Thomistic Linguistics

A foray into the theoretical bridging of physical and metaphysical linguisticalities

CAUTION

THIS CONTENT IS NOT PEER-REVIEWED

CAUTION

Robert Skipper, M.A.

Contents

ABSTRACT

This thesis explores the nature of the relationship, as understood by Aristotle (384-322 B.C.), Thomas Aquinas (1225-1274 A.D.), and Edward Feser (1968-), between the human soul and language. It argues that an understanding of the human soul is necessary in order to fully comprehend the phenomenon of language. It not only explores the logical foundations for such a claim but also plumbs the depths of modern philosophy and explains why the mainstream fields of philosophy, psychology, and linguistics all ignore the possibility of the existence of the human soul. After arguing for the existence of the human soul from a strong metaphysical background and tradition and connecting it to the very real scientific knowledge of language, this thesis then draws important conclusions about how knowledge of the human soul affects these same fields.

Keywords: Metaphysics, Soul, Teleology, Linguistics, Science, Positivism, Act, Potency, Intellect, Will, Comprehension, Epistemology, Brain, Sense, Abstraction, Universal.

INTRODUCTION

It is an ancient observation that only humans speak. This distinction is undeniable, even if we reject the traditional conflation of this trait (e.g. by Descartes) with the possession of a soul, free will, and a moral capacity.[1]

Ray Jackendoff makes this statement in his book *Foundations of Language: Brain, Meaning, Grammar, Evolution*. It is a statement not meant to have heavy weight, written at the beginning of a sub header in chapter four. It is in fact, however, a statement that carries a lot of weight because it relies on a number of assumptions that are ultimately and logically false. The quote should instead read as follows:

It is an ancient observation that only humans speak. This distinction is undeniable, ***especially when we accept*** *the traditional* ***and logical combination*** *of this trait (e.g. by* ***Aristotle****) with the possession of a soul,* ***intellect****, free will, and a moral capacity.*

In this work, I will defend the thesis that the human soul exists and that it is an essential component of language, necessary for a full and proper study of linguistics. It is a bold and, here in the 21st century, a perhaps folly move, yet it is a necessary one. This claim challenges modern interpretation of human knowledge and the way that it exists, calling upon ancient understanding to answer very modern needs. This is because current

[1] Jackendoff, 94, Foundations of Language

metaphysical assumptions supporting linguistic research are an inherently flawed foundation. One only need to look down at their feet to see that it exists in paradox, and that a course correction is required for stable progress into the future to be made.

Modern knowledge, and especially knowledge of language, is sifted through in a categorical manner and through the observable: it is done through science. Whether someone wades through mountains of linguistic data to glean a general sense of linguistic knowledge, or whether they wade through mountains of books, picking out meaning from a vast amount of writing, the scholar's goal in modern language studies (studies during the modern time, not of languages that are modern) is to glean insights from the realm of the observable in a very scientific way.

Knowledge of the current day is that which is tangible. What we know as humans only goes so far as our eyes can see and fingers can touch. If it is not through our eyes and our touch it at least has to be through an extension of our eyes and our fingers. Should knowledge hypothetically exist outside of the ranges of our senses then it is ignored, or it is thought about in terms of that sight and touch that we cannot perform now but may expect to do in the future. For fields such as physics and chemistry, and even computing, these are very real practices that can be upheld without seeming contradictions. Yet in the field of linguistics a scholar will always exist in a place between that which is observable and that which is not. The observable is our words, the sounds we make, the reactions our bodies have, and yet those things are not language by themselves; they are only part. Language also exists in the abstract, away from our senses and it is our ability as humans to exist across these realms. This creates, however, an issue for current scientific knowledge. When

we glimpse into the realm of the unobservable science holds us back by telling us that we aren't ready yet for what that might mean, and thus it is ignored. If it is not ignored then the linguists exist in a weird state of limbo, gleaning information from such an unobservable realm and trying to connect it to the observable and the tangible so that they are justified. Their conclusions are heard and contemplated, but the conclusions of such individuals are slow to take hold of the culture they serve to teach. The only successful theory and work that is heard is the one that reflects immediately in the physical world.

Webster's dictionary defines *psychology* as the science of mind and behavior.[2] Yet if we consider the roots of the word itself, we see that *psycho* (ψυχω) is the Greek word for 'soul' stemming from a word that means 'to breathe.' This is important because that means that *psychology* is more truly understood as a study of the soul. Yet this is not what psychologists or psycholinguists mean when they are doing work in their field. Those who engage psychology engage in it for the purpose of understanding a purely material being that has many certain and complicated functions, all working together to create unique identities within a common generalized framework that we all physically subscribe to. They hope within their study to find, more or less, consistent results that are replicable from one human being to the next based on a consistent, material, patterned, organic structure. Modern science has expunged the concept of a soul because it cannot be observed through our five senses, and thus the concept is rejected before it is even considered. Because science can explain the world that we live in, it rejects, and encourages scientists to reject,

[2] https://www.merriam-webster.com/dictionary/psychology

the concept of the soul because it is a left-over from pre-scientific study (if you follow the idea of anachronism) or worse, it depicts explanations of the soul as bad science. Scientists praise the method they use to extract objective data from the world around us because it is the most consistent tool to help us understand the scary world we live in. This is the exact frame of reference that Jackendoff has in his book, and it is the underlying assumption about the metaphysical reality in which all humans exist that guided the formation of the quote I started with in this introduction. In the modern time we as humans generally expect that should we ever have a question we simply need to consult what has been done and researched in the true name of science to provide us a reasonable explanation and answer. Even if science cannot conclude something now, it surely will explain it in the future, given the proper time and amount of study. Certain groups have dubbed this concept "scientism," a philosophically flawed conception of the world that claims science can and will explain everything, and that no other method of knowledge can reveal anything true of the world. This way of thinking is flawed because science itself is reliant on logic, a method of knowledge that is not done through the observable and is not done scientifically, therefore leaving "scientism" in a state of paradox.

This is a misconception that I wish to fight in this book. Psychology necessarily underpins linguistics, and current scientific research about the brain is assumed to set the stage for linguistics. If through psychology and science more general the human soul is rejected, then the field of linguistics is subject to that same belief. Yet I have reason to believe this to all be incorrect. Coming from the field of language study, there is an unsettling feeling that is consistent throughout various sub-fields of linguistics which

demonstrates another factor at play that seems to overturn purely mechanistic views of language. Looking at various areas of language study, many seem to appeal to an idea of language and the human that cannot rely on organic structure alone. Universal Grammar (UG), for example, a concept proposed by the famous linguist Noam Chomsky, is the idea that all humans are born with an innate directionality encoded in DNA that necessitates neurological structures be developed for the express purpose of language. Thus it is a universal concept with which we are all born that is addressed by a specific language. A theory such as UG seeks to answer questions about child development and about how children acquire their first language. Children do not engage their linguistic environments like computers, processing everything that comes in and forming a functional grammar based off of that input alone. Children have a way of creating elements of their language that they never have explicitly heard before and a way of initiating use of pragmatics or semantics that they were never taught. One way of explaining children's abilities do so is to claim that there is a prescribed structure that children fill in with input from their environment. Of course, understanding the existence of a theory such as UG, it must be explained that opposing UG are reductionist linguists that say an acquisition of language is purely mechanical in nature, and that it is about the complicated interface of non-predetermined neurons. This would suggest that there is something more or less chaotic about the way that babies learn a language, bumbling into all of the linguistic options, a logic of survival-of-the-fittest determining how a baby turns into a linguistically communicative child. UG is counter to this sort of thinking because with UG that chaotic element is removed and there is a sort of pre-determinism that rules human language.

While this latter explanation might make many a linguist feel comfortable about the mechanistic reality they assume of humanity, they can't shake the linguists that hold to UG. There's something about the possibility of something more than just ordered chaos that attracts and makes itself salient to people. In truth it must be said that a purely chaotic view of language growth and development is not appropriate because the way children acquire language is anything but. Children's acquisition of language includes many things happening more often than chance and mechanistic processing would suggest, such as morphological, semantic, pragmatic creations on the part of the child that was never introduced in their input[3]. And yet this idea of UG still isn't enough to explain the possibility of language within the human mind. Principally I would suggest that there is a large missing element from the way that linguistics is tackled, and that has to do with understanding the possibility of a human soul. I am going to discuss in this book the current status of linguistics and how people study these fields, but I am also going to present philosophy that soundly argues for and proves the existence of the human soul, a component of our being that may prove extremely valuable to the field of linguistics.

This way of viewing the world as purely materialistic and the steadfast belief that scientific methodology is the only way to know truth has been dubbed 'Scientism' and is an issue that persists in a dogmatic way. Yet this is the reason to understand how the soul is a rejected concept when it comes to modern thought, because the existence of the soul defies the solely materialistic view of the world and it negates that our bodies are the only

[3] *Foundations of Language*, Jackendoff, p. 69

things we have for our existence. When psychologists go about their study of the human mind and behavior, the search ever increasingly becomes about what part of the brain serves what, and how the brain creates information or receives information. Because psychology is the basis for linguists to engage in their study, these logical assumptions made by the field of psychology naturally bleed over into the field of linguistics. A syntactician generally lies under the assumption that the process of sentence building begins in the brain and is accomplished solely through brain functions. A phonetician assumes a store of sounds memorized and mentally recreated with the aid of the temporal lobe. A psycholinguist assumes that things like word storage and concept storage is a process in which certain neurons align themselves with certain visual images and words in association with sounds. Then they all stop there. They of course extend their study further, investigating the consequences of these functions and how they interact with empirical studies, to test the validity and reliability of these concepts, but they do not assume that anything in their study extends past the function of the brain. While such assumptions are understandable, they are understandable in only a certain respect. If a botanist fully explores the life of plants and explores the specific process of photosynthesis but ignores exploring the existence and processes of the sun, then we may understand his choices and especially admire his work, but we will forever acknowledge the work as incomplete.

Yet before considering a solid motivation for studying the soul, first it is important to claim that the world is bigger than the scientifically observable. Scientism itself falters at a certain point because in the end there must be basic tenets that are simply taken for granted and are in fact not understood through the actual scientific process but through

logic and abstract reasoning. The logic is thus: in order for science to be consistent and predictable and for results to be valid and replicable, there is a certain amount of universal foundation that needs to be laid. The study of force necessitates an underlying assumption that time will pass at a rate that allows any study to be made, yet time is not a directly and scientifically proven concept – it is simply a logically inducted fact about our reality. Introductory study of syntax may be straightforward and like learning math, but as math students and syntax students get past the introductory courses, they find that they are no longer dealing with an established body of truth. They instead find that some of the most basic concepts of their study are readily under scrutiny because of higher (more abstract) orders of philosophical grounds upon which their study is founded. Generally speaking, when one engages with the more underlying thought of a particular study, philosophically that person begins to engage with ontology, the study of being and existence and thus a metaphysics. All studies inevitably, if they are thought about long enough, arrive at a question of metaphysics and ontology. Faced with the question of ontology, the student then must make a choice with how they view the new information. Either the student accepts the information and adapts their ontology to view it or the student rejects the information and their ontology does not alter. The student must consult a metaphysics in order to verify the possibility of the information presented to them, a process that is not scientific and is instead just logical.

Ultimately the current study of psychology rests on a metaphysical understanding of reality where humans are organic machines. We are individuals with the capacity to make decisions and be unique, yet truly we have no inherent cause ourselves to initiate things and

we are ultimately a result of our environment and things that have happened to us, even down to our genes that establish not only our physical traits but also our emotional ones. Our job as a human is best seen as understanding what it is that controls us, adapt to it, and let our children adapt to it in a constructive way as well. If not that, then the human experience is a chaotic interpretation of reality that must be sifted through in a near traumatic fashion in order that we learn, grow and change. Through our experience we are changed, and we become different people, and things like choices are made based on our compounded experience. There is a general understanding that humans somehow have a consciousness, but it exists in such a way that we could contain and replicate it as a type of computer function. If you don't already see this, observe how artists have taken this concept and played it out in science fiction films like *Chappie* (2015) or the *Terminator* series. The metaphysical reality that might predict the potential one of Skynet, or the human-like consciousness manifest in robots like Chappie, depends on a mechanistic ontology of the human psyche that would ultimately be replicable in man-made machines.

Perhaps you adhere to this view of humanity, but perhaps you do not. Perhaps you, as I, feel and know that there is something more. Is that all that we are allowed to say? That we *feel* there is more and are to leave it at that? There are a plethora of people who would argue against that, perhaps none more prominently than Thomas Aquinas, a philosopher and theologian of the 13th century, a canonized saint and doctor of the Catholic Church. Yet even now as you squirm and wreathe under the burdensome thought of religion being brought into the conversation and consider shutting this book, let me ask you to pause and consider the potential validity of Aquinas' thoughts.

As I presented, there is an assumption of metaphysics underlying all the rest of our studies. Science itself is not a sustainable metaphysics because it itself relies on principles of normality like gravity which are not proven through science but predicted through secondary observations. The contortion of science into a metaphysics is called *scientism* and is self-defeating, as explained above. Something that relies on metaphysics to be already be valid and in place cannot be itself our metaphysical reality. Aquinas' most famous work is not in this physical realm of study but is rather in the metaphysical. Aquinas' work seeks not to explain the physical world only to be out-explained in the twenty-first century. Rather, he expounds on metaphysics that pervade the world and are not easily mutable principles based on whether we know that the earth circles the sun or not. Here is where he presents arguments on the soul, for example, and explains the role of the soul in relation to the human body, among many other things. It is a metaphysics that is not concerned about the fact that certain molecules and cells hold us together in one fashion or another, and how a combination of experiences create a unique person but is rather concerned about the fact that reality is something that can be known by us humans or that order and patterns are discernible rather than being entirely mysterious. Philosophers and regular academics otherwise might scoff and argue that Aquinas' work is no longer valid to the study of reality, but in fact this is not true. As philosophers like Edward Feser try to (and do) successfully show, Aquinas' philosophy is incredibly sturdy in the face of doubt and criticism.

And so, when linguists debate concepts like Universal Grammar, or question the value of making language learning *meaningful*, or psycholinguists construct models of language reception and production, and they all rely on a mechanistic view of the human

being, they hit certain roadblocks. If UG exists, how do we understand that the human brain became motivated to have it exist in the first place? As language acquisition researchers attempt to unveil the power of *meaningfulness*, to what end does that serve? Language models of the brain serve well, but how are individual differences sought out and how does meaning make itself present so significantly between sound, image and concept? If the view of these questions is instead shifted so as to accommodate a different metaphysical reality, we might find an understanding of the human psyche that better melds with our scientific observations than the mechanistic-based theories that currently stand. Jackendoff, in *Foundations of Language*, takes to task the invaluable summation of the field of Linguistics and therefore sets forth in writing the binding philosophical parameters that constrain the study of language in the modern time. Noted by Jackendoff himself is that linguists in the modern time are so specialized that they have lost synchronicity with the whole of their field, and in response offers the very thing he critiques is missing. Yet while it would seem that Jackendoff has actually answered the questions I have just listed, in the end he makes the same assumption that other linguists make which is that language is a purely mechanical phenomenon. Assuming he is making an uncontroversial claim, Jackendoff states in his work that "We [linguists and all affiliate scientists] seek a thoroughly naturalistic explanation that ultimately can be embedded in our understanding of the physical world" (Jackendoff, 268). He assumes no controversy because the general field of linguistics is likely to agree with his statements, as though it were an unchallenged philosophical base. His quote at the beginning of the introduction is an example of this.

In this book, I would like to argue that a move to accommodate the human soul is a perfectly plausible avenue of change for the field of linguistics. To say that humans exist solely in a material fashion limits and hinders the possibility for linguists to fully realize answers to their questions. First I will move into the basis of my work and I will argue for the existence of the human soul. This section will be long and will explore much of the work of Thomas Aquinas. While this is not a direct discussion point for linguistics itself, a great amount of the book must be spent to explain and explore proofs for the soul because of the ready lack of the topic from modern academia. I will then do an analysis about why such logic for the human soul has indeed disappeared from modern thought, using Michel Foucault and the work of Edward Feser as a guide. The exploration of this topic will allow for a place to bridge the logical gap between ancient and modern times, to show how it used to be possible for one to logically claim the existence of the soul and how it became impossible. I will afterwards explore what exactly linguists have as a frame of reference for current study. I will look a lot at Jackendoff's work and his arguments as well as the various viewpoints he includes in his book. Then I will specifically clarify how language as a philosophical concept exists in relationship to the soul, and how the various roles of body and soul serve language and how language serves them. This of course will lead in to a discussion of philosophical consequences of various linguistic fields and I will highlight the practical ways in which the soul is an essential way to understanding linguistic study and even the definition of grammar.

The primary outcomes of this book are to serve two purposes. For the average individual who is not engaged in learning or teaching language, this book serves to illustrate

the larger and more expansive beauty of the human subject and the faculty of language. This beauty is one that is described with a derived logic of reality and humanity, explaining a solid view of what language is beyond the individual experience and what is has the capacity and obligation to be. More importantly this book is intended to bolster the current field of linguistics that currently stands on a weak metaphysics, and to serve as a logical bridge between two camps of knowledge which never should have been separated.

