the sole location of “modernity” and development. Then I will focus on how *Cosmos* upholds the symbolic overrepresentation of Man, highlighting Tyson’s storytelling of Enlightenment figures that symbolize Wynter’s “Man,” the “true” human that has come to understand the world rationally and scientifically. The next section discusses Tyson’s rhetoric that conflates Man with the human-species itself, purporting Western science as a universal tool that benefits all genres of the human. I also discuss how contemporary science communication relies on an extra-scientific aesthetic to promote a pro-science worldview and how this is tied to our secular, scientific origin myth. I conclude the chapter with a summary of my analysis.

Throughout *Cosmos*, there are many instances where Tyson briefly acknowledges that *scientists* are fallible, but he ultimately defends science as a mechanism that is self-correcting and at its core unfailing. For example, in episode eight, “Sisters of the Sun,” Tyson tells the story of Cecilia Payne-Gaposchkin—one of the few women astrophysicists at Harvard in the early twentieth century whose observations about stellar spectra, Tyson says, “challenged one of the central beliefs of modern astronomy. The resulting impact would be the dawn of modern astrophysics” (“Sisters” 00:12:29- 00:12:37). One of the most famous astronomers during that time, Edward Pickering

...assembled a group of women to classify the types of stars. One of them provided the key to our understanding of the substance of the stars, and another devised a way for us to calculate the size of the universe. For some reason, you've probably never heard of them. I wonder why. (00:08:51- 00:09:06)

Payne-Gaposchkin used the work of this assembly of women or "Pickering calculators," to make the observation that stars are made almost entirely of hydrogen and helium. Her observations were groundbreaking because at the time the consensus in the astrophysicist community was that the elemental compositions of stars roughly resembled that of Earth's composition. Pickering dismissed Payne-Gaposchkin's observation and calculations, and did not recognize the validity of her work until four years after her observations. Tyson suggests that Payne-Gaposchkin's perseverance is representative of science's neutrality: "The words of the powerful may prevail in other spheres of human experience, but in science, the only thing that counts is the evidence and the logic of the argument itself ("Sisters" 00:17:44 -00:17:55). How can science be seen as unaffected by sociocultural ideologies and worldview when the scientific method involves observation and interpretation from the perspective of Western bourgeoisie Man with its/his "subjective understanding" and ethno-class goals always already implicated?

This story of an instance where sexism stood in the way of the "scientific facts," is as close as Tyson gets to a discussion on how sociocultural factors, ways of thinking, and the subjective understanding of scientists cannot be separate from science writ large. A white woman's experience of sexism is as far as Tyson goes in discussing these influences that are purported to be completely separate from this tool of knowledge production.

Another example where Tyson situates science as neutral is in episode three, when Tyson visits the present-day coffee house where over three hundred years prior, Halley and Hooke met to discuss astronomical matters. Tyson says in the seventeenth century, “the coffeehouse was an oasis of equality in a class-obsessed society. Here, a poor man needn't give up his seat to a rich man, nor submit to his opinion. It was a kind of laboratory of democracy” (“When Knowledge” 00:16:43- 00:16:56). Tyson’s narrative omits any recognition of the trans-Atlantic slave trade that was going on under English colonial rule at the same time as Hooke and Halley’s conversations that allowed for the existence of the coffeehouse. In seventeenth century England, coffee was one of the main commodities that relied on African slave labor (and indigenous land exploitation and violence), which allowed for European global imperialism and the advent of Britain’s Industrial Revolution. These ahistorical and acultural narratives of major science figures situate science as a neutral tool that is emancipatory for all genres of the human.

The Myth of Modernity: Western Colonial Notions of Time and Space

The very idea of “modernity” was invented in the narratives in which the emergence of Europe was articulated on a double front: separated from the Middle Ages, in the temporal axis and of the Americas, where the barbarians were located, in the spatial axis.

Walter D. Mignolo, “DELINKING: the rhetoric of modernity, the logic of coloniality and the grammar of de-coloniality,” 477

Cosmos perpetuates Western colonial notions of time and space through the “rhetoric of modernity” and the trope of the primitive and barbarian. These old temporal and spatial conceptualizations derived from European “Christian men of letters” situate Western scientific thought as the epistemological apex, the Western world as the bearer

of progress and development and the sole site of “modernity.” For instance, in Episode three “When Knowledge Conquered Fear,” Tyson describes how different ancient cultures perceived the apparition of comets before the advent of a scientific understanding of the cosmos:

Back then, they had no other logical explanation for what was happening. This was long before anyone had yet to imagine Earth as a spinning planet with a tilted axis, revolving around the Sun. Every ancient human culture made the same mistake, a comet must be a message, sent by the gods or one particular god. And almost invariably, our ancestors concluded the news was not good. It didn't matter if you were an ancient Aztec, Anglo Saxon, Babylonian, Hindu, comets were portents of doom. The only difference among them was the precise nature of the coming disaster. “Disaster,” as in the Greek word for “bad star.” To the Masai of East Africa, a comet meant famine. To the Zulu in the south, it meant war. To the Eghap people of the west, it meant disease. To the Djaga of Zaire, specifically smallpox. To their neighbors, the Luba, a comet foretold the death of a leader. The ancient Chinese were remarkably systematic. Starting in roughly 1400 BC, they began recording and cataloguing the apparitions of comets. A four-tailed comet signified an epidemic was coming. (“When Knowledge” 00:3:52-00:5:19)

Although Tyson states, “It didn't matter if you were an ancient Aztec, Anglo Saxon, Babylonian, Hindu,” the examples he gives of the ancient cultures are all African cultures who believed comets to be divine “portents of doom”; these people had “no other logical explanation,” except for the Chinese who were “remarkably systematic.” This focus on African peoples is not insignificant. Tyson's script displays that Western scientific discourse upholds Eurocentric spatial and temporal understandings that continue to espouse the idea of “superior/inferior” spaces (Wynter's habitable/uninhabitable dichotomy), which implies that the West is the location of the most sophisticated civilization and mode of being human. Within the Western linear, teleological understanding of time, these African cultures are portrayed as primitive and regressive

because they have not acquired a scientific understanding of the world; therefore, they are not quite human.