SCHOLASTICISM AND ST. THOMAS AQUINAS

Back in the 12th century there was an important Professor at a university in Paris, named Thomas Aquinas . Today he is recognized as a Canonized Saint and Doctor of the Roman Catholic Church for his incredible influence on Philosophy and Theology in general but mostly in regard to the Church. He is most famous for his writing of the *Summa Theologiae* wherein he proposes arguments and counterarguments for a great number of Philosophical questions pertaining to the human experience and to God and the Church. He is of a type of philosopher that is referred to as a Scholastic and the type of philosophy that he wrote is generally referred to as Scholasticism, and many modern philosophers who follow in his steps are recognized in the same manner, or as, if they specifically study and further Aquinas' work in particular, Thomists.

What bears such great significance out of his work are issues of metaphysics and how they answer questions that we have as humans. You may recognize the word 'metaphysics' if you have studied Aristotle at any point, and this is no accident. While Aquinas studied and incorporated Christian, Muslim and Jewish philosophers he also uses a heavy amount of Aristotle's work, a Pagan Greek. Amongst many things in his work, Aquinas argued that true knowledge can come directly and indirectly from God, so truth is an objectively found quality of nature that could be sought from many different avenues. This was not because he started with a reasoning that presumed the existence of God; it is in fact from the reverse, as shall be demonstrated in subsequent arguments.

The work of Aquinas is of course vast and includes way more information than will be needed here, and so one part stands out as more important than the rest and they are his arguments about the human soul. While this portion of his work relies heavily on Aristotle's, Aquinas himself provides a comprehensive summation of all relevant questions and counterarguments to the soul, proving incredibly useful. All of the arguments that follow here stem from Aquinas' work. The beauty of appealing to Aristotle and Aquinas' logic is that it is not, for any reason, outdated. Aristotle lived around 350 B.C., Aquinas around 1250 A.D., and Feser, a modern Thomist, is currently writing and using the same philosophical principles that Aristotle and Aquinas did. These notions pervade all of the history of Western culture, and not without reason. The same question of the human mind has existed throughout Western history, and it has always had a firm answer.

To begin an investigation into the human soul, and especially how it relates to linguistics, it is proper to begin with extremely basic questions. Aquinas' and Aristotle's arguments all stem from basic observations of the world, and in fact begin with nothing abstract. Here especially, because of the quality of the modern reader's general knowledge of Aristotelian and Scholastic philosophy, the discussion must inevitably begin as well, so as to capture the nature of the logic in its entirety.

In reality the investigation does not even begin with a notion of humanity, much less the idea that we have a soul; it begins with a very basic question about the world around us. The first question is this: Do things change? It may seem absurd that I would begin with such a basic question, but if it seems to be absurd to you then it is because you did not heed my statement about the principles of the arguments of Aristotle and Aquinas. The answer is yes,

things change. This was a point that the Greek philosopher Parmenides did indeed try to challenge, suggesting that things did not change[4]. Parmenides claimed that something could either be being, such as a dog, or non-being, which would be nothing. A thing can be changed but it must be changed by something outside of itself, the only option being non-being, according to him, which means that nothing can change. Everything that we see as different and diverse and changing is all just an illusion from our senses, and our intellect has to simply know this difference. Parmenides' idea, while it may have words that seem to flow, may be cleanly stated as false, but for Aristotle it was important to state not just the fact but also the logic of why Parmenides was false. The logic of change, according to Aristotle, is based on the fact that humans observe regular change throughout the universe. When your eyes adjust to follow the course of these words, they are moving and muscles are contracting or loosening, neurons are firing, and you are comprehending an order of words that are more or less new to you. You might say that change may only exist in your perception and that things are not actually changing, trying to extend Parmenides idea, but it is clear that if I am sitting and stubbornly trying not to change, yet I observe a friend of mine chopping down a tree with an axe, then the fact of the matter is that not only is my friend exhibiting change but the fact that I witnessed it is change in and of itself. The short answer is that yes, things change.

Then, having established that change occurs, we must ask: *how* do things change? When I create paper out of a tree, have I destroyed the tree and independently produced

[4] https://plato.stanford.edu/entries/parmenides/#OveParPoe

paper out of nothing? Indeed not, I have simply altered the state of the matter of the tree and incorporated it with other matter so as to produce paper. This answers Parmenides' concerns that being and non-being are the only modes of understanding reality, because it says that life and the universe is more subtle than just being and non-being. Change, according to Aristotle, *does* occur and it occurs by making a potential reality into an actual reality. Here come our first of significant terms: Aristotle proposes that change is understood in terms of *actuality* and *potentiality*. While a tree exists, its matter is actualized so that it is indeed a tree and not grass, for example. Aristotle acknowledges, then, an idea of being and non-being, but he refers to them in certain amounts of extremity. There is a fundamental source of being, and there is a pure form of non-being, but here they have other names; being is pure act, present and constant, while non-being is pure potentiality. These two notions of reality, though, are not immediately visible to us in a temporal way. For Aristotle all of reality is a mix between these two notions. A tree, for example, is not pure act and it is not pure materiality. At a certain point the matter of the tree can be taken and have its form altered so that the same material, perhaps having interacted with other material, then takes on the form of paper. Because the matter was previously a tree and now is paper, Aristotle proposes that the tree previously had the *potentiality* of becoming paper but only was able to do so once that *potentiality* became *actuality*. This, in essence, is Aristotle's definition of change: the passing of potentiality to actuality. The same description could be applied to an analysis of the simple movement of a human arm. If a normal person's arm is resting at someone's side, then it has the *potentiality* of moving into a bent position to grab the glass of water in front of said person, and when that *potentiality* is

actualized, change definitionally occurs. Aquinas and other Scholastics traditionally state that a potency is *reduced* to act. Another term that would be perfectly interchangeable with the word change, under an Aristotelian understanding, is *movement* or *motion*. This is the philosophical base of Aristotle's work. The concepts of potentiality and actuality are principles not just because they are important to the philosophy but because they are literally the *principles* of his work: the *first things* that are important when it comes to explaining change and the world around us. No matter, under this principle, is ever created or destroyed and only ever changes. Sound familiar?

For Aristotle, this idea of potentiality and actuality is not an unlimited scope. For example, Aristotle would not say that a tree has the potentiality of being a silver fork. The scope of potentialities of any one thing is limited to the reasonable and possible list of things that something is or might be. I have the Aristotelian potentiality of being a professional athlete but I do not have the Aristotelian potentiality of being a dog, even though both are laughable ideas. Another important principle of potentiality and actuality is that nothing potential has the ability to cause change. The potentiality of my being a professional athlete is not what turns me into one: it is a set of conscious and therefore *actual* choices on my part that start that journey and achieve that goal. A candle is not lit by a match who potentially can be lit, it is by a match that is already lit, who has had its ability to produce heat and light actualized. "This is the foundation of the famous Aristotelian-Thomistic principle, that 'whatever is moved is moved by another' (*In Phys* VII.2.891)."[5]

[5] *Aquinas, A Beginner's Guide*, Feser, 11

After observing that change can be defined as passing between *potentiality* and *actuality*, in certain instances of change it is worth considering and wondering: what is the occasion of change and what are the circumstances of change? For Aristotle here is where there exists value in considering causes of not just change but things in and of themselves, the subjects and agents of change. When considering things, natural and artificial, Aristotle postulates that there are a finite number of questions that one can form about the existence and change around them. A list of summative questions would be: What is it? What is it made of? How was it made? and For what purpose does it exist? To answer all of these questions is to know the causes of a thing entirely. Let us consider an instance of change, all in light of these summative questions. If we consider silver as a material, then we can consider multiple forms it might take on. Within silver exists the potentiality to become a dinner fork but only once it is actualized by some actualizer outside of itself. If a craftsman modifies the silver or a factory worker starts the machine that processes the silver into a fork, then those things alter the form of the material at hand, silver, so that it becomes a silver fork. It is possible that before the fork was even made that the worker had the idea in his head that a fork could be made from silver and that it would have certain qualities, like the quality of hardness that makes it good at stabbing food, of being durable and washable, and of being shiny. Then, also, when the worker creates that silver fork, there is an understanding that it is probably going to be used for eating or possibly for twirling the poor red hair of a lonely mermaid because that is what forks are simply good at doing.

What is being described is what is referred to as Aristotle's *Teleology*. He describes that should we want to describe anything in the world, that undergoes change, that there

are four causes that can sum up all potential information about what causes it. The first is the Formal Cause. This is the intellectual object of a silver fork that exists in one's mind before it is made manifest in the silver. The worker has an idea about what a silver fork is, even before it exists anywhere else, because he is able to abstract the notion of what a fork is before it was ever made and even possibly before any fork existed, and thus have it known beforehand. This is called the formal cause primarily because it invokes the *form* of an object. One may think of ideas or forms of objects as a pattern that we notice about objects after they exist, that forms do not exist in and of themselves prior to objects, but the fact that the worker can conceive of the form before knowing any specific instantiation says otherwise. This shows that forms have their own distinct existence beyond the objects that take them on. I, for example, may talk to a craftsman and tell him I want a Helimower, a lawnmower-helicopter that cuts down canopies to a reasonable size every month. As I communicate the concept I possess a form of what I am speaking of in my own mind and the craftsman in turn will have a corresponding form. He will then work to instantiate the form with the use of certain materials. In any case, it is necessary that forms exist in some capacity in reality, even if not always visibly manifest.

Anyone familiar with classical Greek philosophy will know that Aristotle is here building off Plato's idea of form, where Plato claims that there is an entirely separate plain of existence where forms of things in the world exist. Anything that partakes of the form, whether it be our mind or the thing we are sensing, partakes of it from its separate existence in the realm of forms. Aristotle does not fully take on Plato's work, though. He modifies the idea slightly to argue that the formal causes do not exist in a separate plain of

existence and instead exist in conjunction with the material world. When observing that a triangle drawn in the sand is being washed away, one sees that the form no longer exists where it once did. If it did exist, then something would have to be a triangle. The form of something only exists in conjunction with a particular potentiality, namely materiality. If a triangle later exists there is no doubt that it shares a form of triangularity with the previous triangle, and that it in fact it is the very same form, but if there is no triangle instantiated the form isn't present some other way. This idea of Aristotle's is actually a middle ground answer between Plato's work and that of the stoics, for example, who claimed that realist forms don't exist in the world (this opinion is shared also by modern philosophers). Such philosophers claimed that a form is too impractical a notion, and that the only thing that exists for sure is the materiality which we see and the patterns that we as individuals can ascertain. According to these thoughts there was no confidence that what transpired between people could be relied on to be true: everything came down to an individual's perception of the world. Their perception *was* their world. Aristotle uses his philosophy to push back on this idea because humans are able to reference triangularity and refer to the same thing. The very fact that humans can consistently describe certain patterns of existence means that there is something more than just particular singularities that we observe or just the concepts that a particular person comes up with. An essence, or being, of triangularity can be abstracted from a particular instance, and it can be predictably abstracted from later triangles and it can be predictably abstracted by multiple people. This essence, in some fashion and in some necessary way, must exist and must exist in reality, and it is what Aristotle calls form.

This element of formality essentially answers the previous question of "What is it?" by answering with not only the name of something or a summative list of its qualities, but with a generic and universalized form of what that specific object is an instantiation of. Silver fork product number 3532953 at the Silver Fork Factory in Fanciful City of Fairland is one instantiation of the universal concept of fork. The concept of the fork, while not known to all persons, is a concept that you as the reader understand very similarly to what I am thinking of. When we understand a 'silver fork' then you and I are not fixated on a specific silver fork that we grew up with (that I in fact did not grow up with), or a summative view of all of our memories of silver fork; no, we are considering the abstract *form* of a fork, and we are thinking of the same form. If forms did not exist, and forms were thus unable to be known by us, we would not have any consistency in our manner of thought and ideas would necessarily be limited to our overall experience of things. I would say silver fork, but you might think silver spoon or goose.

There is a certain line of thinking that cedes the existence of some kind of necessary form, but says that it is no more than the concepts that exist in one person as universalized notions from their overall experience, and nothing that exists outside of the individual. This mode of thinking is known as *conceptualism* and does not allow for the existence of forms outside of any one human. Conceptualists would say that language and knowledge of the world must necessarily be negotiated in order for it to be established, and a child must negotiate knowledge with the society they are born into. What conceptualists fail to realize, however, is that in order for language and for knowledge to be trusted between one person and another there must be an objectiveness to reality and therefore a reality where forms

exist outside of humans. There can be no negotiation of knowledge if there is no objectivity of truth that guides the negotiation, as was the primary deduction of Aristotle that led him to disagree with his teacher and his peers. This reality and truth outside of humanity can be assured through the existence of forms, real ideas of being that are instantiated in the world around us..

Before finally moving on to the second cause, it is fruitful to discuss of another detail offered by Aristotle and Aquinas. Not all forms are equal, and simply exist in equal relationship to each other. Aquinas relays to us that

> "For this reason Aristotle, *Metaphy*. Viii (Did. Vii, 3), compares the species of things to numbers, which differ in species by the addition or subtraction of unity. And (De Anima ii, 3) he compares the various souls to the species of figures, one of which contains another; as a pentagon contains and exceeds a tetragon" (Aquinas, *Summa*, Q. 76, A. 3).

There exists a form of a heart, the organ which pumps blood, but it is also true that there is a form of man, common to all humans. While we exist, however, we do not have a distinguishable form of heart that lives in conjunction with us – the form of heart is contained within the form of man. It is not present the same way that a form of triangle is present in a random triangle, however. It is contained *virtually* within the form of man. That is to say that the form of man is a singular form which exists, but it virtually contains the form of heart, as is proper to the existence of a person. This is the same way that the number seven still possesses the number 3. It is not understood that the form of seven

exists next to the form of 3, but that 3 is contained *virtually* within the seven itself. When contemplating forms and their existence, we can then think of the relationships between numbers as being similar to the relationships between forms. For Aquinas and for Aristotle, the more that an individual is able to collect, in terms of forms, from the world, the nobler they are because it means they are more simple and contain more virtual forms; but more on people's relationship to forms will come later.

The second cause of Aristotle's Teleology to consider is the Material Cause. In the case of the silver fork the material cause is silver, because it is the material on which the form is stamped, so to speak. This is perhaps the most simple of the causes to understand because it is so readily observable in anything that undergoes change. We can observe if the material cause is the rubber of the ball or the wood of a chair or the ink of a book. This cause answers the question "What is it made of?" as listed earlier. This cause, combined with the first, provides the second base concept besides the first one of act and potency, and in truth it is simply one way that act and potency exist. Matter has the potentiality of being what the form is actuality of. When combined, the potentiality is actualized and change occurs. The combination of form and matter is also seen in Aristotle as not just being part of a summary notion of causality, but is its own concept called *hylomorphism* (*hyle* meaning chaos or madness, or in this case matter, while *morph* means form). Aquinas says that "in everything which is moved, there is some kind of composition to be found [of act and potency]".[6]

[6] *Summa Theologiae*, Aquinas, Q.9 Art.1

Precisely because a potentiality does not have the ability to reduce itself to actuality, however, we are brought to the third cause.

For a material cause to be morphed by the formal cause, there must be an Efficient Cause that makes this happen. In modern lay terminology, this is what people refer to when they talk about the 'cause' of something. The modern definition of the word cause entails action that has caused an effect, which here is Aristotle's efficient cause, whereas in older terms the word 'cause' means something a little more abstract. In our previous example of the silver fork, we can say that the efficient cause is the worker or the machine. The idea is that when considering what a chair is, it may be conceivable that the chair would pop into existence out of nothing, but the observer of a chair more aptly would consider that it was probably made by someone, a craftsman, or they would wonder from where it popped into existence. These items of consideration are inevitably some form of efficient causation, inherent to the existence of anything that is moved. The efficient cause answers the question "How was it made?" and is relevant for natural things as well as artificial things. Artificial things clearly have a notion of being made, but even natural things are preceded by efficient causes that bring about their specific existence. A tree is brought into existence by efficient causes of the environment and by its DNA. Puppies are conceived by the efficient cause of a male and female dog through their act of mating (and more specifically by sperm interacting with an egg). The importance of understanding an efficient cause is that the cause must somehow be actualized in order to effect change and it must be brought about by something itself in act. A potentiality of any kind cannot be an efficient cause. This means that in order for silver's potentiality of fork to be reduced to act, and to therefore have a

fork created of the silver, there must be something which is act already that makes the reduction happen. When a worker molds the silver, the worker is in at and therefore is capable of making the change happen.

At the end we understand the Final Cause, which is the inherent end that the formal cause leads to. This last cause is perhaps the most difficult to understand because it seems to indicate some sort of overarching intention by someone outside of the summary of causes, but this is indeed not the case. When understanding the final cause of a silver fork, the intention of the worker may be easily discernible, but in the efficient cause of a tree, there is not a personified agent that is directly bringing about a specific purpose with the tree, and thus the final cause of a tree is not so easily discerned. The truth is that the notion of final cause is more noble than these notions. A silver fork's final cause may be to be eaten with by a person not solely because the person who created it intended it to be that way but simply because this is what the silver fork lends itself toward inherently, regardless of what a user or creator's intention may be. This cause answers the question "For what purpose does it exist?" and again is for natural as well as artificial things. A leaf is inherently predisposed to be the focal point of photosynthesis in a plant. An animal is inherently directed towards survival. If an apple seed is planted and a tree grows from it, then the assumption is that the tree, should it produce any fruit, will produce an apple because that is what the apple tree is inherently directed towards. In Greek the word *telos* refers to the concept of 'end.' Because the final cause in many ways the goal of why the formal cause itself even exists, this summation of causes can be referred to as a *teleology*.

Let us consider other examples to ease the mind into this possible way of thinking. An architect is designing a building. He resists the idea that buildings are purely for convention and believes that buildings are art, and so makes sure that his designs achieve a sort of upset expectation in the mind of the person who either observes or exists in his future building. To do so he decides that the roof is going to be a giant sphere, under which will exist his building. When drawing the side view of his building he begins with all of the boring parts and leaves the roof until last, as he wants to make sure he does his utmost job to depict the sphere. Because it is the side view, he first pictures how the sphere will look on the page and which material he should make it out of – graphite or ink, for example. Before he has even begun, the architect has already implemented the first part of the teleology of the sideview of his roof. He has contemplated a circle, which he will need to draw on to the paper. He wants to do his best, however, and we can be assured that he is not thinking of drawing an imperfect circle. No, if he is going to achieve the most impact then he needs to draw the best circle that was ever known to the world of architecture. In his mind he knows exactly what a circle is and how it should appear, but as he attempts to draw it out in pencil he realizes that the circle he has drawn does not look like a true circle. He re-does it a couple of times and still does not create the perfect circle. After using a protractor he has still not succeeded on the perfect circle but yields in his efforts, believing that he will not achieve anything better. To the eye of an unknowing viewer, it looks like the most perfect circle in the world, but to our architect it has failed. In this step of drawing, our architect has made use of the next two causes. The material cause is the graphite that he is drawing with and the efficient cause is himself. Yet by drawing the circle on paper our architect has been made

aware of the fact that, when pairing formal and material causes to create a circle, any drawn circle he creates is somehow sub-par to the formal. The edge of the circle is not exactly the same distance from the center point all the way around and the point where he started and ended the circle doesn't exactly line up. At various points around the circle he had been uneven with his weight on the pencil and so the circle has darker spots and lighter spots around the edge. There is an inevitable distinction between the form of a circle, which does not have these imperfections, and the actual circle itself, which suffers many. In the end, we know that this circle serves an inherent final cause. It is meant to portray a sphere and is meant to complete this image, to be replicated elsewhere. While his drawing may not be entirely perfect, once he hands it off to his partnering construction firm, the builders will know by looking at the drawing that they are meant to create a sphere and not an oblong sphere, for example, meaning that there is an inherent disposition that the drawn circle has.

Someone might contest that a silver fork or a drawn circle may be made simply for the sake of existence, and that in neither of the cases above is it necessary for there to be a final cause. Yet the point of the final cause is not always relevant to the desires of the creator. The fact is that a silver fork is simply predisposed to help a human eat, and inevitably that is its final cause. A drawn circle may have many final causes but in the case of our architect it is clearly predisposed to visually represent a larger and more complex structure that uses a sphere. To further understand the idea of the final cause, let's consider a different example. A coffeemaker, inarguably, has the final cause of making coffee. The final cause is making coffee not necessarily because the creator of the machine intended it to be so, but primarily because the form and existence of the coffeemaker naturally lends

itself towards the action of making coffee. It is still very likely, however, that the person who instantiated the coffeemaker was indeed trying to create something that makes coffee primarily. It is inherent within the form of a coffeemaker that anything with such a form is meant to make coffee. Of course, it may lend itself to other causes, such as making tea, yet this does not nullify that the final cause is primarily making coffee. Such an accidental find simply further expands what the coffeemaker is capable of. Even with an expanded capacity to make tea, it is still true that a coffeemaker is best directed towards the action of making coffee.

Thus we now understand what a teleology is. The reader might be tempted to read the word *teleology* as *theology*, but the reader should note that the latter is a formal study of God, generally the Christian God, while *teleology* is the summative term to reference a metaphysical understanding of causation in the universe. This teleology, though, is essential to Aquinas' proof for the existence of God, and he makes it quite thorough. There are a number of criticisms, of course, laid against Aquinas and his predecessors for their teleology, regardless of its relation to Aquinas' theology. Some things will be reached in other sections, but one of the primary things that has relevance in further expounding is the final cause. In all, while the formal, material, and efficient causes have their important place, it is the final cause that takes precedent because the *telos* of something is what it is always directed to. Since it is so relevant to teleology, it then serves as a critiquing point for others to try and take away the ground that the logic itself stands on. When interested learners of Aquinas seek to echo his work, and in particular echo his arguments for the existence of God, people incorrectly assume that Aquinas argues that everything has a final cause, and yet this is not

true. Aquinas only argues that some or most things have a teleology, a fact that most critics seem to overlook. The truth of what Aristotle and Aquinas propose is that this hylomorphic and teleological reality is only for that which is moved, or changed. Some people might push back and say that it is silly to imagine a final cause for everything in the universe, and that perhaps something as pointless as a pile of lint cannot have a final cause. Feser, when relaying Aquinas' arguments, uses the examples of bodily organs to describe and exemplify teleology. In the heart, for example, it is clear to see what the various causes are, and it is easy to say that the final cause of the heart is to pump blood. He answers this difficulty, of the final cause of lint that some people might object with, though, and says that Aristotelians "are not making the implausible claim that everything has a function of the sort biological organs have, including piles of dirt, iron filings, and balls of lint." Just because it is easy to discuss what the final cause of the heart is and it is not easy to discuss the final cause of a pile of lint doesn't mean that the latter is lacking one. Feser clarifies that Aristotelians "are saying that goal-directedness exists wherever regular cause and effect patterns do" (Aquinas, 18). In other words, final causes are linked with the idea that regular change occurs and that predictable change occurs, and that the final cause is how we discuss the predictable tendencies of natural and artificial things.

Exceptions aside, and the fallacy waylaid that absolutely everything has a teleology, it is clear that a great number of things participate in a full teleology. It begins at our individual levels of perception but even once we analyze the teleology of a silver fork it is clear that the material of silver itself has a teleology about it even before it is effected into a fork. Contemplating the formal cause, Aristotle puts forth that most natural things in our

environment have just that. His idea about nature was that there were different types of formal causes, which he would refer to as *souls* (remember the meaning of the Greek word *psycho*). For Aristotle it was just as true that plants had a soul, as did animals and humans, because just like the artifacts of people which regularly suffer change, these entities also suffer regular change. For this, what he meant was that each of these things have a formal cause. The form that belongs to a rock doesn't necessarily have any agency to it, and so there's nothing necessarily special about it other than that, but it still has a form of some kind. The reason that a form of a rock may be different from that of a plant, say, is that we notice since a rock has no agency it does not act of its own interest and change only happens to the rock and it exerts no change itself. Other types of things, though, do have souls which give them a certain agency, and where causes are sourced from within. Traditional terminology for this within scholasticism says these are *immanent* causes (Feser [Aquinas], 135). Of course, remembering the previous point that a potentiality does not have the ability to reduce itself to actuality and that something else actual has to make it happen, one might be tempted to say that an animal or human moving itself or even a plant growing contradicts the statement. Aquinas answers, though, that what we see as something moving itself is really a complicated set of potentialities being reduced to actualities by more underlying actualities.[7] The beginning or principle act that allows for the subsequent change is a matter for a later section, but for now let us return to contemplate the different types of souls that there are.

[7] *Aquinas: A Beginner's Guide*, Feser, 11-12

Plants have nutritive souls, where they are capable of taking in nutrients, growing, and reproducing themselves. Animals have sensory souls, where they have all of the same immanent causes that a nutritive soul does, but they also are capable of sensation, locomotion, and of having appetites in regard to sensation and locomotion (wanting to move, wanting to sense things). (Feser [Aquinas], 137-138). Humans, finally, have a more complex soul: the rational soul. The rational soul shares all of the powers of the sensible soul, but it also has two others: the intellect and will.

The difficult part of understanding formal causes, and understanding souls, is that they are extremely abstract. For something to have a formal cause is to say that the material cause is impressed with a form on it and were it not to have the formal cause then that object would cease to be that object. If we follow Aristotle's explanations on the topic, then we say that the forms are inherently attached to the things observed. It is no more a stretch to say that humans, just like anything else that undergoes change, have forms as well. What does get complicated from here is understanding how the human form relates to all of the other types of forms in the universe. At this point we return to Jackendoff's quote that started off this book: Humans speak. More than humans speaking, though, humans know things.

A central tenant of this philosophy so far is primarily that the causes all exist in some fashion. The material and efficient cause exist most plainly, because they are causes that can be perceived by human sense. We know what the causes are because we can generally see, touch, and even hear, taste, or smell them. What these philosophers are saying, though, is that the formal and final causes are *no less real*. The formal and final causes, while not

perceivable by immediate sense, have *being* and therefore exist. If they didn't have being then they couldn't be known. When it is said that moveable objects possess a form, it is a statement about *literal* possession.

If objects in general possess forms, how does a human then come to have the knowledge of forms and how these forms interact with us? Humans are able to abstractly recognize universal traits and universal forms that exist across a wide spectrum of specific objects. We are able to conceive not just specific instantiations, or *particulars*, but even create fantastical universes based purely on abstract notions or *universals*. When the factory worker was beginning to take the silver in its more natural state to form it into a silver fork, the worker already had some possession over the form of silver fork so that he would know how to make it come about in the silver. For us to have these abilities then we must be able to contain not just memories of specific objects but also the abstractions themselves. Within us must be the ability to store knowledge of forms, which is simply a collection of the forms themselves because to know a form is to possess it. If the factory worker were only ever able to remember particular silver forks then he would only ever be able to produce and create a fork that fits that exact image, but instead it is true that the factory worker can create a new fork that is still a silver fork but may have never been made before the way that he specifically crafted it. Aquinas and Aristotle refer to the power to abstract knowledge as the intellect.

In order to understand what the intellect properly is, it is necessary to analyze what man is, what his rational powers are, and what his sensory or animal powers are. Aristotle and Aquinas observe that different souls have different powers. These are actualities, or

powers, that each soul is potentially capable of achieving. Based on observation, we can say that animals have certain powers of sensation, locomotion and are fueled by appetite. Humans, based on observation, have the same powers but also have the powers of abstract reasoning and the capacity to act in spite of our bodily appetites, meaning that we have some power of desire that goes beyond sensory appetite. Because humans have all of the powers that sensory souls have and more, Aristotle and Aquinas argue that rational souls contain all of the sensory souls' powers virtually, and so are a nobler soul.

But what does it mean to have these powers, and how is it that these philosophers feel like they can make such presumptive statements about the differences between animals and people? Aren't people just more complicated animals? In truth, these grand notions are not really presumptive. In observing animals, we notice that animals sense and move. When reading Aristotle or Aquinas, it is important to read the word *sense* in an open way – it can refer to touch, sight, hearing, smelling or tasting, but it can also refer to visceral emotions. Anger, happiness, sadness, and other emotions are felt as much as they are thought in the human experience, and such reactions are observable in animals. This means that it all falls within the power of sensation, common to animals as well as humans. All of these senses are within the scope of a sensory power, the actualization of which becomes manifest in the body of the sensory creature. The actualization of sensing is much like the actualization of a triangle onto paper. It means that it needs to be manifest in the material of the being in order to be actual. A similar notion for the locomotion power is seen in the way that it is an inherently material power. A creature in motion has achieved it via physically moving itself.

Man, though, according to Aristotle and Aquinas, is a rational creature. What does this entail? Number one, man has all of the sensory powers that other animals have. He senses and moves and acts in order to fulfill his bodily desires, but there is something more to his existence. To see what this something more is, we can look at some of the sensory powers more in detail. It is easy for a person to take for granted their abilities to sense the world around them, and it is just as easy to take for granted that the world makes sense to us. Aristotle and Aquinas were not privy to the scientific knowledge that we have now about how the human brain and body works, but the logic of intellectual and rational thought that they came up with is just as reasonable as it was in their time.

They said that when we sense, we sense with a material organ. The heart achieves its goals through material means and so the brain is an organ that achieves its goals through material means, and they both acknowledge the brain as the center of sensory activity. We know, in the modern time, that this is especially true because of our knowledge of neurons. We also know that different parts of the brain are responsible for different sensory work for the whole of the body. Here, Aquinas makes an important claim about what the sensory soul produces. He argues that the sensory soul produces *phantasms* and that it is the furthest capacity of the physical body.

To say that the body, and brain in particular, produces phantasms is not to say that we make little ghosts everywhere. Instead, it is a brilliant observation that science in the modern time has enlightened to us a more detailed explanation. Psychologists will readily tell you that a human's observation of the real world is nearly delusional. While we think that seeing, smelling, touching, and sensing objects in general is a normal process, it is a

misguided step to say that there is a direct relationship between our perception of the world and what actually happens in the brain. In the end, the things that we sense are a complicated *replication* of our interactions and presence in the real world. Touch is not a power achieved at points of contact along the body; it is achieved by sending signals between neurons at the point of contact and the brain or central nervous system. Our sight is a more complicated process than events that occur within the eyes themselves; it actually involves a reproduced image in a collection of neurons in the occipital lobe in our brain. In essence, all our brain does is reproduce senses that it receives through external organs.

From here psychologists would insist on much more neural activity that deduces meaning out of these senses, but the reality is that our brains do nothing more than receive, store, and reproduce an intensely complicated amount of sense data. This is what we share with animals. Animals, as much as humans, receive all of these senses, but they do not perceive the same type of world that we do. The principal difference between man and animal is that man *understands* the world that he senses, while an animal does not understand it. An animal reacts solely to the sensory data it receives and to fulfill its sensory desires, but it does not understand, seek to understand, or rationalize in general.

How does understanding occur? Again the psychologists will say that meaning is somehow neurally derived from the sense data, but it is not sufficient to claim that generalized information about sensory data is synthesized and collected, because that does not explain how a person *understands* that which they see. For the psychologist this is an enigma and necessitates an investigation of what consciousness even is, but for Aristotle and Aquinas it is an easy understanding of principles already at play. Understanding

something can very well be seen as understanding the cause of things, and when investigating causes one can ask "What is it? What is it made of? How is it? and Why is it?" In other words, the teleology of things can be understood. The intellect, the rational power of the soul, attempts to abstract an understanding of form from the sense data, generalizing into that which is capable of being general and universal: *forms*, or the first causes of things.

The job of the intellect, according to Aquinas, is just that. It is necessary that the form we remember be stored within the soul because if the form was stored within our neurons as collective memories, then our neurons would have to be whatever the form would make it be. To know something is to have some possession over it within the human power. If we were contemplating the abstract qualities of cat, for example, and we were to believe that we only remember things through neural memories, then it follows that a form contained within a set of neurons would make those neurons become a cat. It may sound ridiculous but that's what forms do when they are contained by something: they imprint themselves onto that material. As cats are not literally appearing inside of our heads as we contemplate the abstract qualities of cat, we need consult the form of cat from somewhere else that is still within us and accessible to us without being outside of our person. It must still be within us because it is true that different humans have different knowledge, and if it was in a general space outside of us then human knowledge would be much more similar for every person, if not the same. We don't access something that is outside of us because then our personal knowledge and experiences wouldn't be personal to us and we wouldn't have different knowledge about the same things. There is a happy middle ground between the outside of our neurons and the inside of our person, which is our form or our soul.

Because our souls contain this extra ability to contain forms, we find that our souls are more complex than sensible souls. For one form to be able to contain another is a more complex task that must not be disregarded so easily. Since we are able to conceptualize all sorts of particulars, one of the first things that we as humans seek to do when we find something new is find out all about it and push boundaries and interrogate it to know what it is, what it is made of, why it exists and how it came to be. This is a trait that is shared by no other living animal. Chimpanzees, who have sensory souls, may learn a facsimile of language but they never seek to use that language to ask why a banana is yellow or what a banana is made of; they just want to eat the banana. We, on the other hand, seeking out this knowledge, learn it and it means that our intellects come to hold new knowledge, literally, by holding newly acquired forms.