One of the main ways that these temporal and spatial conceptualizations continue is through the tropes of “barbarian” and “primitive.” As Walter Mignolo explains

...if the temporal difference was expressed through the notion of ‘primitives,’ the spatial colonial difference worked through the concept of barbarians, an idea taken from the Greek language and historical experience, but modified in the sixteenth century to refer to those who were located in an inferior space. (“DELINKING” 470-471)

Anthony Pagden has written extensively about the idea of “barbarian,” tracing this term back to Hellenistic Greeks. The term barbarian was originally used by the Greeks to describe the difference between “civilized” men from the “barbarous” “Other,” which was based on the idea that people were barbarous or lacking virtue if they lived outside of the *polis* (city) and did not speak Greek.

Pagden further explains that with European Christian thinkers incorporation of “Aristotelian anthropological categories,” barbarian came to be a “category of not-quite-men...broadly speaking, barbarians were thought of as men who had failed to progress. Their societies were primitive ones...” (*The Fall* 26). Tyson’s message similarly promotes the trope of primitive and barbarian, communicating that because these African tribes were operating outside of Western scientific epistemology—understanding their world differently than our contemporary techno-industrial scientific view with its tenet of domination-over-nature—these people were not human.

These Eurocentric spatial/temporal colonial notions are further reinforced by the episode’s visual images. The images are spatially dislocated as Tyson lists each of the African ethnic groups: white, hazy clouds appear, flashes of black bodies are seen in front

of the smoky, cloudy background. This imagery and script perpetuate the spatial notion that these “primitive” people, specifically in this case, black Africans, are people stuck in the past, out of time, a “people without history.”

In contrast to the depiction of African ethnic groups, there is an unmistakable temporal and geographical concreteness when the story moves into seventeenth-century England to introduce our savior-scientists who would liberate humanity from its primitive ways: Edmond Halley, Robert Hooke, and Isaac Newton. Unlike the geographic liminality depicted during the discussion of African cultures, Tyson sits in the bustling, coffee house in London where Halley and Hooke met in the seventeenth century to talk about planetary motion. Tyson also walks around present-day grounds of the University of Cambridge when talking about Isaac Newton’s years studying there. These are far more tangible geographic visuals when talking about European scientific thinkers as opposed to the very disembodied representations of non-Europeans, which are often stereotyped images of brown and black bodies disassociated from any place. Moreover, at no point does Tyson discuss colonization of the Americas that was going on during this time period. While there is a fixed, isolated depiction of Enlightenment Europe, this defies the reality that Western Europe’s wealth and stability is structured on the displacement, murder, and enslavement of African and Amerindian people.

An interesting contrast to the storytelling of Enlightenment scientists illustrated as *the* moment of rupture between modernity and our “ancient ancestors,” is found in episode five, “Hiding in the Light.” In this episode, Tyson tells the story of Ibn al-Hazen who is credited with laying out the basis of the scientific method hundreds of years before Renaissance scientists. Tyson opens the episode with the statement:

The nature of beauty and the substance of the stars, the laws of space and time they were there all along, but we never saw them until we devised a more powerful way of seeing. The story of this awakening has many beginnings and no ending. Its heroes come from many times and places: an Ancient Chinese philosopher, a wizard who amazed the caliphs of eleventh-century Iraq, a poor German orphan enslaved to a harsh master. Each one brought us a little closer to unlocking the secrets hidden in light. Most of their names are forever lost to us, but somewhere, long ago, someone glanced up to see light perform one of its magic tricks. Who knows? Maybe that quirk of light inspired the very first artist. Where did all this come from? How did we evolve from small wandering bands of hunters and gatherers living beneath the stars to become the builders of a global civilization? How did we get from there to here? There's no one answer. Climate change, the domestication of fire, the invention of tools, language, agriculture all played a role. Maybe there was something else, too. (00:01:40-00:03:48)

First note the temporal metaphor in the question: “How did we evolve from small wandering bands of hunters and gatherers living beneath the stars to become the builders of a global civilizations?” As Tyson states the above script the visual depicted what could be interpreted as Neanderthals painting inside the walls of a cave. Then when Tyson says “builders of a global civilization,” he is shown standing in front of a huge industrial city, which harkens back to the Greek teleological notion of nature and idea of the barbarians as people that reside outside of the city—the city is the site of modernity and Man. Another important aspect of this script is the analogy of “awakening” with a scientific understanding of the cosmos. In this statement where several non-European cultures (plus a “poor German orphan”) are credited with “progressing” the human species, these contributions are clearly secondary to European Enlightenment protagonists’ contributions. The awakening that happens in Europe during the scientific revolution is framed as the decisive moment that emancipated the entire human species. This notion of the significance of the European scientific revolution is further reinforced a little later when Tyson says, “The reawakening to science that took place in Europe,

hundreds of years later, was kindled by a flame that had been long tended by Islamic scholars and scientists” (“Hiding” 00:10:04-00:10:12).

Mignolo writes, “...‘time’ is a fundamental concept in building the imaginary of the modern/colonial world and an instrument for both controlling knowledge and advancing a vision of society based on progress and development” (*Darker Side* 161).

Another instance where *Cosmos* utilizes the “rhetoric of modernity” that paints European scientific thought as the epitome of progress and freedom, is when Tyson says:

During the 40,000 generations of humanity, there must have been roughly 100,000 apparitions of a bright comet. For all that time, the best we could do was look up in helpless wonder, prisoners of Earth with nowhere to turn for an explanation beyond our guilt and our fears. But then a friendship began between two men that led to a permanent revolution in human thought. (“When Knowledge” 00:11:00-00:11:27)

This example of the “rhetoric of modernity” asserts a divide between the ancient world and the openings of “modernity,” which is punctuated by the European scientific revolution. All of the previous years of human existence (“40,000 generations”) are lumped together as a regressive place our “helpless,” ignorant ancestors resided, but the European scientific revolution with saviors such as Halley and Newton would bring us out of captivity into modernity.