This power of the intellect is different, also, from other powers. While the sensory powers are all only viable when made manifest in a material organ of some kind, the intellectual power is immaterial. It is not dependent on a material organ in order to achieve its goal of understanding. Its perception of sense data and the abstraction thereof are actions that are independent of organic movement. Aquinas lays out arguments about how the intellectual power of humans is an entirely abstract operation. Because the goal is to possess immaterial forms for the sake of knowledge, the intellect must be an immaterial being. If it was material then it would constantly have to alter its therefore material form to what was being understood, something not seen in a person. When someone goes from contemplating a yellow banana to a black cat, there is no manifestation of these forms in the physical body. Therefore the possession of this ability has to be immaterial. It cannot be void

of potentiality, though, otherwise it would be pure act and it would understand everything about the universe. Since nobody understands everything about the universe, it is clear that potentiality and actuality must exist not just within the human person, but also directly within the intellect. Aquinas and Aristotle argue for an Active Intellect, which receives the form of something and shapes itself to it, and the Passive Intellect, which receives understood knowledge when it is not in act in the Active Intellect. The Active Intellect still must take on forms, as that is what possession of a form entails, and because possession of a form means becoming that it means the Active Intellect literally shapes itself into the forms it is coming to possess. Because it is immaterial, though, it has the capacity to adjust itself in rapid succession during the act of comprehension. Once understanding occurs the Passive Intellect receives that form and can be later retrieved. The Passive Intellect, all that which the Active Intellect can potentially be, is infinite in its ability to grow. Because humans have a part of their soul that contains potentiality and actuality entirely apart from the body, both Aristotle, a pagan Greek, and Aquinas, a Catholic, argue that a human person subsists beyond the death of the sensory body. While the arguments are fairly concrete, I do not need to convince you of the afterlife for the sake of this work, so we won't go into it.

These ideas would not be truly philosophical, however, if we did not consider all of the nuances of the matter. While the intellect attempts to abstract forms from that which is sensed, there is only so much that it can do, and as the intellect is reliant on the body's senses in order to later abstract this knowledge it is necessary to say that the intellect does not come to possess forms exactly as they are in the real world. Forms necessarily exist, and the intellect itself is necessarily a power of the form of the human soul, and, as mentioned

before, the active intellect abstracts a form out of the phantasms the senses perceive and becomes the form it abstracts for the purpose of understanding. The difficulty here is that the intellect is not directly taking on the forms being perceived in reality.

A tree, upon casual observation, does not participate in every actuality of the form of tree. There is a large amount of potentialities that the tree cannot possibly participate in all at once, and therefore that which is perceived through the senses is only a portion of that which could be. If the intellect were able to take on the form of tree more directly then it would know all of a tree's potentialities, but because the intellect is restricted in its power to only abstract from phantasms, it can only perceive the actualities that the phantasms convey. So while the nature of the intellect is such that it can take on forms as they actually exist, it is unable to do so because knowledge must be filtered through sensory data, or phantasms. Aquinas refers to the intellect's abstractions as *quiddities*, which is another word for essence [literally: whatnesses], and in other places he says that what the Intellect comprehends are the likenesses of things rather than the true forms of the things themselves. It is the best that the intellect can do under its restrictions of the sensory body, but this is the explanation for how human knowledge differs from person to person and how things can be learned, because quiddities can be shifted over time as different particulars and powers are understood about things in the world around us.

These quiddities, while not the full forms of that which is being understood, are still forms. In Question 76, Article 3 of the *Summa*, we have already seen how Aquinas echoes how Aristotle illustrates the nature of forms as being similar to numbers:

> "For this reason Aristotle, *Metaph.* Viii (Did. Vii, 3), compares the species of things to numbers, which differ in species by the addition or subtraction of unity. And (De Anima ii, 3) he compares the various souls to the species of figures, one of which contains another; as a pentagon contains and exceeds a tetragon."

If we think of species, or forms, as numbers, then we can understand the following comparison. A person may be presented with the abstract concept of 3, but they may not understand the full dynamic; they may only understand the number 1 or the number 2. In the end they have failed to fully understand all that was presented to them, namely the number 3, but they have still successfully understood a *number*, namely 1 or 2. So a person may see a tree and not know the full form of what actually exists in conjunction with the tree, but they will ascertain a form of some kind that is found virtually in the observed material tree and it is still a form which ultimately resides in the intellect.

It is important to remember, though, that Aquinas often reminds us, sometimes with the words of Aristotle, that "the soul understands nothing without a phantasm" (*Summa*, Q. 84, A. 7). So even when the active intellect may summon forms from the passive intellect for contemplation or use, phantasms must be instantiated in the sensory organ, namely the brain.

For the curious who would like to know, Aquinas points out that when the soul persists after the death of the body, the soul's ability to understand is not necessarily improved because the true form of humanity seeks understanding via phantasms, and while the intellect can take on forms as they exist in reality it still bypasses inherent human nature and therefore means any comprehension will be muddled.

The second thing that a rational soul has is will. The final cause of will power, following the Scholastic tradition, is the realization of our natural ends as human beings. Will is the power of the soul that directs the intellect in its comprehension of abstract knowledge. This differs from motivations that occur within a sensory soul, because a sensory soul has appetites that it seeks to appease, and has motivations that are reactionary in nature, while the rational soul seeks to satisfy our natural end as a human, even if it means negating some of the subordinated nutritive and sensory appetites. Humans are able to stifle hunger and physical pain in order to reach a more long-term goal. Think about it… have you ever seen an animal voluntarily practice for a marathon? An animal may also commit to some basic sacrifice, perhaps a mother animal will forgo eating to make sure that her babies are protected, but an animal never makes a sacrifice of food or other sensory desires for the sake of an intellect. It never holds its urine to finish a class, much less a really long movie.

So here we understand what Aristotle started and what Aquinasfurther established. For quite a long time these philosophies were really important to the way western society understood humanity, yet it did not always remain that way. To propose, academically, in the 21st century that a philosophy of language need orient itself around the concept of a human having a soul seems entirely inadequate and inappropriate because it seemingly would have no scientific or logical support. This is due not, however, to an inadequacy of logic or supporting argumentation, but to a cultural shift in what is acceptable. Here the logic stands for an understanding of the human soul. As demonstrated, it is not a logic based in the scientific method and yet neither is it weakened by an expansion of scientific knowledge. It is a knowledge based in the observable reality that surrounds us, an

observation that what we are seeing is real and must necessarily be real or none of the ways of our existence would be possible. Through analyzing the world we see that we are able to analyze it and that it is knowable and consistent. The same logic that exposes this reality and claims that the human soul exists is the same logic that permits science to be a rational expedition. To reject the soul is to reject science – their knowledgeable existence is based on the same metaphysical reality. There must be a link, however, and a rational explanation that demonstrates how we as a society and how academia went from knowing that the human soul exists to saying that it cannot, and there is. Next we will explore what that shift looked like and the reason that such an analysis does not stand in the modern time, even though the academic position for it very much exists.

SUBSEQUENT PHILOSOPHIES

My first foray into studying epistemology was through the work of Michel Foucault. Epistemology is the study of the implicit context that our explicit opinions exist within. In his work *An Archaeology of the Human Sciences* Foucault investigates how our epistemology hasn't always been the same, and how it has shifted over time. To exemplify this shifting epistemology, he specifically highlights how it has shifted for the study of the sciences. Yet to think that epistemological shifts as described by Foucault are limited to what we consider the different sciences is missing the point entirely of his work. It is more true that the depths of such shifts are more pervasive across society as a whole. One of the areas to consider is the field of philosophy. Edward Feser, a scholastic philosopher and professor who specializes in the work of St. Thomas Aquinas, has written on the matter of society-level philosophical change throughout the past few centuries. Less than politely written in his polemic *The Last Superstition*: *A Refutation of the New Atheism*, Feser describes a shift in epistemology not unlike Foucault, only in the area of philosophy and not the sciences. He does not intentionally write about epistemology, and instead writes about explicit opinions around philosophy as they have changed over time, but his "study of opinions," as Foucault would call them, are undeniably linked to the same changes in thought that Foucault characterizes. To note, Feser's descriptions of Philosophical change are a lot easier to understand than Foucault's.

Foucault describes knowledge as being a sort of seamless field of knowledge that flows from the time of the stoics of Ancient Greece to the Medievalists in Europe. Feser

describes philosophy as a time-tested tradition that starts in Ancient Greece and unfolds and refines itself through collective discipline since that time. In other words, up until the 17th century, philosophy was a development on the body of knowledge that already existed, an idea that Foucault himself echoes in his description of pre-sixteenth century knowledge. Thus both writers acknowledge that at the beginning of the 17th century there was a shift in thought that affected the rest of the thinking world, disrupting the previous flow of collective knowledge through time. While Foucault tends to refer to resulting works of each time and to making commentary based on these writings, Feser makes his points just a little more targeted.

FOUCAULT'S DESCRIPTIONS OF THE PROGRESSION OF THE SCIENCES

Recently in common thought it has been considered that the perception of one individual or even a group of individuals may not be sufficient to generalize to the whole of human experience. Although my wife is indignant about the fact that the west coast of the United States does not recognize sweet tea as a normal drink, it is inappropriate to expect that they would value sweet tea in the same way that my wife does. Although an individual in the United States can expect that on the day of the 25th of December they will not have to work and that many people around them will indeed be celebrating a holiday, it is inappropriate to expect that a small (non-Christian) tribe indigenous to the rainforests of Brazil will observe or expect the same experiences. This is a thought process that, while growing in its grip on modern thought, is common enough to contemporary western

civilization and most people in said society are rather adept at recognizing such inherent differences. The logic has even extended down to the experience of the individual, so that now the more progressive thinking in western civilization decrees that each individual may have ahold of his own reality, and it is his alone to possess. Even postmodern thought, which decries the absolute quality of relativistic thinking, still adheres to a level of individuality when it comes to ascertaining reality.

Yet it is not such a common idea that this method of accepting moderate relativism should be extended chronologically into our past. Instead, the founding fathers of the United States are scrutinized for their lack of faithfulness to equality, or there is a presumption that their definition of equality is the same as ours. The feudal system of the European Middle Ages is seen as backwards and inherently faulty, a necessary stepping stone to ultimately build to our modern civilization or at worst an avoidable fall into a pit of unnecessary societal pain. Despite all of the work that they contributed, Aristotle and Plato are criticized for their lack of scientific integrity. Against these ideas, historicism is a new trend that tries to review historical events and people in their own linguistic and cultural contexts so that the divisions of time between one group of people from its ancestors are more truthfully fathomed. With the vast amount of historical, a.k.a. written, knowledge of our past, we have the ability to review dictionaries and texts that clue us into the different meaning of words and how concepts existed in one time period vs. another. Such a perspective into the past is extremely valuable because it allows us to be led out of ourselves and into the mindset of someone else. This is a trend in historical dramas, for example, who seek to recreate a historical place on television for the modern audience to

conceptualize just how different the time period and culture was. The lack of historicism in work that reviews the past is considered anachronistic because it necessarily involves the application of modern thought to past ideas. Such a thought pervades criticisms of historical dramas precisely because of flaws, extending past the normal critiques that a television show might suffer. Historicism allows for a view of the past where the idea of 'equality' meant something different to the Founding Fathers, where Feudalism was seen by its participants as a good and necessary thing, or how the scientific method was not a priority for Aristotle, Plato or anyone of that time.

Naturally historicism falls within its own trap at some point, being anachronistic by even maintaining the loose vision of history as a divisible entity, with various epistemologies governing each division, or even calling to mind that by using historicism at all to study the past we are using a modern concept and applying it to research of the past, the very thing historicism critiques others for doing. Yet before waving this hypocrisy in the face of historicism, the value that it brings to the conversation should be considered. Because even if history is not as divisible or categorical as certain ways of thinking suggest, it at least does have discernible changes in thought. There is, for example, a very clear distinction between Latin *scientia* and modern English *science*, even though the two are more or less the same word, seeing as how *scientia* means 'knowledge' and *science* means 'body of knowledge collected via the scientific method.' Thus it must be considered that things need to have changed between the time of the Roman Empire and the time of National Governments for such a definition to change. Similarly it must be considered how these changes transpired, or

at the very least what the changes might have been. Discerning these changes allows for a metahistory, or a record of more underscoring and significant changes across history.

If nothing else the mission of approaching historical events and people within their own contexts has an increased benefit of improving the likelihood of having a more comprehensive view of the world and humanity. Without historicism, John Locke's use of the concept of 'freedom' seems faulty and it points to the idea that he was a less intelligent man. Yet through historicism, John Locke's logic flows more effectively from premise to premise to conclusion and instead of seeming like a bumbling fool he seems to have his head on straight… mostly. With historicism, we can at least fathom how Feudalism was a valued and desirable version of society. Then, once we are in that space of thought of the Other, we can attempt to agree or disagree, or use it to aid a modern argument, or simply expound on our understanding of that time.

This very idea that something like the word 'science' changes across time is how Foucault, more or less, bases his work. He begins in the 16th century, arguing that there wasn't that much difference, as far as 'science' is concerned, between thinkers like Plato and Bartolomé de las Casas. Then he discusses the 17th and 18th centuries, viewing it as a change in episteme where the world became very ordered and yet was still married to the divine. In the 19th century, then, he describes culture as science became what we know it as today and knowledge itself became ordered and categorized and isolated in terms of function.

Foucault points out that without such a distinguished perspective of science's history, it would seem that all the other previous academic phenomena might seem a drag

and a "negative side of science – that which resists it, deflects it or disturbs it" (Foucault, xi). This is because without such a perspective all of history necessarily culminates in the modern perspective, disregarding a possibility of deviation, disregarding the high throne that is accorded modern science. Instead, a view that differentiates between times fathoms what was happening at any given point and tries to view knowledge as budding and ready to grow. Instead of maintaining the perspective of science from a fresh twig on an old tree, it attempts to view science from the various growth steps in the tree. How does it look from the perspective of the first branches on a sapling? How does it look from the perspective of the first fruits falling when the tree is only a few years old? How does it look from one of the first main branches? Are any of the now fallen branches considered? Are any other possible forms of the tree considered except the one that has already grown in? As the old saying goes, "don't count your chickens before your eggs hatch." And yet even as structured as this book of his stands, one has the feeling when reading through it that Foucault's motivation is not so much that his reader gains a functional understanding of epistemology but rather that Foucault is attempting to gain a foothold in the experience and emotion of his reader so that they have a feeling for epistemology, which arguably is the best that Foucault argues we may have when it comes to knowing it.

Foucault's motivation for his book is based on a common, observable question across time: "how do things relate to each other?" or, "how do things resemble each other?" These questions are basic, by nature, and therefore have an ability to persist across various boundaries. Any human knows that there are objects that surround them (whether they be made by man or preexist him), and the question of their relationship simply follows. In his

foreword to the English edition, Foucault discusses that he was motivated to observe this question based on *El Idioma Analítico de John Wilkins* (*The Analytical Language of John Wilkins*), an essay by Jorge Luis Borges.

In this essay, Borges discusses a supposed categorization of animals in a Chinese taxonomy. The categories defy modern presuppositions of categories, dividing them as "belonging to the Emperor" or "fabulous" or "frenzied" or simply even "included in the present classification." Foucault views these categories and others as something that amused him immensely. Yet the same consideration led him into deep thought, questioning the structures of thought that told him to be shocked by such foreign categorizations. Ultimately such a consideration drew Foucault into an entirely different space of thought, asking the question "Where could they ever meet [the 'Chinese' categories], except in the immaterial sound of the voice pronouncing their enumeration, or on the page transcribing it?" (Foucault, xvii). For Foucault these types of categorizations bring the observer outside of a place where these categories are explicitly visible somewhere. Rather than viewing these categorizations as some other manifestation, however, Foucault points that these thoughts necessarily must exist in a "non-place of language," and that while language itself is capable of presenting the ideas to us, there must be an "unthinkable space" which the language itself alludes to.

Foucault further defines his idea of the "unthinkable space" in order to more objectify his study. He presents the idea that knowledge must inevitably be ordered, whether the order is known to us or not, assuming that while the question of "how do things relate to each other?" is being asked and answered, there is an objective answer to

find. He in fact highlights how the platonic idea of an "unthinkable space" (read: Plato's Third Realm of Forms) is actually more Aristotelian in nature, discussing how this Order he wants to unveil or point to is simultaneously "that which is given in things as their inner law…and also that which has no existence except in the grid created by a glance, an examination, a language" (Foucault, xx).

While having no high expectation of actually describing the foundational Order of the previous definition, he appeals to its existence to base his understanding of dividing time. By understanding an Order that presupposes all of our unique and cultural orders, it can be understood how epistemologies exist and also change over time. It can be understood how modern science as a collective way of thought may differentiate itself from its own culture two centuries prior.

By discerning various divisions in chronology, we can ascertain a direction for the study of linguistics and a direction of the study of the human and of the soul. By establishing directions for these studies, we can start to make comparisons between the knowledge of the modern linguist and psychologist and the knowledge of the ancients like Aristotle and scholastic philosophers like St. Thomas Aquinas because the boundaries between them are understood, if not just fathomed. Then, too, a respect and merit can be properly admired for all parties on their own stages, rather than automatically trying to incorporate them into a single timeline and single, culminating, worldview. It can be understood how modern scientists have worked out and understood certain mechanics of the organic world and yet at the same time how philosophers of old can guide and help structure a framework for said science and give it purpose. Thereby with a multitude of understandings a more universal

understanding of the world and human existence simply comes out via common comprehension and general evidence.

The title for the first chapter in Foucault's book is "Prose of the World," an apt description for a way to conceptualize the knowledge of the time. He paints an image of a world where concepts literally flow from one object to the next through a network of connections, an interweavable existence that cannot deny them without entirely unraveling itself into chaos. It is a world that is entirely dependent upon a deity, namely God, that sustains it. The opposite of chaos is not structured order, per se, as much as it is an ability to find significant relationships between objects and ideas that otherwise seem entirely pointless to fit together.