In episode one: “Standing Up in the Milky Way,” Tyson prefaces the narrative about Giordano Bruno who challenged the dominant theo-Scholastic ideologies of his day with the following statement:

There comes a time in our lives when we first realize we're not the center of the universe, that we belong to something much greater than ourselves. It's part of growing up. And as it happens to each of us, so it began to happen to our civilization in the 16th century. (00:16:38-00:16:54)

This quote shows the Western belief that the European Enlightenment marks a temporal break between antiquity (the Middle Ages) and modernity. The temporal and spatial notions and images in *Cosmos* reveal the close relationship between “the myth of modernity” and the “logic of coloniality.” Contemporary scientific discourse sustains the myth of the European “progress narrative” and proclaims science as the highest form of human cognition. There is the assertion that Western science is what allows for the “natural” progress of the human species. “It’s part of growing up,” Tyson says.

For All *Mankind*: The Formation of “Man,” Truth-For Adaptive Terms, Science as Extra-Human Agency

Cosmos perpetuates the symbolic overrepresentation of Western bourgeois Man, which is most pointedly depicted through the extensive storytelling around figurehead Enlightenment scientific thinkers that represent the emergence of our modern, purely secular descriptive statement of the human. These Enlightenment scientist-protagonists represent Western bourgeois Man—the fully evolved, rational subject that have come to see the world scientifically. In these narratives, we again exhibit Tyson’s refusal to mention race and the use of the “celebratory rhetoric of modernity—that is, the rhetoric of salvation and newness,” (Mignolo, *Darker Side* 6) that (re)produces the overrepresentation of Western bourgeoisie Man.

Wynter traces the genealogy of our current “descriptive statement of the human” or the formation of Man, which came about in two major forms, which Wynter calls Man1 and Man2. Wynter explains that in medieval Christian Europe, the scholastic order of the time dictated the concept of “Man” in theological terms: “True Christian Self” as opposed to untrue Others categorized as idolaters or infidels. This theological descriptive

statement would change when Renaissance humanists, who were looking for socio-economic power gains from the Crown and Church, proposed a counter-poetics that spurned the creation of the physical sciences and a secular notion of the human based on degrees of “rationality.” This Renaissance humanist revolution, scientific thought, and burgeoning European empires gave rise to Man1 as *homo politicus* (still in hybrid religio-secular terms).

Columbus’s colonization of the New World along with Aristotle’s master-slave trope and the by-nature-difference concept of “rationality” would come to form the beginnings of the racial hierarchy (degrees of humanness). Man2, the “bioeconomic” subject, emerged following the widespread adoption of Darwin’s theory of evolution by natural selection, and later the discovery of the DNA molecule would naturalize race as an inherent, biologically absolute organizing principle. Also Thomas Malthus’s concept of Natural Scarcity would cause another shift in the descriptive statement, changing the Westernized world order’s redemptive telos to “economic growth and development,” that would dictate the categorization of the Other; the poor—those unable to master the law of Natural Scarcity—would be placed in the non-quite-human category too. In the later half of the twentieth century, this telos would be further sanctified by the doctrine of neoliberalism. (Wynter, “Unsettling the Coloniality” 321) These two forms of the invention of Man have come to create our current purely secular descriptive statement in biological absolute and economic terms. The Enlightenment scientists in *Cosmos* symbolize the transmutation of the theological conception of the human to purely secular, rational mode of the human, Man.

For example, in episode three, “When Knowledge Conquered Fear,” Tyson states, “At the time, the World Society of London was the world's clearinghouse of scientific discovery. Its motto, *nullius in verbo*, sums up the heart of the scientific method. It's Latin for ‘see for yourself.’ In other words, question authority” (00:14:14- 00:14:30). This motto, “question authority,” captures the ethos of these mythic heroes. It also marks a shift from Judeo-Christian to scientific universality as a mode of thought (secularization), which assumes they are separable. This would likewise mark the treatment of the Other as a scientific construct, no longer connected to religion, but to immutable difference.

In episode one, “Standing Up in the Milky Way,” Tyson tells the story of Giordano Bruno, an Italian priest that promoted Copernicus’s heretical theory that the Earth revolved around the Sun. Bruno goes to present his ideas at Oxford University in England, where the following interaction takes place:

BRUNO. I have come to present a new vision of the cosmos. Copernicus was right to argue that our world is not the center of the universe. The Earth goes around the Sun. It's a planet, just like the others. But Copernicus was only the dawn. I bring you the sunrise!

AUDIENCE. Are you mad or merely ignorant? Everyone knows there is only one world!

BRUNO. What everyone knows is wrong! Our infinite God has created a boundless universe with an infinite number of worlds.

AUDIENCE. Do they not read Aristotle where you come from? Or even the Bible?

BRUNO. I beg you, reject antiquity, tradition, faith, and authority. Let us begin anew by doubting everything we assume has been proven.

AUDIENCE. Heretic! Infidel! (00:21:36- 00:22:29)

When Bruno says, “reject antiquity, tradition, faith, and authority,” these characteristics are, according to the myth of modernity, part of the old feudal order, the old mode of

being human. This story conveys the message that a scientific understanding of the cosmos allows for intellectual freedom and the means to attain full humanness. Bruno is depicted as a martyr who sacrificed his life to spread the truth about the cosmos, challenging the hegemony of Scholastic knowledge. Moreover, he is situated as a lone individual, who is much braver than everyone else. Like Christopher Columbus, Bruno challenges the conventional notions of the time. Bruno represents Western bourgeoisie Man: the rational, freethinking, autonomous subject.