Foucault's choice of word to sum the concept of relationship in times before the 16th century is *resemblance*. He views it as the underlying view of existence that propagated western culture up through the 16th century. This would paint a broad continuous episteme that stems from the Greeks and runs up through high Medieval philosophy, a depiction that while perhaps correct is indeed too broad. To his point, however, he isn't speaking of the active debate of philosophy or the things over which people consistently argued in history. As he states it "But we are not concerned here with a study of opinions, which could be undertaken only by a statistical analysis of contemporary records" (Foucault, 31). Earlier on the page he rejects the very idea, saying that "it hardly matters whether it was or was not, as was once claimed, a world view or *Weltanschauung*" (Foucault, 31). The concern is instead with a study of the underlying principles that motivate the opinions.

Resemblance is a term that ultimately may not effectively survive Foucault's purveyance of epistemological shifts, and yet it has great significance for understanding his description of 16th century thought, that from which 17th century thought precipitated. He paints it as a network of interplaying concepts using Latin terms such as *convenientia*, *aemulatio*, *analogy*, *sympathies*, *aequalitas*, *societas*, *continuum*… the most important for his understanding being the first four. These various terms demonstrate the capability of a connection between two things to become itself manifest as existing between the original two. Motivating even these types of relationships he discusses *sympathy* and *antipathy*, which is the inherent attraction or repulsion between two concepts. Where sympathy and antipathy are found these other relationships pan out.

One might find a *sympathy*, for example, between the walnut and the human brain via an *aemulatio*, an emulation, and therefore also predict that the walnut has a benefit for the human brain or may help heal it. The logic may seem incoherent yet it is through a process of finding where signs converge and what things resemble other things that one finds knowledge and truth. While inevitably, according to Foucault, one dooms himself to repeat and only ever find the same knowledge that exists, the limits of such a type of knowledge are nonexistent because mountains upon mountains of resemblances can be found, even in a closed system of signs.

Of its own accord, Foucault's conception of the 16th century episteme is incredibly difficult to take ahold of and to properly understand. It is vague and inexact, even more than just the concepts already proposed. Certain examples make it more tangible, such as the concept of a Natural History of the Snake (a written history of snakes in this episteme).Here,

it is not just a scientific understanding of the snake that is seen, nor is it information solely in a closed order, but instead one sees that information from Genesis is just as relevant as observations to know that snakes shed their skin. All of this serves to inform a reader or student about that which is important to know about snakes.

In essence, Foucault's research into knowledge of the 16th century reveals that 'science,' or knowledge, does not resemble what we know of today in the modern time. Any knowledge that one has about a certain area may be joined together with another piece of knowledge, not because there is no method of thought, but because there might be a multiplicity of options for connecting them depending on the ability of the viewer to discern such connections. If one were to read the poetry of Garcilaso de la Vega, a poet from the 16th century, one would find that his sonnets make connections across many types of images whose resemblances are seemingly vague and yet at the same time just as impactful because of the relationships that they do indeed have, however small.

Looking into language of the 16th century, Foucault describes a world and mindset that views language as the way in which things can be summarized as having connections. Words are no different than the things that we see that bear signs. In truth nature itself is synonymous with language and thus allows poetry and other works of language to convey neat and tidy images and inspires connections between signs in the mind that may have not been previously conceived. The barrier between one sign and the next is hazy, at best, and extremely fluid.

In the 17th & 18th centuries, what Foucault classifies as the Classical Episteme, Foucault demonstrates how the method of knowing changes and shifts[8]. Knowledge becomes more categorized and rather than consulting any word ever mentioned of a snake, for example, when investigating the matter, a Classical scholar would know that certain information he found would be categorized in one area and other information would be categorized in a different place. For the example of the snake we can contemplate the idea that his bodily functions and physical actions are ordered in certain relationship to the moral teachings about snakes. They are still connected but with a certain priority and categorization. In other words, while the 16th century natural historian would have portrayed some sort of causal link between a snake's movements and the snake's evil morality, basing it on a central sign of some kind of evil, the classic natural historian would say that the snake's movement and the snake's evil morality resemble each other, but that there is nothing in between that serves them both; they simply relate to each other. Likely it is that the snake's movements take a priority over its morality when organizing what is important information about the snake.

During this time knowledge seems to take on a more linear and orderly fashion instead of anything relating to anything with just the right perspective. Foucault highlights that in this way of thinking the idea of a middle and third aspect of relationship between a sign and its signification is nonexistent. When understanding a sign there is only the thing that is signed and the thing that it signifies. To say that a strong man resembles a tree, one does not need to establish an independent third party resemblance that may exist outside

[8] *The Order of Things, An Archaeology of the Human Sciences*, Foucault, 56

both figures, but may simply conjecture that the strong man embodies that same resemblance of the tree itself.

If language in the 16th Century might be described as three-dimensional, then it is absolutely true that language in the 17th Century becomes two-dimensional. It becomes something that can be organized hierarchically into knowledge of the world and bears a certain order compared to other types of knowledge, yet it is not so categorically distinct as it is in later times. A grammar of a language is just as much about signification as it is about usage, and language is about dialogue and is conversational. It still needs something with which to compare in the world and does not stand on its own.

It is during 19th Century thought that things truly change. Up until this point information has been about the meta-analysis of the word and its aggregate life, but now individuals are going to start playing a role. Humanity, for example, would have been studied as a collective and less or not at all as individuals. In the 19th century, however, such perspectives changed and instead the individual comes into play. It is understood that the individual has some sort of autonomy away from the whole at large and this shifts the entire dynamic of nations and states and knowledge.

The idea that an individual can be studied apart from the whole as unique and different from the rest emerges during this time. Foucault highlights how man as a subject of science comes to its own:

> "Before the end of the eighteenth century, *man* did not exist – any more than the potency of life [allowing for the study of biology], the fecundity

> of labor [allowing for the study of economics], or the historical density of language [allowing for historicism of history]. He is a quite recent creature, which the demiurge of knowledge fabricated with its own hands less than two hundred years ago: but he has grown old so quickly that it has been only too easy to imagine that he had been waiting for thousands of years in the darkness for that moment of illumination which he would finally be known [the notion of inevitable progress]."[9]

Rather than a general hierarchy of all things that exist in the world, hierarchies for certain types of knowledge emerge as independent from others. Knowledge about organic beings is categorized and studied apart from things that are not organic, resulting in the concept of something being 'organic' to begin with. Biology forms itself as its own field of study, separate from physics and chemistry and math. In short what occurs is that knowledge is organized into systems. While understanding nature in terms of systems is now second nature to us, it was a way of thought that only came about when we thought that systems were indeed cycles that could be isolated from one another. To determine that biological systems could be summed apart from psychological ones was not a thought process that emerged until this time. Of course we hold now in knowledge that just because we talk about biology and psychology separately that they function in an intertwined sort of way, but it does not negate the fact that we can talk about them as separate categories of knowledge. Knowledge was previously known by establishing relationships and by signs and

[9] *The Order of Things*, Foucault, 308

their significants and setting up an order that categorizes what begets what, yet now there is no need to set up a full and complex hierarchy of knowledge between the way an animal breathes and the way that it can be trained. We now would say that those things are not related at all and belong to different systems and functions.

It is during this time that linguistics becomes its own field of study. At the beginning of the 19th century there comes about an established field of philology, a field that would now be considered too broad, which involves just as much literature and culture as it does linguistics. Previously language was heavily intermingled with all of knowledge – to know something was to speak of it and to dialogue about it. In the 16th century words were as much an embodiment of knowledge as the thing being discussed. Now, however, language was isolated as its own course of study. Later on, specifically towards the end of the 20th century linguistics separates itself from literature and culture as its own field of study and of course begins to break down into its many subfields of things like syntax or psycholinguistics, for example. Language precisely becomes not primarily a vehicle of knowledge that correlates with the natural world, and is instead a pure function of the human experience meant to tell us about the world and each other, but itself is subject to fabrication just as much as it is about communicating what is already known. Entire imaginary worlds are created out of the pure concoction of words and not because they are communicating things to its listeners and readers about the world that already exists. Words themselves gain their own existence and autonomy from the rest of the world and thus, just like man, can become a subject on their own to study.

It is in the 19th century that the scientific method comes about. Since knowledge is not derived from understanding the relationships of things and finding resemblances or through dialogue on a given topic, there must be a system of its own which exists to reveal knowledge. An acceptable way to do so is by measuring, in an objective way, the systematic regularities that produce every day and rare phenomena.

So, then, Foucault has described a shift in epistemology, demonstrating a time where knowledge as we know it did not exist, and a world of the past thought differently than us. Using texts from the various times and analyzing them he comes to the conclusions summarized above, describing how the modern way of thinking came about through several epistemological shifts, these having large consequences on the way we understand ourselves and all of those that came before us.

FESER'S DESCRIPTIONS OF THE PROGRESSION OF PHILOSOPHY

Feser makes a claim about a shift in knowledge that also begins in the 17th century. He claims that at the beginning of the 17th century, Renè Descartes and other modern philosophers such as David Hume, Thomas Hobbes, Francis Bacon and others, upended an entire philosophical tradition and decided to start from scratch, breaking tradition with previous philosophers. Rather than acknowledging the refining process that had occurred over centuries, Descartes decided that he was to assume no previous philosophical propositions at all and that he would start over.. Descartes, then, was proposing a sort of relaunching of philosophical investigation and, according to Feser, was the first prominent

thinker to propose to do so and was also listened to. Other philosophers, going back as far as John Duns Scotus and William of Ockham and moving up towards Bacon and others, rejected that someone like Aquinas would somehow synthesize pagan philosophy with theology and insisted that there could be no knowledge of God through philosophy. Feser discusses that Ockham essentially saw Aquinas' claim about God's necessary existence as 'superfluous,' while Aquinas and Aristotle both actually answer this objection in both of their works. At hand, claims Feser, is that these philosophers were fighting more than just the logic.

Scholastic Theology insisted, rationally, that traditional family and non-materialistic values were necessary. Man's priorities were about serving his proper final cause by creating a family, knowing God, and being committed to these tasks rather than focusing on improving his everyday material life. Protestantism, however, through Luther and Calvin, encouraged individual thinking that did not have to obey standing Church teaching. They essentially gave solid base to proponents of thought not unlike Ockham, pitting philosophy and reason against faith, making it irrational to adhere to a belief in God and removed a large foundation of thought that the Catholic Church had built itself up on. The classic protestant teachings then insisted that God can only be known and believed in through faith and through scripture, therefore excluding ideas like those of Aquinas from their understanding of God.

According to Feser, "the Reformation ushered in a new worldliness the practical result of which - increased wealth and a new sense of individual freedom – led to a desire of more of the same" (Feser, 174). This shift in thinking praised mankind and raised him but

lowered God. Protestants thought they were correcting a faith and that it was supposed to be making it more pure, but in trying to find a more sincere faith they increased the value of every individual's opinion, saying that an individual could interpret the Bible differently than the Church. Feser claims it was this pushing and desire to further this project of Church-independent thought, and not direct fighting against Aristotle's direct inclusion in theology, that moved Aristotelianism out of things. Philosophers ultimately wanted to do the same, and had a lot to reconcile with all sorts of new 'denominations' of Christianity popping up. Feser claims that "[John] Locke's aim of drawing definite limits to what was strictly knowledge where religion was concerned [was] to put all conflicting creedal claims on an equally low epistemic footing" (Feser, 175).

Thinkers like Bacon, Locke, Descartes, Hume, Hobbes, Spinoza, and others all wanted to escape the hold of the Church on philosophy. They had to argue that it was more important to increase "human utility and power through the 'mechanistic arts' or technology (Bacon), and of making us 'masters and possessors of nature' (Descartes)" (Feser, 175). This same idea is echoed by Pierre Manent, philosopher, and Mark Lilla and Gilbert Ryle (Feser, 178), albeit they would note these shifts as for the better.

Specifically, Feser highlights Descartes as the 'father' of modern philosophy. This is because Hobbes' materialism was considered destructive and Bacon's theories weren't well defended. They broke away from the past *too* dramatically. Descartes was Catholic and did not reject the faith but just the interweaved Scholastic Framework, while other philosophers' work was more hostile to the faith. Descartes was essentially the first philosopher that most people could stomach, because he expressed and contributed to

'science' and related to others who did the same, but explained a way to synthesize it with a belief in God.

For his claims, Descartes actually revisited Plato and took what he liked from him, Plato of course having defined the soul as an entity separate from the body, as something belonging previously to some abstract realm of forms to where it would return again after human death. Descartes took that idea and combined it with then current knowledge, making the soul the ghostly figure that controls the human mechanism. It is this that Feser says sets him up to be the father of modern philosophy because he brings about "subjectivism, the idea that all that we can know directly and with certainty are the contents of our own minds" (Feser, 186). There are only blind laws of nature at play. Everything only *seems* and *appears* "to have essences, natures, powers, and to act in accordance with some purpose or goal." Hume furthers that "the necessity [of any connection at all] is all in us, not in the world, an invention of the mind itself." Locke held that forms are "creations of the human mind, something more invented than discovered" (Feser, 187). The moderns, like Locke, said that if a quality of nature is defined by quantifiable measure, then it can be true, but not if it is by sense of the individual; then it is only in their mind. If the bitterness of an apple can be qualified by the acid hitting certain receptors on the tongue, then it is valid, but if it is claimed to exist through the tasting experience of an individual, it cannot be trusted to exist outside of their mind. The mind, according to Descartes and those who followed him, must be Plato-like and distinct from the body.

Essentially, by Descartes' decision to not hold to hylomorphism (existence as form and matter together), he instead encouraged a more mechanistic view of the world.

Descartes' famous line "Cogito ergo sum" (*I think therefore I am*) is a line that summarizes the impact of his work. He claims that the mind is a part of human existence, and that in truth it is all that we can be sure of. Our bodies and even the rest of reality may all just be an illusion. He separates the mind and the body and says that at best our bodies are mechanisms that our minds control. This mechanistic view has no need for the hylomorphic soul and so it is here that Feser depicts such a turn in the academic field of philosophy. Because of how Feser, in his polemic, elaborates the extent of what Descartes did, he humorously writes that were Descartes to see the impact of his legacy he would have likely ran to the confessional at once.[10]

After Descartes, other popular philosophers like Hume come up and follow in Descartes' footsteps, ignoring and even challenging previous work in philosophy. Most prominently David Hume challenged the very idea of the substance of this text which is the basic concept of teleology. He famously questions the idea of causes, proposing situations in which there cannot be a formal or final cause, intending to disrupt the ability to trust teleology as a method of understanding causality and the world. As an example, consider a brick that is being thrown at a window. If we were to observe a brick hurtling towards a glass window, then the expectation is that the glass would shatter, yet it is conceivable that it shouldn't and that indeed the brick would turn into something soft or bounce off of the glass instead or just disappear altogether. For Hume, causes and effects are loose and separate things that have no assumed connections. For us to assume that the brick will

[10] *The Last Superstition: A Refutation of the New Atheism*, Edward Feser

break a window lies not on our basis to reason but also to our experiences of what we know reality to be. The point is that the final cause of the brick going through the window cannot be assumed, and so teleology once again is undermined. Yet here Hume's fallacy is clear in that while the description of his situation is conceivable it is not likely to happen how he says. Even if we were to ignore this basic fallacy, we can start to see how Feser's critique of Descartes and philosophers after him are playing out. This is because Hume's work shows that he has not actually properly understood the implications of Aristotle and St. Thomas Aquinas' work. The first mistake that Hume makes is that he assumes a teleology that primarily has to do with ordinal time-related events. In fact this is something that Aquinas writes explicitly against in his understanding of teleology and potency vs. actuality. Rather than solely assuming that teleology has to do with ordinal progression, Aquinas' mode of thought on these matters rather also has to do with a snapshot within a single unit of time. In this single unit of time it is possible to discern a teleology of objects. The formal cause denotes where the object has come from and what it has taken the form of, the efficient simply denotes the means by which an object has arrived at that moment to existence, the material describes the substance of the thing itself onto which the form was received, and the final cause is the inherent purpose of that object, like if it is to be used to educate or if it is to have fun or if it is to be used with more complicated arrangements. The brick's teleology is unrelated to the action of being thrown through the window. The brick certainly has the ability to be thrown at the window, and there is a certain potentiality passing into actuality, but the brick hitting the window is not a final cause.

Were Hume's setup to be understood in an actual teleology, and the final cause of a brick to be thrown at a window, the validity of such a final cause and of teleology in general would not be determined by the brick's success on being thrown through the glass and breaking it. The final cause is, in fact, irrelevant from the brick's success. The final cause simply states what the brick would be predisposed to do or what it is inherently directed to do during its existence. So while Hume thought he had overturned Aquinas' logic and was discrediting the past, what happened instead was that Hume ignored it and pursued his own logic absent of, and even in denial of, previous support and left teleology to stand untouched.