Additionally, in episode three, “When Knowledge Conquered Fear,” a large portion of the episode is spent developing the characters of Edmond Halley, Robert Hooke, and Isaac Newton—legendary European Enlightenment thinkers who were major contributors to the creation of contemporary Western science. Tyson narrates Newton’s biography:

Before he even opened his eyes, his father was already dead. His mother left him when he was only three and did not return until he was 11. When she did, it was with a new family and husband, a stepfather whom he despised...the talented young Isaac entered Trinity College at Cambridge University where he was a consistently lousy student, one without friends or a loving family to provide any warmth or encouragement. (00:19:18 - 00:20:05)

This personal background provides the reasoning for Newton’s mercurial temperament as an adult, and contributes to the dramatic tension later in Newton’s life surrounding his relationship with Edmond Halley. Newton was a recluse who had been living in isolation thirteen years before Halley first met with Newton in 1684 to discuss a mathematical formulation of planetary motion. Tyson claims that without Halley’s decisive role as Newton’s “psychotherapist” and publisher of *Principia*, “the scientific revolution hung in the balance” (“When Knowledge” 00:24:38 - 00:24:41). Tyson goes on to say:

Without Halley's heroic efforts, the reclusive Newton's masterwork might never have seen the light of day, but Halley was a man on a mission, absolutely determined to bring Newton's genius to the world. That pre-scientific world, the world ruled by fear, was poised at the edge of a revolution. Everything depended on whether or not Edmond Halley could get Newton's book out to the wider world. ("When Knowledge" 00:24:43- 00:25:09)

Stirring music strikes up in the background, Tyson cradles an original manuscript of *Principia* as he says, "Here are the opening pages of modern science with its all-embracing vision of nature's universal laws of motion, gravity not just for the Earth, but for the whole cosmos" ("When Knowledge" 00:23:18 - 00:23:00). These savior-scientists embody both the scientific rationale and the early formations our Western secular descriptive statement of the human.

In addition, Newton, Halley, and Hooke, are portrayed as the link between the oppressive, medieval Christian order and the fully enlightened, scientific worldview. Tyson states, "with one foot still in the Middle Ages, Isaac Newton imagined the whole solar system" ("When Knowledge" 00:28:43-00:28:47). Tyson emphasizes the importance of these figures of Man in rescuing humanity from the confines of the Middle Ages: "Isaac Newton and Edmond Halley could not know it, but their collaboration would ultimately set us free from our long confinement on this tiny world" ("When Knowledge" 00:11:29-00:11:39). The rhetoric of modernity in the narrative of these Enlightenment scientists likens the formation of Man with progress and freedom.

Another way that the science discourse in *Cosmos* reifies the symbolic overrepresentation of Western bourgeoisie Man, is through the rhetoric that conflates "Man-as-human." This conflation is ubiquitous in *Cosmos*, especially, as Wynter has

pointed out in present-day Western discourse on global warming. In Episode eleven:

“The Immortals.” Tyson says:

In one respect, we're ahead of the people of ancient Mesopotamia. Unlike them, we understand what's happening to our world. For example, we're pumping greenhouse gasses into our atmosphere at a rate not seen on Earth for a million years, and the scientific consensus that we're destabilizing our climate. Yet our civilization seems to be in the grip of denial—a kind of paralysis. There's a disconnect between what we know and what we do. Being able to adapt our behavior to challenges is as good a definition of intelligence as any I know. If our greater intelligence is the hallmark of our species, then we should use it, as all other beings use their distinctive advantages to help ensure that their offspring prosper, and their heredity is passed on, and that the fabric of nature that sustains us is protected. (00:34:17-00:35:17)

As Wynter argues, science is a tool that operates within Man’s ethno-class truth-for adaptive terms. That is, science is a Western Totality that promotes itself as universal, but really only serves a small elite class. When Tyson says “our civilization” it assumes a viewpoint that science is operating for the benefit of all humanity—a scientific worldview is equated with liberation for all genres of the human. Tyson’s passage above suggests that if only people were more aware about how the cosmos and life on Earth operated from the view of science, logically, we would act to preserve *our* human species and future generations. However, Wynter explains that this is does not take into account Man’s “adaptive truth for terms.” The adaptive truth-for terms on which science operates are set up to serve Man at the expense of our planet and all other genres of the human.

The Spiritual Aesthetics of Science Discourse: The Biocentric Descriptive Statement and Darwinian Origin Myth

Science discourse relies on the use of an “extra-scientific aesthetic matrix of values” to promote a pro-science worldview, often using Judeo-Christian spiritual metaphors and narrative techniques (White, *Science Delusion* 23). One of the many

examples of the use of an extra-scientific aesthetic value, educating the public on the “proper” relationship and reaction to our place in the cosmos as biologically absolute subjects is found in episode two, “Some of the Things Molecules Do.” Tyson talks about Darwin’s theory of evolution by natural selection—“the most revolutionary concept in the history of science” (00:15:30- 00:15:35). First, it is important to note that Tyson, in his typical rhetoric-of-modernity-fashion, describes Darwin and his theory in completely celebratory terms. However, as Denise Ferreira da Silva discusses in her book *Toward a Global Idea of Race*, Charles Darwin had his own racial motivations for the theory of evolution by natural selection. Darwin’s theory was partially based on a theory that would account for some people not being as “developed” as others, and therefore not capable (read worthy) of survival.

Tyson goes on to discuss why there is still resistance to this theory, pointing out that the biblical origin story (or what Tyson calls “tradition”) told us that humans were created separate from all of the other animals, and “We can all understand the twinge of discomfort at the thought that we share a common ancestor with the apes...No one can embarrass us like relatives do...but what about our kinship with the trees? How does that make you feel?” (00:15:57–00:16:33).

As he stands next to a huge oak tree, the camera zooms into the tree trunk, to display an animation of the genetic inner-workings of the DNA strands that make up the oak tree. Then Tyson holds up his own hand. The camera zooms into his hand to view Tyson’s DNA.

The DNA doesn't lie. This tree and me, we're long-lost cousins. And it's not just the trees. If you go back far enough, you'll find that we share a common ancestor

with the butterfly, gray wolf, mushroom, shark, bacterium, sparrow. What a family! Other parts of the barcode vary from species to species... Unless you have an identical twin, there's no one else in the universe with exact same DNA as you... Science reveals that all life on earth is one... (00:17:01-00:27:44)

Tyson conveys the belief that humans are “purely biological beings on the model of natural organism” (Wynter, “Unsettling the Coloniality” 326). Further, this race-neutral framing of Darwin’s theory of natural selection promotes the idea that Western science is purely objective and neutral tool, which entrenches the biologically absolute notion of the human and tethers us to the scientific, Darwinian origin story that reinforces “the teleological underpinnings of the story-lie of ostensibly human development” (McKittrick, *Sylvia Wynter* 19). Tyson’s message communicates that our DNA confines us—it is unchangeable “barcode” that dictates who-we-are. As Tyson says, “The DNA doesn’t lie.”

In addition, Curtis White points out, this biologically absolute notion of the human is part of “the ideology of science” –an ideology that “insists that we are not ‘free’ we are chemical expressions of our DNA and our neurons” (*Science Delusion* 147). A little later, Tyson says, “Accepting our kinship with all life on Earth is not only solid science, in my view, it's also a soaring spiritual experience. (00:27:48- 00:27:56) This coupling of the ideology of science—the notion that we are machines directed by genes—and the aesthetic argument that our shared kinship with all the life on Earth offers “a soaring spiritual experience,” is a common theme in *Cosmos*.

At another point in the episode “Some of the Things Molecules Do,” Tyson states, “There’s one last story that I want to tell you, and it’s the greatest story science has ever told: it’s the story of life on *our* world” (00:39:16 – 00:39:31). Also, Tyson’s rhetoric

around the Darwinian origin narrative illuminates the importance that our human order places on the scientific origin story and how this is tied to Man's ontological imperatives:

That we understand even a little of our origins is one of the great triumphs of human insight and courage. Who we are and why we are here can only be glimpsed by piecing together something of the full picture, which must encompass eons of time, millions of species and a multitude of worlds. In this perspective, it's not surprising that we're a mystery to ourselves and that despite our manifest pretension, we are far from being masters of our own little house. ("The Lost Worlds" 00:40:07-00:40:33)

The fact that Tyson uses these storytelling metaphors when discussing the evolution of life is not surprising given the ethical and behavioral function the scientific origin myth plays in our global, Westernized, neocolonial world order. Wynter argues that our Darwinian origin myth, like the biblical origin story, is a teleological narrative that frames the ethico-behavioral parameters for each human order. The epistemic hegemony of Western science is in large part due to fact that it is the first origin story that is part myth and part natural science. Wynter offers an important critique of our an objective, scientific understanding of the origins of the human species:

For whilst the human species is bio-evolutionarily programmed to be human on the basis of the unique nature of its capacity for speech it realizes itself *as human* only by coming to regulate its behaviors, no longer primarily, by the genetic programs specific to its genome, but by means of its narratively instituted conceptions of itself; and therefore by the culture-specific discursive programs to which these conceptions give rise. (Wynter, "No Humans" 50)

That is to say that what we understand as the "genetic programs" of the human specimen cannot be separated from our "linguaging existence" as *homo narrans*. Science cannot admit the limits of a biocentric worldview and would be damned to concede that a scientific worldview including it's Darwinian origins may be, as Curtis White puts it, "*a creation of language itself*" (*Science Delusion* 155).

Conclusion

This chapter provides a textual analysis of *Cosmos: A Spacetime Odyssey* and Tyson to illustrate the ways in which contemporary science discourse promotes the symbolic overrepresentation of Man, Western colonial notions of time and space, and the myth of modernity. I also examine the representation of Tyson as a black man in the sciences and his role in the articulation of contemporary science discourse. I began this chapter with a discussion of Tyson's conviction that his representation in the sciences moves us toward a more equitable world, and argue that this is an inadequate view using Wynter's theory that Western science is upholding a biocentric descriptive statement and order of knowledge that precludes the recognition of Tyson's humanness. I also provide examples where Tyson does acknowledge difference but none of these examples include a discussion of race. Next, I talked about Western colonial conceptions of time and space in *Cosmos* that continue to mark the West as the home of the most highly developed ways of knowing and being. Then, I demonstrate how the European Enlightenment protagonists in *Cosmos* represent Western bourgeois Man; the narratives of these savior-scientists also serve to show the break between the past and modernity and the transition from the oppressive Judeo-Christian worldview to the emancipatory secular, scientific one. I also write about how the overrepresentation of Man is promoted in discussions around global warming with rhetoric in which "Man is misrepresented with the human itself" (Wynter "The Pope" 29), sending the message that science is a universal tool that serves to benefit all humanity. I end my analysis with a discussion of the utilization of an extra-scientific aesthetic in *Cosmos*, that is often utilized in discussion around the Darwinian origin myth and humans' kinship with other biologically absolute organisms.

This Chapter argues that Tyson’s race-neutral framing of contemporary science discourse acts to further entrench the myth-lie of science as a purely neutral, objective tool of knowledge production, thereby upholding the onto-epistemic dominance of Western science which promotes a biologically absolute notion of the human, Western notions of time and space, and myth of modernity. The following chapter is the conclusion of this thesis in which I offer a summary of the key points from each of the previous chapters, areas for future research, a commentary on the complexities and contradictions within my exploration, and a reflection on advancing Wynter’s “Autopoetic Turn/Overturn.”

Chapter 4: Conclusion—Advancing Sylvia Wynter’s “Autopoetic Turn/Overturn” and Counterhumanism

To breach this *Line/Divide* of co-humanity would necessarily call for Western and westernized academics/intellectuals to effect their/own Autopoetic Turn/Overturn. For such a *turn* would force them/us to accept the *relativization* of their/our own ‘part science, part myth’ origin-story—together with its autopoetically instituted *genre* of being hybridly human and Western civilizational cum nation state fictive mode of kind—by correctly identifying this narration as that empirically of *mankind rhetorically overrepresented as if it were that of humankind*.