Other philosophers had other similar objections to formal and final causes. Feser brings up a joke made by Molière, where there is a "doctor who pretends to explain why opium causes sleep by saying that it has 'dormitive power'"(Feser 180). It is a seemingly funny statement because it seems to be a tautological statement, summatively saying that the opium causes sleep because it causes sleep and is therefore useless information. It is meant to target that idea of a formal cause, reducing the value that a formal cause brings to the table of knowledge, a statement about what modern philosophers thought about the premise of a formal cause. As Feser carefully points out, though, this is not what the statement is. A better rephrasing of the statement is that opium causes sleep because it has the power to cause sleep. In the end the statement "Opium causes sleep because the chemical structure of opium is such that, when ingested, sleep results" is hardly more informative" (Feser, 181). They both equally serve as starting points and are not tautological, both being true.

Locke also tried to take a stab at formal causes, trying to argue that they don't exist. He put forth that people born unnaturally short or that people born with terrible defects served to show that forms and essences don't exist because these people couldn't possess the same form that normal humans did. His conclusion was that since not all people that fit within our definition of 'human' are consistently the same, that forms can't exist. Yet this goes in contrast of what previous work said, which was that a form can be instantiated with various levels of perfection. Just because someone doesn't have an arm doesn't mean they don't possess the form of humanity, it just means that their bodies didn't fully embody the form.

These arguments against formal and final causes, with faulty logic in all, is how Feser sums that "the main objection to Aristotelian Scholasticism is that we just don't *need* it" (Feser, 183). In an effort to prevent the "divine foot" from getting in the door, these philosophers did what they could to argue that formal and final causes did not exist, so that they would not have to admit the necessary arguments that follow in Aquinas' work, for example. For Feser, the most important thing that shifted during this tie was not an improvement of philosophy, according to modern thinking, but the fact that Aquinas' and other Scholastic work could be rejected before they were even brought to the table. Feser states that "while the early modern philosophers and their contemporary successors quibble over this or that argument of Aristotle, Aquinas, and Co., then, what they *really* don't like are *the conclusions*" (Feser, 176).

Yet where Descartes, Hume, and other philosophers at the time ultimately stand in contrast to the previous time is primarily with their rejection of the human soul as a

hylomorphic part of the human existence. The crux of Hume's arguments are not primarily about what is happening on the exterior of the person and an honest discussion about what is happening in front of the person, it is what is happening on the interior, the ultimate claim being that what is intellectually true may not be sensorially true. Yet what is sensorially true may be all that is true or what is intellectually true may be all that is true.

For Descartes, science is about and describes the physical world, and is objective because it is external to the mind. But science itself "takes place… *within* the mind, consisting as it ultimately does of thoughts, concepts, theories, and the like… developed on the basis of sensory evidence" (Feser, 197). This thinking is clearly what presented problems for most people in general when considering these philosophies, but it is here that we turn to Descartes to find a resolution and an acceptable way into common thought. Descartes essentially argued that to overcome the paradox of the mind and body not having a trusting relationship, it is understandable to say that God created us in such a way that we can simply trust our senses enough to trust that what we sense is real. For this modern philosophy, God's arbitrary presence is required where, Feser says, it was not arbitrarily required before.

Yet here problems abound. Descartes' idea about the human soul, as a Platonic ghost that controls a human machine, makes the hylomorphic soul into a strange substance of its own. The body has quantifiable traits and the soul doesn't and so the body is a normal substance but the soul is a substance that doesn't have quantifiable traits. For an empiricist this means that there can be no causal relationship; it disqualifies the soul. An empiricist is left with what seems to be a more easily identifiable idea of the human body and largely ends up dismissing the soul simply out of necessity.

Science becomes a study of not just knowledge, but knowledge as Descartes describes it. It is that which we see and can empirically study in the world in front of us. This view of science, though, adopted by conscious or unconscious followers of Cartesian philosophy, hasn't gotten rid of the paradox that Descartes came across. While Descartes dismissed the paradox and used God to fill in the gaps, current philosophy that stems from Descartes is still looking for an answer. The mind-body problem, here, is considered a "traditional" problem of philosophy, but it only began with the Moderns. Feser points out that most of the other "traditional" problems have the same faulty starting point, namely from Hume, Locke, and Hobbes.

One such problem is the problem of skepticism, left to us in large part by Hume. Since there are no formal and final causes then there can be no reliability between the mind of the observer and the reality that is supposedly happening in front of them. Hume says that the thoughts in our minds are "mental representations" that aren't actually caused by observed things. This leads to the idea of nominalism, that everything is its own individual thing and that there is no actual connection between anything, especially that which we observe and that which we think. Nothing in reality can be trusted to be consistent. Similarly Hume brings us the problem of induction, that plays off of the problem skepticism. If nothing can be trusted then causes between things cannot hold to be true. The idea that an apple seed always grows into an apple tree is a fallacy, since every seed is intrinsically different from the other. There is no reliability to be had. Hume, while technically a supporter of the scientific method, undermines science and makes it unreliable as a source of knowledge.

Another problem is the personal identity problem, jointly brought by Locke and Descartes. Following the mind-body problem, there must be an inherent skepticism about when a person is a person and when they aren't, or if a person's identity is linked to their physical memory, meaning that a comatose person might not be a person. If a mind and body are truly separate, as Descartes holds, then it stands to reason that a person need not always be the person they say they are. There is nothing that intrinsically makes any one person that person, and they could be another in a moment's change. If the mind is likely to not exist, as Locke holds, then a person's identity is to be entirely held within their material selves. But when is that person there? At conception? At birth? At age seven? Do they stay there until a certain age? Until they are sick? If they are comatose? It is a logic that proposes a person may not be a person even though they clearly are. Locke, for this reason, was a conceptualist, counter to Hume's nominalist ideas, saying that universals and forms existed, but somehow contained within the mind. This way he could claim something of a knowledge of the world, flawed as it may be. While Locke still argued for personhood, Feser adds that these paradoxes "have led contemporary philosophers like Derek Parfit to conclude that there really is no such thing as a 'person' or a self as traditionally understood" (Feser, 206).

Yet another problem is that of free will, brought to us again by the lovely Descartes. Aquinas claimed that we have a will, as a necessary part of our soul. Yet if there are no formal causes then humans can't have wills, and the mind is a machine just as much as the body that is enslaved to the blind laws of nature and has no capacity to make a 'free' choice. It is only ever subject to what it experiences. This stands in contrast to our perception of the world where we do have free will, and this problem has left many philosophers struggling.

There is also the problem of natural rights, as brought to us by Locke and Hobbes. Feser discusses how the notion of rights was not something brought up before modern philosophers. Previously a discussion about what was good or bad in a natural way was in reflection with things' formal and final causes. It was wrong to disrupt the natural flows of these causes as they were supposed to transpire. Now, though, in a natural, mechanistic way, everyone has the "right" and ability to do whatever they want. There has to be, according to Hobbes, an arbitrary morality that exists so we don't all murder each other. This presents a problem for how to know what is naturally appropriate for us or not. Locke does something very similar to Descartes, where he just pulls God in to fill the gaps. He says that we are God's property, and if someone harms another's life, liberty, or property then they harm God's property, meaning that justice can be brought on them.

Finally we consider one more problem: the problem of morality in general. Hume and Hobbes bring us this problem, posing that since there is no form of good or bad then nothing can be said to be good or bad and that all morality is arbitrary. This idea suits the modern because we are then allowed to make whatever we want into a morality and are not dependent on an objective reality that holds us accountable.

After these 17th century philosophers, the previously hylomorphic world is torn apart. To study the soul, something unobservable, becomes a different game than studying the body. Philosophy and the sciences trend from here into the more physical realm of things. People of the current time, the true heirs of Cartesian philosophy, are the materialists.

Since Descartes, Feser proposes that a tradition of sorts for philosophy was re-established and now it is understood that once again it is necessary to build on these traditions, but the consequence is that modern philosophical 'ancestries,' if you will, stop at philosophies of the 17th century, if they even go back that far. What makes Feser's writing unique about St. Thomas Aquinas, that differs from other writers who bring to us writings and interpretations from the past and even the "past" of early modern philosophers, is that Feser doesn't modify or produce new knowledge when it comes to Aquinas, necessarily speaking. By this I mean that Feser doesn't need to improve on Aquinas' logic, or that he doesn't need to cut out certain parts so that everything follows in spite of how modern science has revealed new information about the world. At best Feser simply translates Aquinas' arguments into language that the modern individual can understand, like more modern metaphors that include coffee makers or computers. Aquinas was unique in his writing style because he wrote by proposing arguments and then proposing counterarguments, and then answering those counterarguments. That progression of logic IS the *Summa Theologica*. Feser proposes that had Hume properly read Aquinas, he would have found his counterarguments answered, but because of the new trend to buck old tradition, he simply didn't look for or find them.

TO SUCCINCTLY SUMMARIZE A COMPLEX CHANGE IN THOUGHT

Just as, then, Foucault describes a progression of science that is increasingly specific and individual focused, Feser describes a philosophy that is incredibly more and more

mechanical. Through Foucault, we see that scientists are interested in studying the mechanics of humanity and that we are seeking to understand systems in which we participate and systems that enable us to participate. Through Feser, we see that we are increasingly convinced that this mechanical nature is all we are and that there isn't any more to us, leaving difficult consequences for the study of languages. Most importantly, however, to validate what has been read here, is to observe the commonalities of these authors' work. Feser focuses on a record of opinion and philosophies while Foucault focuses on the abstract epistemology of many characters of various times, and they arrive at similar descriptions of the progression of knowledge. They both describe a world of knowledge that stayed more or less intact up until the 17th Century, whereupon that progression became disrupted. Old ways of thinking were bucked and disregarded, making way for new ones. These works are complements to each other, and serve as a base to connect knowledge of the modern time with knowledge of a much older time, the very basis of this book.

The best locus on which to center a comparison between these two philosophers is *science*. Ultimately the discussion of science is what this is all about. Remember that Latin *scientia* means *knowledge*. For a large part of Western civilization's history, the idea of *scientia* followed a certain paradigm. Foucault seeks to describe it in a loose and abstract way that does not appeal to any specific or explicit mode of thinking. When looking at the work of Feser, we see, however, that it is quite reasonable to depict a large base of the sort of thought that Foucault describes as a legacy of important philosophers like Plato and Aristotle. The forms of either Plato or Aristotle are very easily the same third-party sign that

Foucault dances around and does all but name. If we name the logic, then it is much simpler to describe this sort of pre-classical (Foucault) or pre-modern (Feser) thought: an object possesses a form and an intellect that studies the object comes to possess that form as well, and thus knowledge seems to be a three party system, as Foucault describes: the object of study, the intellect observing it, and the shared form possessed by both. Foucault does not specify which theory of forms is more important, that of Plato or of Aristotle, but we see by his mention of the "unthinkable space" that he tends to see the Aristotelian mode of forms as more relevant. So even as Foucault so carefully sought to find a description of thought that escapes these specific terms, he has simply done his best to re-articulate the concepts without using their historical names. Feser does not shy away from recognizing the legacy of these philosophers' work. He plainly discusses the significant role that Plato and then especially Aristotle had on a large part of the history of Western Civilization. Most important to understanding their place, however, he demonstrates that philosophy was a process of refinement. When Foucault talks about an infinite world of sign and resemblance that can uncover knowledge, he also says that these discoveries can go on forever. What Feser might add is that this knowledge was not without direction; it was always in the process of refinement, seeking out more solid truths. No better example was of this than St. Thomas Aquinas.

As both authors begin tending to the 17th century, the resemblance of their work continues. Foucault describes a shift in knowledge that removes the third party from the process of knowing things, and only leaves two parties: the object of contemplation and the observer of the object. Using Feser's work as a comparison we can simply restate that the

notion of a realist Aristotelian metaphysics is removed and what is left is the conceptualist notion of reality, where the concept exists in the mind of the observer and the object of contemplation exists without any other form that exists in both. There is only the mind and the observable, observations being made most often through the scientific method. There was still a mystical element, however, in the 17th century. Feser describes that philosophers, especially Descartes, still held the existence of something like a soul to be true, just not in the way that previous philosophy claimed it to be. This notion of a two-party way of knowledge is what sets the stage for Foucault to describe the Classic Episteme. Foucault, though, looks at this time as one step in the progression of change of knowledge, while Feser looks at this time as a negative and disruptive downturn in the tradition of philosophy, namely that the moderns simply decided not to uphold it. The refinement that was working its way down through the centuries was all of a sudden put on hold. Foucault does not name any specific cause to this shift in knowledge, but Feser plainly points to the Protestant Reformation as a key player. Like it or not, anyone in the current time cannot reject the importance that Christianity had on shaping the western world. The blame seems always to be pointed toward the Catholic direction, but the Reformation here is as full of cause for the way that the modern philosophers of the 17th century decided to approach philosophy. The issue at hand is not that the philosophers expressed new ideas, it is that the new ideas they articulated were made in ignorance of previous tradition. They disavowed the conclusions without addressing the arguments or the rebuttals. Aquinas' greatest work, the *Summa Theologiae*, is made out of his class lectures. They are articulated by Question, Aquinas' own Answer, the best counterargument from the opposing side (which, even though written by

Aquinas, has been noted to sometimes be better counterarguments than what his contemporaries or later philosophers could articulate), along with Aquinas' final answer to the counterarguments. Feser tells us that it is like the moderns answered Aquinas' conclusions without having ever read his work.

Foucault then makes another adjusted episteme around the beginning of the 19th century. Feser does not make an explicit reference to a similar change, but he does appeal to similar types of knowledge that Foucault does. Foucault marks the 19th century as the beginning of current science as we know it in the 21st century. Here the fields of biology and physics all take their own place and become independent from each other and the modern definition of a system is ironed out. The heart was understood to pump blood but now it was more established that the heart was just one part of the cardiovascular system, joined with other systems to form the human person. Feser evaluates "the descent of the modernists" as beginning with Descartes but continuing on to the modern age with no solid break, but the resemblance of their discussions still exists. The moderns, Locke, Hume, etc., all assumed that the mind existed if not by some measure then at least by the way of Descartes in some Platonic form, and so Feser claims that the unstable foundations these philosophers made gave way. Once these philosophers' time had passed, the philosophers that came in their wake forwent the assumption of the existence of the soul and embraced an entirely materialist view of the human person. Since Descartes reduced the soul to something that is like an estranged substance that is vaguely material and causally related to the body, yet is also absent of quantifiable features, subsequent philosophers could not effectively rationalize the existence of the soul along with the body. What was left was the

mechanistic and purely materialist view of the human person – the same one conceived of by Jackendoff and other modern linguists. If for the modernists all that is left is a material world, then the only way to gain *scientia* is through the sciences as we know them currently; that is, through the scientific method. It means that any possible knowledge is thought to be within the realm of the material and that there cannot possibly exist anything outside of it. Yet there is a problem, because the current philosophical base of the scientific community has not actually addressed the paradoxes of Descartes' time; they have instead inherited them in their same construction. They are left with a general list of "traditional" philosophical problems that are, to them, no burden sitting on the back burner, waiting to be resolved by some future scientific discovery. Feser depicted this as a descent: and he was right. The problems and paradoxes of the philosophy that undergirds modern science will not be resolved by future scientific discoveries; they simply cannot. By using this overview of the history of science and philosophy, the logic of Aquinas and the context of modern science can be bridged and a more proper and complete view of knowledge can be laid out. The philosophers of the 17th century did not have the benefit of seeing their philosophies taken to their logical extremes, yet we now do, and we see their flaws played out. Here I can now perform a proper synthesis of a solid metaphysics and current language sciences, connecting the long forgotten soul with our newly discovered linguistics.

THE CURRENT PHILOSOPHY OF LINGUISTICS

"Any adequate theory of language must begin with the fact that even the simplest sentences contain at least this rich a structure. Although I don't feel comfortable making moral statements, I will make one nevertheless. In my opinion, if one wishes to join the conversation about the nature of language, one must recognize and acknowledge this complexity. One need not have an account of all of it, but one may not willfully ignore it and still expect to be allowed in the game. This is the minimum that scientific responsibility demands" – Jackendoff, *Foundations of Language* (p.18)

There has been no text so satisfying to me to read about linguistics as has *Foundations of Language*. Part of the very critique that I have held against modern linguistic study is that philosophical foundations are seemingly ignored, and yet Jackendoff has done the opposite and he has engaged it. Not only has he engaged it but he has embraced it, full on, and puts forth his philosophical conclusions so that none may doubt that which he claims to know. There is something extremely satisfying about being plainly able to see someone's thoughts plainly written out, because there is no guess work as to what they mean. In the modern time there seems to be a loss of ability to politely debate and engage a fellow in argument over the truth of a topic, especially because it seems like it is said that there is no truth to be found.

I here acknowledge Jackendoff's challenge, saying that a full account of language must indeed embrace its complexity, and this I do. I don't know that I would call his claim a moral one, but it is a wise one. The framework that he lays out in the first chapter of his book, "Psychological and Biological Foundations," is an excellent image of the linguistic knowledge of the modern time. I intend on no front to disavow this image, because it is done more cleanly and excellently than what I might ever do. For the uninitiated, however, I do wish to summarize, briefly, that which the field of linguistics encompasses.

Linguistics, as a modern field, is the study of language as an abstract part of the human experience in an observable fashion. Science is conducted by observing what language is used and in what contexts, hypotheses are made and tested, and logical conclusions are made about the results. From a large swatch of studies abstracted theories are established. As time progresses the best theories stand the test of time as science reveals more and more about language than what was known at the start. If needed, theories are modified and adapted to accommodate new knowledge.