Sylvia Wynter, “The Ceremony Found: Towards the Autopoetic Turn/Overturn, its Autonomy of Human Agency and Extraterritoriality of (Self-)Cognition,” 215-216

The centrality of this ritually initiated and enacted storytelling codes, and thus their *positive/negative, symbolic life/death* semantically-neurochemically activated ‘second set of instructions,’ emerges here: these codes are specific to each *kind*. The positive *verbal meanings* attributed to their respective modes of kind are alchemically transformed into living flesh, as its members of all reflexly subjectively experience themselves, in the *mimetically desirable*, because opiate-rewarded, placebo terms of that mode of *symbolic life* prescribed by the storytelling code. This at the same time as they subjectively experience their former ‘born of the womb’ purely biological life as *mimetically aversive*, because they are doing so in now opiate-reward blocked *symbolic death, nocebo terms*. For the preservation of *which* of these lives, then, do you think wars are fought?

Sylvia Wynter, *Sylvia Wynter: Being Human as Praxis*, 3

In this thesis, I provided a critique of contemporary science discourse in *Cosmos: A Spacetime Odyssey* as a way to call into question the privileged position of Western

science in our global society and its powerful influence over our ways of being and doing. I chose the science television documentary *Cosmos: A Spacetime Odyssey* as a site of inquiry because I saw it as a productive place to explore the connections between contemporary Western scientific thought and discourse and our current purely secular hegemonic biocentric notion of the human that, as Wynter argues, upholds our racially stratified global-systemic schema.

I also wanted to examine Tyson as the only famous black scientist with exceptional, far-reaching presence and visibility. I considered: What role does Tyson play in the articulation of contemporary Western science discourse in *Cosmos*? I argue that Tyson is a contradiction because he is upholding an order of knowledge that reifies the biologically absolute notion of the human overrepresented as Man2 that denies Tyson's humanness. Wynter explains, Western science is a "master discipline" that is part and parcel of our "governing sociogenic principles, descriptive statement, or code of symbolic life/death" on which "each human order organizes itself" (*Unsettling the Coloniality* 328). This master discipline promotes the "aporia or inevitable and endemic contradiction...of the secular," and this aporia upholds the "Color Line," preventing the possibility for the recognition of our co-humanity as a species (*"Ceremony Found"* 189).

In chapter one I provided a brief overview of the production and aim of *Cosmos* and some biographical background on Tyson. I also gave an introduction to Sylvia Wynter's ontoepistemological project, which is essentially the acknowledgement of human hybridity (humans as *bios/mythoi*) and an ontology that centers the conception of "being human as praxis." As Wynter puts it:

We therefore now need to initiate the exploration of the new reconceptualized form of knowledge that would be called for by Fanon's redefinition of being human as that of skins (phylogeny/ontogeny) and masks (sociogeny). Therefore *bios* and *mythoi*. And notice! One major implication here: humanness is no longer a noun. Being human is a praxis. (McKittrick, *Sylvia Wynter*, 23)

Wynter emphasizes that the work of refashioning our “Western-globalized ‘economic and social order’” cannot be separate from the “overturning of the now globally hegemonic, biologically absolute answer that We-the-West at present give to the question of who-we-are as humans” (“Ceremony Found” 235).

In chapter two, I discussed the theories that provided the groundwork for my examination of contemporary science discourse in *Cosmos* and the role of Tyson. This chapter was delineated into two major theoretical themes: Wynter's theories of secularization and the invention of Man, and the Western colonial dualism of space/time. I detailed Wynter's discussion of the project of secularization in medieval Christian Europe, which traces the origins of our current purely secular descriptive statement of the human and “bio-Scholastic order.” I then discussed Wynter's critique of the myth-lie of science neutrality and objectivity, and her argument that science is a genre-specific tool of knowing that is operating within Man's adaptive truth-for terms or ethno-class goals, and therefore only serves a small elite class at the expense of other genres of the human and all other forms of life on Earth. Next, I presented theories on the Western space-time dualism. This dichotomous conceptualization marks space as stasis and time as dynamic, which as Massey writes, “may both reflect and be part of the constitution” of our racist, sexist global society (“Politics” 75).

I also write on Wynter's and McKittrick's theories on "Man's geographies," which elucidate how the making of our present-day hegemonic bioeconomic descriptive statement has had material effects on geopolitical schemas post-1492. These New World colonial, geopolitical configurations would come to reinforce what constitutes a "normative" way of being and doing dictated from Man's vantage point. I discussed Mignolo's theory of the "myth of modernity," which reveals that modernity and coloniality are "two sides of the same coin," and that Western colonial notions of time and space are advanced through the "rhetoric of modernity." This rhetoric is rampant in contemporary Western science discourse, making clear that Western science is operating in what Mignolo calls the "logic of coloniality." Finally I conclude my theoretical exposition with a few other philosophies on Western temporal and spatial coloniality/modernity projects that served as a means to further the myth of European ontoepistemological superiority and legitimize subjugation of brown and black people across the globe: Fabian's theory of the spatialization of time and denial of coevalness and Pagden's etymology and philosophies on the trope of barbarian and primitive. These old "distancing devices" described by Pagden and Fabian are still in use in *Cosmos*.

In chapter three, I provide a textual analysis of *Cosmos* and host Neil deGrasse Tyson. I relate Tyson's belief that he is contributing to creating a more just world by shattering the myth that blacks are inferior to whites through his status as a famous black astrophysicist, which he discusses in his memoir *The Sky is not the Limit*. This moment where Tyson mentions race is unusual, and is something he completely omits in *Cosmos*. I point out that in *Cosmos*, Tyson refuses to mention race in three areas: Tyson does not discuss his experience as a black scientist, the sociohistorical connection between

European colonial racial subjugation and the development of Western science, or the racialized logic that is part of this ethno-class tool. I argue that Tyson's race-neutral framing of Western science further bolsters the myth-lie that science is completely neutral and objective. This race-neutral framing contributes to the onto-epistemic hegemony of Western science, which upholds our biocentric descriptive statement of the human overrepresented as Western bourgeoisie Man².