The field could categorically first be broken up into the subfields. Some of the more prominent ones are Phonetics, Phonology, Morphology, Lexicology, Syntax, Semantics and Pragmatics. These are the categories of linguistic knowledge that hold the most ground. Gaining ground are fields that have evolved more recently, and they are Psycholinguistics, Sociolinguistics, and First and Second Language Acquisition. Out of respect for the field of linguistics I may confess that I have not mentioned every single subfield of linguistics, but this is at least the majority portion. The first main chain of subfields is essentially each part of language from the most basic elements of sounds, to the sounds of a particular language, to

the way that words change in a language (morphing of words), to the body of words of a language, to the weaving of words in a language, to the meaning of words in a language, to the overarching emphasis behind utterances, respectively. Each field has a constantly changing set of knowledge and there is always more data to collect about changing languages and investigating languages of old. Psycholinguistics is a field that combines psychology with linguistics, investigating the brain and neurons and corresponding behaviors. Sociolinguistics deals with the cultural and social elements of language and the observable trends that occur surrounding language within a society at large (think acceptable forms of language vs. unacceptable based on the user's social standing as rich or poor). First Language Acquisition deals with the steps that children take to acquire their first language(s) and Second Language Acquisition deals with the steps that older children and adults take to learn a language that is not their first. All of the potential fields mix together depending on the specific researcher's background and all of the information feeds back into the field as a whole, and results in a large field of general linguistic research.

In the first set of subfields, dealing with the explicit aspects of language, much research comes from analyzing language that is used by native speakers to see what acceptable, and then logical deductions are made as to why certain things are used more than others. Most research questions, however, seek to investigate questions that find answers dependent on the body of language that is already used by a population and does not seek to abstract further past that. A phonologist is going to research a population's use of certain sounds, and is going to record the frequency and contexts of that sound and

which populations do or don't use it, but they are not likely to abstract much beyond their observations.

In the second set of subfields, experiments and research are done by observing people in certain contexts. By manipulating the contexts for each condition of an experiment the researcher can investigate things about language that result from specific behaviors of humans, whereas the first set depends on the bodies of languages that already exist between a multitude of humans. With this second set, however, interventions for different situations for different groups of people can be made in order to better their lives in regard to their language abilities or life overall. For example, a Second Language Acquisition researcher might study how and when learners make mistakes in the classroom around certain grammar points and then after study suggest an intervention that allows for improvement on the students' acquisition of a particular grammar point.

It may seem that dividing up the scholarly category of linguistics into so many subfields would be exacting information so precise to a minor function of the human experience that it would seem irrelevant. To the average individual it may seem entirely inconsequential to know the way that one pronounces 'p' in English, for example.. The truth of the matter, however, is that the purely phonetic contexts surrounding such a phenomenon is immense and does indeed require an expert that has studied phonetics to be able to tell you all of what that context is. While a phonetician will study more things than phonetics in his or her lifetime in order to make good research, it means no less that phonetics be its own subfield.

Jackendoff, in the first chapter of his book, approaches all of these fields, and primarily the first group of sub-fields (phonology, syntax, etc.), and works to demonstrate the structural similarities that they all espouse about the human brain. Most notably he articulates how all of these parts of language that are studied have a similar hierarchy of their individual components, and he points out that the similarities of the hierarchies are no coincidence. This is just the first chapter of his book, however. For the rest of the book Jackendoff does what I have seen very little of from linguists – he takes on the challenge of tying in the philosophical underpinnings necessary to make such a summative description of linguistics work.

The true beauty of his work, which I adore more than anything, is that it is a perfect text to follow the course of this work here. After surveying Aquinas and his philosophy and tumbling through a few centuries to show how the course of knowledge has changed, Jackendoff is situated perfectly in the modern time as a recipient of this course of knowledge, all being handed down to him, letting him serve as the perfect example of modern philosophy around language.

One of the significant things that Jackendoff does throughout his work is that he routinely appeals to Chomsky. He generally holds that Universal Grammar is indeed a central theory to language's existence, and that it merits staying there as a foundation of linguistics. UG has slightly fallen out of favor over the years and is no longer as strong as it was when Chomsky originally crafted his theory, but Jackendoff attributes this to people's general lack of understanding of UG rather than a failure of UG itself. His routine appeals to Chomsky's work highlight his incredibly intimate knowledge of UG, and even if many linguists do not

explicitly agree with all of his work, I believe that many epistemological assumptions modern linguists have can be summarized and defined using Jackendoff's work in this book.

So how does language exist and function, according to Jackendoff? First it is easy to articulate what Jackendoff says language is *not*. In the extreme bowels of modern linguistic philosophy is the notion that there is no meaning behind all the functions of the mind, and that we are a sum of our random neurons firing, and that "the scientific reality is lodged in the neurons and the neurons alone" (Jackendoff, 23). This idea insinuates that there are not determined functional areas of the brain, and that the whole organ works as a chaotic whole to complete its functions. Jackendoff refers to this as the "reductionist stance," saying that this viewpoint is generally used to "delegitimate all the exquisitely detailed work done from the functional stance." In large part it comes from neuroscientists who have access to study the actual firing of neurons and new technology for mapping the brain. By seeing and understanding how neurons interact, it is hard to imagine seeing anything remotely meaningful be a result of such a process. The conclusion? That all of the firing of neurons is the sum of who we are and is the sum of our existence. Seeking further within, and further within the biology of the human person to find the meaning and purpose of human function, they ultimately find themselves in the bowels of myelin sheaths and axons and conclude that they have found the core of human experience. If neurons firing is the core of who we are, then it seems unreasonable to think that there is any function of the type linguists have previously described. Ultimately Jackendoff suggests that this is simply not a constructive way to explore language, and looks away from it.

Understanding that neurons are the biological base, though, of how the brain that is our organ works, Jackendoff formulates an idea of language that connects the facts together. Jackendoff, following Chomsky, refers to language as a 'mental phenomenon' (Jackendoff, 19). He recognizes that logically, there must be a place within the person where language is centered, that is more than just the neurons that fire but still based in scientific (observable) reality. He points to cognitive structures, saying that functional models he previously referred to, ones used by linguists, can be understood as models of cognitive structures within the brain. Despite the seemingly meaningless action of neurons that constantly fire in our brains, he does push to see organized structure between various neurons to achieve some sort of regularity in the brain. Later he says that "no one denies that cognitive structures subsist on a neural substrate" (Jackendoff, 24), clarifying that he understands reductionists' tendencies.

Jackendoff solidly refutes, though, any sort of *intentionality*, seeking to move away from using terms like 'mind', 'symbol', and 'representation', which all insinuate something behind the cognitive structures that exist within the brain (Jackendoff, 21). By using these terms there is an end of possible confusion that might lead the linguist down a road of "traditional problems" (a laughable offense, to later be answered), and so all effort should be made to avoid them. Rather than use terms that insinuate something deeper and lying underneath that which exists in the brain, Jackendoff insists on the use of more "functional" terms, that refer to the function of cognitive structures and to nothing else.

To help the reader understand the extent of what these linguistic functional structures are, Jackendoff compares human experience to computers – brains are like

hardware, language is like software (Jackendoff, 22). There is no 'programmer,' of course, unless anyone were to dare assume anything deeper into the significance of the metaphor, and "the brain has no 'executive central processer' that controls all its activities" (Jackendoff, 22). There is not a specific reference to it in the text, but I would venture to say that Jackendoff would sincerely liken the functional 'software' of the brain to a Machine Learning (ML) program. For the uninitiated, ML is a term that refers to a program set with certain parameters and a direction of growth. The program makes adjustments to itself to grow further into a certain direction and to do it more efficiently, all while fitting into a certain set of parameters that make sure it sticks to the task at hand. ML is the closest thing to artificial intelligence that science has created, since the software is able to self-adjust. ML is also expected to be an important field for the near future, replacing algorithm software everywhere. Like machine learning, Jackendoff might say that language and human experience in general develops in this fashion, the parameters of the program being the cognitive structures in the brain.

The similarities to software do eventually come to a close. Jackendoff ultimately appeals to the use of the word 'mind', as Chomsky does, and uses the notion of a 'mental' setup for language, but clarifies that it is primarily functional in nature. He refers to that which controls language as the "f-mind," or the "functional mind" (Jackendoff, 27). This f-mind is meant to circumvent the notions of 'traditional' terms about language and human experience, but also attribute a sort of structure to what is happening in the human brain. For Jackendoff, the f-mind situates itself somewhere in the middle between 'traditional'

conceptions of human experience and the purely bio-mechanical substrate of neurons, a necessary and still scientifically viable notion of language and the mind.

This notion of the f-mind is further understood when Jackendoff moves away from talking about words alone and incorporates the notion of grammar. He views language and rules of grammar as being situated in the "metaphysical domain between the conscious mind and the physical neurons: in the functional mind [f-mind] introduced in the previous chapter" (p.56). In sorting out specifically what grammar looks like in the combination of the f-mind and neural instantiation he brings up the idea of a computer program, thinking of grammar as rules that are written into a high level "of the processor's program (Jackendoff, 57). Thinking of machine learning again, we can see Jackendoff's view of grammar as the parts of the program that have been adjusted and re-learned as the program encountered new information in the world, adapting and accommodating it all to its core programming. It is important to note that, logically and philosophically, he appeals to meaning of some kind construed within the mind. To admit that there is an f-mind is to say that there are regularities and patterns that can be established within the mind, universal ideas and abstractions that move beyond the particulars of worldly observation. He holds, then, that some sort of meaning is being interpreted by the conscious mind, and that we are not a sum of random neuron firing, or that what is 'cognized' is not an infinitely large sum of particulars. In short, he refutes the age-old notion of nominalism (even though he doesn't recognize it) and pushes for something more. Nominalism is a philosophical idea, stemming from Medieval times from such philosophers as William of Ockham, of the mind that says everything we experience is different and new and that no patterns and abstracted

generalizations can be made about our human experience, everything thus made out to be particular to itself. Any notion of 'dog' is just a figment of our imagination, as all things that appear similar to dogs are just similar particular things, all actually and substantially different from each other. Jackendoff, by establishing the f-mind, effectively waylays the possibility for such a notion of 'knowing,' even if he would not care for the use of such a general term.

If not via traditional arguments against nominalism, it is still feasible to demonstrate that Jackendoff rejects the idea through his own observed rejection of behaviorist linguistics. Jackendoff unapologetically holds to Chomsky's ideas, those that were based on anti-behaviorist principles. Behaviorist psychology could perhaps be understood as the most materialistic oriented view of the human person to have developed out of modern philosophy. The idea is that nothing within a person could be construed as order beyond the observable patterns of organ function. If humans are truly material beings, and everything done in a human could be replicable by another species of creature, then it stands to reason that human brain function is akin to animal brain function, the difference lying in the precise organization of neural structure or general size of the brain. The most popular research to come out of behaviorist psychology could perhaps be that of Ivan Pavlov. Pavlov trained dogs to salivate at the sound of a bell by using an approach of *conditioning*.

The general notion of behaviorist psychology assumes that everything about human behavior is a result of specific conditioning, and that without conditioning we would be nothing like the people we set ourselves up to be. Language, also, is conditioned due to how we grow up in societies, meaning that nothing of our behavior has any meaning beyond the conditioning imposed on our persons from exterior societal structures and behaviors. If an

individual's behaviors conform to society then they are approved and if they conflict with society then they are repressed. This is why it is important to answer how children can form original words or grammar combinations in natural speech. Behaviorist psychology does not allow for this to happen. If children can form original speech that have not been previously heard in their input, then behaviorist psychology is false. A behaviorist view of language is, essentially, nominalist. When everything that occurs in our individual persons as a result of conditioning, it means that there is no meaning stored within the individual; it is all sourced from our external conditioning.

Since for Chomsky and Jackendoff a nominalist approach is not acceptable, they need another. They need a view of knowledge that is accommodated by the f-mind. To reiterate, the f-mind, according to Jackendoff, is not the mind, but something that is similar to what we think of as the mind. It is the functional program that allows for the processing of information and language. Using once again the idea of machine learning as being a good analogy of the f-mind, we can now address how Jackendoff understands the f-mind as coming into existence. He specifically refutes the idea that there is a programmer (or Programmer?) that puts the program in our mind and that it is simply there, so how is it that the f-mind has come into existence? Here most articulately Jackendoff appeals to UG (p. 71). Pulling directly from Chomsky, Jackendoff points to UG as a biologically specialized 'prespecification.' In other words, the notion of the f-mind is a specifically specialized construal of neurons set up by workings of DNA, aligning neural structure so as to achieve the necessary hardware set up, the program flow of the f-mind simply a natural result of the prespecified structure.

As much as I have used Jackendoff as the embodiment of modern linguistic philosophy, he himself rejects the idea that he is summarizing as much. He does not think that Chomsky's work, as it stood at its creation, is entirely fit for the modern time, and that "it requires a certain amount of polishing, repair, and retrofitting in order to get it into appropriate shape for the Age of Cognitive Neuroscience" (Jackendoff, 71). He writes an excellent summation of revisions to the theory of UG that synchronize Chomsky's work with novel science, especially due to "the work done by resolute opponents of Universal Grammar" (Jackendoff, 71). Reading this section of his work has an uncanny similarity to reading Aquinas, who echoes the work of Aristotle and refutes common arguments to central Aristotelian philosophical claims. In short, while the topic of UG may be a hotly contested item within the field of linguistics, Jackendoff's work provides the philosophical and logical base of the field of contest rather than single-mindedly approach the debate, and his move is highly effective.

The significance of the fact that UG is a solid base for the modern field of linguistics? Jackendoff also shows how a majority of modern linguistic knowledge can be summarized underneath the principles of UG. By using this knowledge, he builds an effective diagram of the prespecified structure that Chomsky had an idea about having existed, one that supports the position of the f-mind from the natural interaction of its parts.

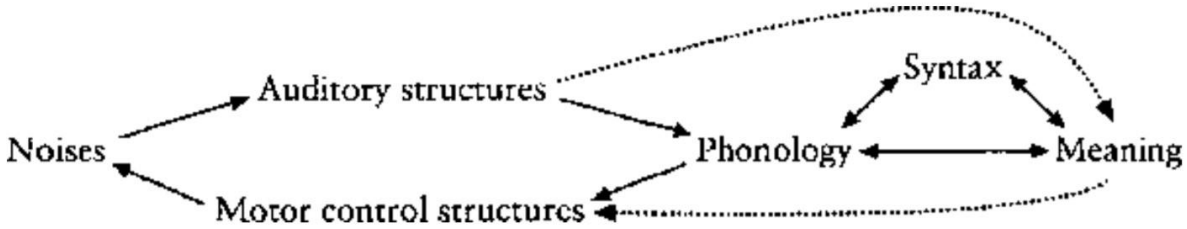


Figure 1 - Modern Architecture by Jackendoff (p.261)

This diagram is nothing short of beautiful. He develops the diagram over the general course of his analyses of different fields of linguistic knowledge and I would be out of my league to try and diminish the summative work that Jackendoff has conducted. There is an element, though, of his model that stands out to me more than any other notion, and this is the end-stone position of *meaning* at the end of his diagram.

Jackendoff is very aware of this matter as well. He has noted, though, something incredibly important about the nature of his diagram: "As observed in Chapter 4, meaning is the "holy grail" not only of linguistics, but also of philosophy, psychology, and neuroscience" (Jackendoff, 267). As a matter of analysis of modern linguistic science, it is simply evident that meaning is central to understanding the existence of language and even reality itself. There is an issue for Jackendoff to overcome from this evidence, though, as he must engage not in scientific debate as much as he must engage in *philosophy*. In truth he has already done it, for he even states that

> "I think it is fair to say that nothing at all is known about how neurons instantiate the details of rules of grammar. In fact, we don't even have any

idea of how a single speech sound such as /p/ - much less a category like NP – is instantiated in neural firings or synaptic connections" (Jackendoff, 58)

What this means is that the logic of what is being discussed has transcended the physical domain, and we are now engaging in the metaphysical and philosophical domain. That is where his logic exists. In the part of the book where he openly engages in philosophy, he admits that "the relation between the philosophy and the dirty work [linguistic science] has to be a two-way street" (Jackendoff, 268), meaning that linguists cannot ignore this necessary philosophical work that must accompany their own.