I support my argument through a textual analysis of a handful of episodes, focusing on episodes that feature Enlightenment scientists as these narratives are important for my selected theories of exploration, namely the idea of modernity, Western temporal and spatial notions, the origins of contemporary science hegemony, and the invention of Man. I first talked about how Tyson mentions difference on several occasions, but none of them are about race. Moreover, these acknowledgements point to the flaws of the *scientists*, but he argues that the "core" of science is neutral. For example, Tyson states: "Scientists are human. We have our blind spots and prejudices. *Science* is a mechanism designed to ferret them out. Problem is we aren't always faithful to core values of science ("The Lost" 00:18:23 – 00:18:35).

Next I discussed how the use of the rhetoric of modernity, the tropes of barbarian and primitive, and visual depictions of non-Europeans, all promote old colonial, Eurocentric conceptualizations of space and time. Further, the narratives of Enlightenment scientists such as Isaac Newton and Edmond Halley symbolize Western bourgeoisie Man; they are depicted as brave individuals that challenge the theo-scholastic order and bring humanity into modernity. The narratives of European savior-scientists represent the transition from a Judeo-Christian to a secular mode of understanding,

revealing the Western belief in a temporal break between antiquity and modernity and separation between secular and Judeo-Christian thought. I concluded my analysis showing how *Cosmos* is operating within an extra-scientific matrix of aesthetic values, that is especially apparent in discourse on our scientific, Darwinian origin story and descriptive statement of the “human as purely biological being on the model of a natural organism” (“Unsettling the Coloniality” 326).

I will now turn to a discussion of areas I would like to explore in the future and questions that came out of this thesis. In this final commentary, I reflect on our contemporary sociopolitical moment and the complicated character of Tyson to acknowledge the contradictions and complexities within my critique of contemporary Western science discourse.

Extra-Scientific Matrix of Aesthetic Values, Extrahuman Agencies and New Cosmogonies: A Reflection on Wynter’s Autopoetic Turn/Overturn

This thesis allowed me to gain greater insight into the intimate entanglements of Western conceptualizations of time and space, “modernity/coloniality,” and the how we define what it means to be human, specifically considering how these concepts contribute to the ontoepistemological domination of Western science over our global order. My analysis of *Cosmos* revealed that this contemporary science discourse “text” is upholding a biologically absolute, “monohumanist” descriptive statement of the human, Western colonial notions of time and space, and the myth of modernity that situates the West as the exclusive site of progress and freedom. Moreover, Tyson’s refusal to mention race within the context of Western science discourse further perpetuates the myth-lie of

science objectivity and neutrality, which reifies the God-like status of this genre-specific tool. My observation that contemporary science discourse utilizes a race-neutral framing is important to consider in future inquiries that aim to deconstruct the ways in which science governs our “Western world-systemic societal order” (“Ceremony Found” 243), which is a crucial endeavor because as Wynter explains, since the late nineteenth century the “Darwinian/neo-Darwinian biological sciences...underwrite our contemporary epistemological order” (McKittrick, *Sylvia Wynter*, 14). Therefore we must understand the ways in which this genre-specific tool of knowledge production remains in its privileged position and controls our ways of thinking if we want to initiate a change in how we image the “human.”

In future research on the influence of Western science over our ways of doing and being, I would like to look at the use of “extra-scientific aesthetic values” used in contemporary science discourse and the “ideology of science.” In the book *The Science Delusion*, author Curtis White explains that:

...science operates within a matrix of familiar aesthetic values that while not necessarily religious are entirely extra-scientific... the education it offers young and old is this: you will defer to your betters, those who know, the scientists. If they say the cosmos is beautiful, it's beautiful. (23)

Science popularizers such as Neil deGrasse Tyson are communicating their pro-science stance essentially by way of an aesthetic education. White asks: “Wasn't half of Sagan's purpose to teach us about the proper aesthetic or even spiritual relationship with the cosmos?” (19). White writes:

Amazement-before-the cosmos cannot be tested or proved by observation, and it is not predictive of anything other than itself. In the hands of science, beauty is

just tautology, or a *dogma*. The dogma is this: ‘When you are presented with the discoveries of science, you will marvel at their beauty.’ (22)

White argues that the social effect of “Big Science, popular science, scientism, or a blend of the three,” is that it creates an “ideology of science.” This ideology is one that White says disdains philosophy even more than a “CEO God,” and promotes its own “brand of metaphysics and magical thinking” (36). Moreover, Western scientists claim that all phenomena will eventually be understood by means of the limitless tool of science. However, scientists have not asked the difficult question of what their discoveries *mean* while also suppressing other ways of knowing. As White says, “...science confesses that it doesn’t know how to provide meaning for its own knowledge, but all other forms of meaning are forbidden” (*Science Delusion* 25). Curtis contends that scientists, especially of the militant, new atheist variety, like Lawrence Krauss, would never admit that there is “any limit on what they can claim to know. Nevertheless, it is true even for science that there are unknowable things...chief among which is the question of being’s ultimate origin” (53).

The ideology of science and use of an extra-scientific aesthetic are prevalent in contemporary Western science discourse, and heavily relied on by science popularizers such as Tyson, Richard Dawkins, and Stephen Hawking. Also, scientists overwhelmingly proclaim that there is no overlap between science and religion, but their use of religious metaphors and evocation of a spiritual aesthetic would indicate otherwise. That Western science operates within this extra-scientific matrix of aesthetic values is not surprising because as Wynter argues the global order of knowledge is a “biocentric Scholasticism,”

and Western science operates almost in the same manner as the extra-human agency of a “CEO God.” (McKittrick, *Sylvia Wynter*, 20)

My brief study of this matrix of extra-scientific aesthetic values in science discourse identified by White raised questions about how this aesthetic education relates to the contemporary, global extrahuman agency of Western science and our inability to breach the aporia. Wynter contends that our failure to overcome the aporia of the secular is due to fact that:

...we projected our own authorship of our societies into the ostensible extrahuman agency of supernatural Imaginary Beings. This imperative has been total in the case of all human orders (even where the case of our now purely secular order, the extrahuman agency on which our authorship is now projected is no longer supernatural, but rather that of Evolution/Natural Selection together with its imagined entity of ‘Race.’ (“Unsettling the Coloniality” 274)

Wynter explains extra-human agencies render opaque our own “collective human agency,” and we are unable to realize that humans are *homo narrans* creating a story of what it means to be human and what constitutes a “normal life” in Man’s image. This inspires me to question: How does the matrix of extra-scientific aesthetic values contribute to maintaining Western science as our global extra-human agency? Wynter argues that understanding our “story-telling, origin-narrative devices” must be central to this emancipatory recognition of our “‘intercommunal’ human agency.”

A Note on Our Current Sociopolitical Moment and the Figure of Tyson: A Reflection on Wynter’s Autopoetic Turn

Since this science documentary television series came out in 2014, a lot has changed in the sociocultural, economic and political landscape in the United States and across the globe. The March for Science and People’s Climate March—two major nation-

wide marches that both took place in April 2017—communicated: the sciences are under threat from the Trump administration and rise of the global right and we must protect them! The message “save science” has become central to contemporary secular, liberal discourse in the United States.

Recently, Tyson created a short film on the importance of science literacy in the face of this anti-science insurgency and his belief that this is a threat to liberal democracy, Tyson states:

... science is a fundamental part of the country that we are. But in this, the 21st century, when it comes time to make decisions about science, it seems to me people have lost the ability to judge what is true and what is not; what is reliable, what is not reliable; what should you believe, what should you not believe. And when you have people who don't know much about science standing in denial of it and rising to power, that is a recipe for the complete dismantling of our informed democracy. (00:00:35-00:01:13)

The political right has made denial of climate change and the theory of evolution by natural selection a “litmus test” of partisan politics (billmoyer.com). I mention these sociopolitical changes because I want to point out how, at this current juncture, Western science is being leveraged in these political and ideological divisions, and acknowledged that I struggled to reckon with these influences in my critique of contemporary Western science discourse. What does it mean that in this moment, Western science is positioned as marginal in United States and other Western nations by the radical right?

I also grappled with my analysis of Tyson because he is a complicated protagonist. I relate to his passion to promote justice and change our fossil fuel-driven global order that is creating great catastrophes for all forms of life around the planet; however, Tyson believes Western science is the best means to promote a more just world

and remedy the effects of global warming. How do we critique and deconstruct Western science's God-like status in the midst of the rise of the global right and increasing threat of habitat and human disaster due to global warming? Also, I sympathize with the interpretation that Tyson as a renowned black scientist in this field can be seen as transgressive. I acknowledge that the figure of Tyson, as a black man, is doing particular affective and political work, and is something that I want to explore in future research: What does Tyson's blackness speak to and what does it not speak to in the context of Western science discourse?

While I think these factors about our current sociopolitical environment and Tyson's black body are important to consider, in this thesis I was most concerned with Tyson's role in the articulation of Western science discourse and how this race-neutral framing is upholding the myth-lie of science as purely neutral and objective, which allows for the hegemony of Western science that maintains an oppressive, myopic mode of being human. The aim of my thesis is to reiterate Wynter's call to look at the violent, underlying order of knowledge and terms on which we define what it means to be human that Western science is instrumental in perpetuating.

Wynter contends that we cannot reimagine the human without creating an alternative "*studies humanitas* order of knowledge" (McKittrick, *Sylvia Wynter* 13). As the first guide quote of this chapter indicates, one of Wynter's central conundrums is: how do we as Western/Westernized academics initiate an Autopoietic Turn/Overturn of our hegemonic "bio-scholastic" order of knowledge in order to reimagine this thing we call the "human?" Wynter writes:

...our existential moment even more imperatively calls for our Autopoietic Turn towards the non-opacity of our hitherto genre-specific orders of consciousness and to the empirical reality of our collective human Agency and, thereby, now fully realized cognitive autonomy as a species... This recognition is therefore, the fact... that *that which we have made we can unmake and consciously now remake* (“Ceremony Found” 242).

With the enactment of this Autopoietic Turn/Overtturn, humans will “no longer need the illusions of that hitherto story-telling extra-human projection of that Agency... [to] remake, consciously and collectively” a new world order (“Ceremony Found” 245).

Wynter believes that a counter-poetics must be enacted by an espousal of the sociogenic principle and praxis of Aimé Césaire’s “science of the Word.” Aimé Césaire was an anti-colonial Caribbean thinker, French poet and politician who pointed out: “as brilliant as the feats of the natural sciences are, they themselves are half starved—because they cannot deal with our human predicament” (McKittrick, *Sylvia Wynter* 17). Wynter explains that in response to the limits of the biological and physical sciences, Césaire proposed a new science, a hybrid science:

This would be a science in which the ‘study of the Word’—of our narratively inscribed, governing sociogenic principles, descriptive statement, or code of symbolic life/death, together with the overall symbolic, representational processes to which they give rise—will condition the ‘study of nature.’ (Unsettling the Coloniality 329)

Our current bioeconomic descriptive statement, Man2, monopolizes the “politics of being,” creating a “monohumanist” understanding of what it means to be human. The consequences are devastating because this purportedly universal descriptive statement of the human relies on race “as the naturalized and secular organizing principle of those global relations that are wedded to the Darwinian Malthusian macro-origin stories that

iterate and normalize *homo oeconomicus*...” (McKittrick, *Sylvia Wynter* 10). Wynter writes: “...the struggle we are confronted with cannot be in any way a one-person task” (McKittrick, *Sylvia Wynter* 18). Therefore, it is imperative that we as Western/Westernized academics work to initiate a new epochal shift—an autopoietic turn—that embraces Wynter’s counterhumanism if we want to create the possibility for new ways of being and doing outside of Man’s image.

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