For Jackendoff, it is not about whether meaning exists, but rather *how* it exists, since it is clearly and observably necessary for the function of language but is tangibly difficult to find. So how does it exist? Here Jackendoff floats a contemplation of possible ways that that meaning exists, engaging in previous thought on the matter. Pretty quickly he engages the notion of realism, the idea that meaning is based on abstract universal ideas that exist in the world as much as in the human person, but solidly refutes it. His brief review of realist semantics of recent history comes to the following statement: "But on the whole "language" is taken to retain its common-sense status as something "out there in the world" (Jackendoff, 296). In other words, Jackendoff understands realist, formal semantic work to conclude that language is physically present in the world itself and that users are grasping at a language that exists already in some manifest way of meaning. Yet up until this point Jackendoff has built a case of language which is primarily residing in the f-mind and in the individual themselves. There is a deep conflict between an idea of language that exists in the world and a language that somehow exists in the f-mind. He attempts to reconcile the

two notions at hand, but ultimately feels that there is a more fundamental problem at hand. He explains that any sort of grasping of concrete objects can most likely be understood via stored neural memory of sensations, but that there is no way to 'grasp' abstract objects:

> "But an abstract object by definition has no physical manifestations that can impinge on the nervous system. So how does the nervous system "grasp" them? Without a careful exegesis of the term – which no one provides – we are ineluctably led toward a quasi-mystical interpretation of "grasping," a *scientific dead end*" (Jackendoff, 299) [emphasis added]

This idea, that there is no way for the human person to grasp all of language in such a neural fashion, means that realism is inevitably refuted. With realism refuted, and nominalism inherently refuted earlier on, there leaves one classical route of interpretation of meaning left for Jackendoff: conceptualism. Any guesses on where he goes?

By invoking the notion of an f-mind, something that doesn't exist firstly in the neurons of the brain but somehow in between them, Jackendoff logically follows his ideas to their own conclusion, the general notion of which is conceptualism. Conceptualism acknowledges the need for some sort of existence of abstract ideas in the mind that transcend the immediate particulars understood by a person, but doesn't take itself as far as realism. It allows for abstracted meaning, but localizes the abstracted meaning within the physical domain of the human person, not allowing a real connection between that which exists within the person to that in the world. Jackendoff's overall philosophical solution for this situation is to conclude something very similar to Descartes, assuming the existence of

an understanding, but localizing the understanding within the individual. All that we can know, according to Jackendoff's theory, is that which is abstracted from our experience and is somehow negotiated, or 'tuned', with others through interaction. Jackendoff himself summarizes as much:

> "For present purposes, the point is that "tuning" seems to me the last piece we need to close the loop in creating a conceptualist account of reference and truth. Not only is our conceptualized world our own reality, we constantly check whether it converges with everyone else's" (Jackendoff, 332).

He adds later that "I have no illusions that this work is over, but it strikes me as a path well exploring" (Jackendoff, 332), pushing that his idea is needing of perfection, that his ideas are still very fresh.

In contest to Jackendoff's writing, however, I answer him that his ideas need less refining and exploration as they need comparison to that which already exists in the body of western philosophy. Jackendoff himself involves realism and conceptualism in his work, and I have gone to the extent of involving nominalism where I have seen it in his work as well, but the reality of his work is that it is nowhere near fresh. His summative work from the field of linguistics adds an incredible amount of empirical data to the conversation, but his ideas about meaning and how they relate themselves to the person are as stale as the Stoics. Despite the age of the trifectum of realism, conceptualism, and nominalism, though, the more important truth of Jackendoff's work is that he is a prime example of a Cartesian

philosopher, someone who appeals to a 'tradition' that extends to only a very recent body of knowledge, rather than all of it. Conceptualism, due to its age, is refutable not only with current knowledge but primarily with they who fought it the best: Aquinas, for one, and even *Aristotle*.

The use of Jackendoff's language as he constructs his work places him fairly and squarely at the modern end of the arc that both Feser and Foucault depict; their work may seem abstract and irrelevant to the values of modern knowledge, but they have their evidence in a long tradition of writing, the end of which sits in Jackendoff. To read Aristotle, and then Aquinas, and then understand the arc of philosophical history as Feser and Foucault explain it, it follows that Jackendoff is nearly predictable.

According to Foucault, the modern sciences are accorded a large number of underlying notions about reality that direct the more conscious knowledge one contemplates about the world. In the modern era, such assumptions are things like notions of 'systems', mechanically oriented processes that have functions, the individuation of human persons that makes them metaphysically separable from their brothers and sisters, and especially the idea that studies of evolution, ethnography, and psychoanalysis can uncover underlying truths about our existence, even without direct evidence.

Jackendoff, of course, is a prime example of a scientist using these underlying assumptions about reality. He never questions the systematic nature of language, assuming that answers about the nature of language reside in the realm of 'function'. Before engaging directly with the discussion of philosophy, he incorrectly assumes to propose a few "surely

uncontroversial" postulates: "[1] People find sentences (and other entities) meaningful because of something going on in their brains" (Jackendoff, 268). In other words, he is entirely positive that the nature of language solely resides within the realm of a functional organ, the brain, meaning that language is based purely on function. His second postulate is that "there is no magic," where he further explains that "we seek a thoroughly naturalistic explanation that ultimately can be embedded in our understanding of the physical world" (Jackendoff, 268). What he is getting at is that notions of the soul, as "traditionally" explained by Descartes, are magical, rather than being founded in logical endeavors. Of course from this postulate we understand that Jackendoff also is referring to 'magic' as a negative and illogical concept, a notion with which writers such as G.K Chesterton and J.R.R Tolkien would find intense quarrel. Jackendoff's third postulate is that "meaning is central to everything human" (Jackendoff, 268). While this is a statement that actually agrees with me and with Aquinas, its combination with the previous two postulates demonstrates that Jackendoff does not view meaning as a notion of reality, but simply that is relegated to the function of the brain and subordinate to human experience, a functional element of a system.

The other two main elements I bring up from Foucault are also self-evident in Jackendoff's work. If meaning is subordinate to the human experience, for Jackendoff it means that meaning is subordinate to the individual human experience, meaning that everyone exists, in a manner of speaking, in their own individual worlds, and that contact between them is anything but metaphysically guaranteed. To deduce a conceptualist view of reality is to deduce a view of individuality that exists just as, if not more, importantly than

the rest of what we know together. This means that the study of the world begins with the study of the individual man and expands outward, emblematic of what Foucault depicted for the modern time and simply emblematic of modern science.

Further, Jackendoff needs to find a general cause for how all of these things occur. Just as Foucault generalizes about the modern time, Jackendoff pursues evolution as a cause of language and of humanity searching for meaning, not because there is evidence of evolutionary progress between a species of man that cannot speak to a species of man that can, but simply because evolution serves as a general story to explain anything biologically present in man. Whether evolution has ontological weight or not is irrelevant to the situation, what matters more is that Jackendoff conforms to the general episteme that Foucault described about the modern time, appealing to evolution to fill in where there isn't actual evidence.

Feser's description of modern philosophy is no less evident in Jackendoff than Foucault's description of modern epistemology. There are certain hallmarks of modern philosophy that Feser attributes to the modern time, and they can readily be found in Jackendoff's work. First is the idea that philosophical tradition somehow begins with Descartes. Descartes self-declared a new tradition of philosophy, bucking all of that which came before him, a principal result of this being all subsequent philosophers believing they have the authority to do the same; since that manner of studying philosophy only began with Descartes, any tradition is assumed to go back only so far as he. This, only when absolutely necessary or when it is desirable to ridicule past philosophy in favor of new philosophy, because that which has progressed is always better than what came before. If

modern philosophy is all that can be referenced for argumentation, all the better. Second is the notion that humans are only mechanical beings and that they can only possibly be mechanical beings. Similarly due to Descartes' metaphysical separation of the mind and body into separable entities, modern philosophy has, in a general manner, upheaved the idea of the existence of the soul because there is no way to rationalize a non-connected, transcendental organ of the human body. In a way of necessity, modern philosophy can now only assume the sole existence of the material person and doesn't pretend otherwise. Thirdly, Feser points to a philosophy of positivism, or scientism. After a modern philosopher has accepted the idea that humans are only material creatures, there follow assumptions that all of which can ever be known about the world will be summed up in scientific, a.k.a empirical, knowledge. If something is unknown now, such as how the consciousness resides in or between the physical neurons of the brain, then it will surely be known in the future through the scientific method, we only have to wait until someone makes the right discoveries. This waiting, this hope, this faith in the scientific method is known as 'scientism'. While science is a form of logic that encourages the followers of its routine to accept whatever truths have been presented in front of them, scientism is a way to shield oneself from truths that disagree with one's understanding of reality. Even if evidence, perhaps not empirical in nature, directly contradicts what one thinks they know about reality, one can put off accepting the evidence under the guise that they are just going to wait until science eventually proves what they understand to be true rather than proves what the non-empirical evidence says. Scientism, of course, is a fallacy that unravels itself quite naturally

when one contemplates the fact that the scientific method is not an observable phenomenon, and only exists as abstract logic.

Multiple times Jackendoff mentions Descartes as though he were philosophical tradition incarnate, or as though his work is the hallmark of traditional philosophy (p. 21, p. 94, p. 374). Jackendoff also demonstrates an extreme ignorance of philosophy outside of this façade of tradition, especially in his critique of realism where he says that there is a need for "…a careful exegesis – which no one provides" (Jackendoff, 299). The only reason that he has seen no careful exegesis is because he exists in the safe modern bubble of philosophy that predicates no true philosophy outside of the modern "tradition." His further descriptions of conceptualism, seemingly written from the perspective that he is an original author of the concept, are more simple proofs of the fact.

Having already shown how Jackendoff views humans as mechanical beings, I will turn to the third notion of modern philosophy from Feser. By Jackendoff's own assumptions about the fact that what is sought about knowledge is a "thoroughly naturalistic explanation that ultimately can be embedded in our understanding of the physical world" (Jackendoff, 268), it is further understood that Jackendoff places the scientific method at the metaphysical peak of knowledge. If that to be known is the physical, then the scientific method is the way it will be uncovered. In the previous quote about not having anyone which provides a careful exegesis of realism, he notes that the philosophy is a "a scientific dead end" (Jackendoff, 299). If it is a scientific dead end, then a scientismic thinker has no need to pursue it further, and so he assumes he does not need to prove anything more. Further evidence of his scientismic thought comes from a seemingly innocent comparison of

grammar to the laws of physics. In disproving the comparison between the two concepts he casually describes that "…laws of physics are universal and timeless. They are not acquired; they just *are*" (Jackendoff, 56). A common fallacy of scientismic thought is to think that laws of physics are scientifically proven bases of reality, like the infinity stones are in the Marvel Cinematic Universe. The fact is, however, that science only proves that certain matter has tendencies of behavior. It is abstracted from these tendencies that laws of physics exist, but they only exist in an abstract and non-empirical fashion. The laws themselves are not directly observable.

All of this is to say, though, that Jackendoff fits squarely within modern science and modern philosophy, in a non-surprising way. Even if there are other linguists that disagree with him on certain topics or notions, he represents a way of thought that is incredibly relevant to most thinkers. Even if they disagree with him on an opinion here and there, they are more than likely to agree with him on his assumptions about the nature of reality and the nature of the human person. It is there that the quarrel primarily resides, and not necessarily in his opinions about some of the inner workings of neurons and the brain and matters of scientific discovery which have proven themselves to be quite evident.

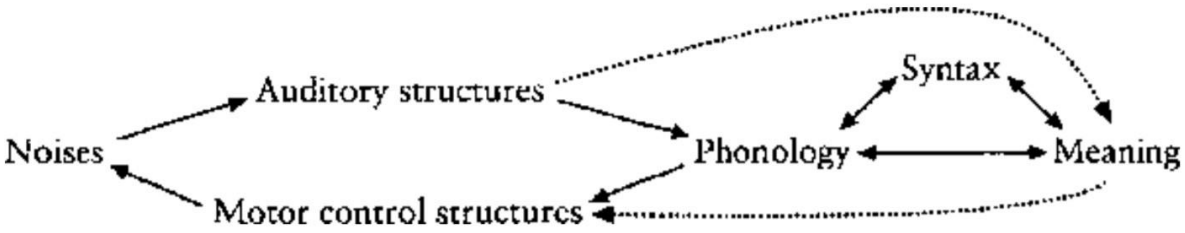


Figure 2 - Modern Architecture by Jackendoff (p.261)

Using his generic model of the structure of language – it is clear that he comes to a proper logical conclusion that meaning is the base of all knowledge and language, but he doesn't realize that the mechanisms in between aren't necessary to articulate to come to the same proper conclusion that the soul exists. When defending Aristotelian notions of causality, Feser brings up the tautological critique of formal powers of things. People have critiqued a summation of formal causality, saying that a phrase such as the one "Opium causes sleep because it has the power to cause sleep," is tautological, because it doesn't actually define anything and offers no explanation. This is false, however, and the statement is not tautological. A truly tautological statement would be "Opium causes sleep because it causes sleep." The former sentence is an actual explanation because it attributes the cause of sleep to something else, namely the power of sleep, rather than to itself. For the scientifically minded, looking for something detailing molecules and cause and effect patterns between Opium and bodily functions, Feser points out that one can replace the word 'power' in the first sentence with another sentence about chemical processes. "Opium causes sleep because it contains x molecule that interacts with y receptors of neurons and induces sleep with z quantity present across w number of neurons" is such a phrase, but just as effectively one can say 'power' instead of all of the mechanical explanations and still have logical weight. In Jackendoff's model is another similar notion. A modern reader of Aquinas might complain that the statement "The soul causes language because it has the power to cause language" is tautological in nature. They would be wrong, of course, because a truly tautological statement would be "the soul causes language because it causes language." The original statement about the soul causing language is indeed valid, and if the modern

reader wanted to they could substitute Jackendoff's model to somewhat fill in the gap between the power of causing language and the effecting of language in the human person, but it only adds so much to the discussion of the nature of language. Further, one would have to understand meaning as being outside of the physical domain, but that will come in later discussion.

Ultimately, however, meaning takes a central place in Jackendoff's theories, but the centralization of meaning, true and necessary to language, will be the central flaw of his philosophy, as functional meaning, or f-meaning (a term I am using, not one he used), is not that which actually exists. By attempting to localize a theory of language entirely in the empirical domain, he has landed himself in a paradox, a paradox with no resolution, a philosophically unsound location of meaning. His efforts to do so, however, are not without merit. He summarized a field of thought in a way that is unparalleled – I could not imagine summarizing the mountain of empirical data in a better way than he did. It is because of his effective summarization that I am able to write what I am now. With all of the summation of modern linguistic thought, it is still evident that the logic of the human soul exists, unchallenged, and is even *missed*. The error of Descartes must be reversed, and the fullness of an understanding of language *must* consult the soul.

LANGUAGE IN RELATIONSHIP TO THE SOUL

Knowing the course of meta knowledge as it has progressed from Plato to Jackendoff, I therefore make an argument that the soul is a necessary and essential component to understanding linguistics. By way of the logic of Aquinas, it is rational to claim that the soul exists. Instead of assuming the need to answer "traditional" philosophical problems handed down from the 17th century modern philosophers, I will instead sidestep their fallacies and develop a sound philosophy that can still embrace what positive work has come of our time by synthesizing linguistic knowledge with the soul. The current field of linguistics does not factor in the existence of the soul. Counter to that idea, I claim that one can only truly understand language in its entirety once they have considered its inherent relationship with the soul. Because every member of the physical body must find a principal cause in some part of the soul and be caused *per se* by it, the soul being the teleological form of the body, we must therefore understand that there is something in the soul that relates to and causes language. Once this other member is explained and established, the full context for linguistic knowledge is thus established. The supposed sin of modern linguistics is that language is only ever explored in a partial philosophical context and is thus, thanks to modern philosophy, an inadequate course of study. Now, however, the opportunity to seal the gap is possible with the admission of a solid Thomistic metaphysics, and thus find a study of Thomistic Linguistics.

It is not the case that modern science has not made any proper exploration or understanding of linguistic knowledge, or that I am suddenly discrediting previous work.

Indeed, what I am suggesting is a connection of two groups of preexisting knowledge that were previously distinct and separate from each other. When studying linguistics, one naturally should want to consider all factors involved. If all variables are not considered in a scientific study, then it is considered invalid or incomplete. Thus, in a general understanding of linguistics, if the soul is not considered then the body of linguistic knowledge stands as incomplete. It is understandable why the scientific community has avoided the topic of the soul as the soul is not a tangible and measurable element in the same way that neurons firing are, yet if due to such a presumption it is not included in the body of research then it demonstrates neglect.

So, then, let us consider where the soul fits in to linguistics. As does the logic of the soul begin with the simple and noticeable features of reality, we start with the simple and noticeable features of language. Observing language in the human person, one can say that there are many components at work to achieve it. The first noticeable elements are the External Components. We obviously recognize the mouth and its various subcomponents, including the throat with its vocal cords, as these are the most evident elements, perhaps besides breath, that produce speech. We also recognize the ears and all of their subcomponents as these are the parts of the human body that receive speech and begin the process of interpretation. The last External Component is the body as a whole because, while body language is not itself *language*, it certainly has the capacity to alter various words' meaning. The next set of elements are the Internal Components. The Internal Components consist of the various wires and computing processes, mechanistic terms I use entirely for their implicit convenience, that are neurons in the central nervous system

connecting the External Components to the brain, which is itself the core of the Internal Components. The final element that I propose for consideration is that of the Essential Components: the Intellect, which consists of the Active and Passive Intellect, and the Will. Assuming much from Scholastic terminology, I recognize that the Intellect, as a power of the human and rational soul, is the Essential Component of language. It is not the soul as a whole that is the Essential Component, because the Soul encompasses more than just language and whatever language sources and orders itself towards. The soul consists of many powers and even that of the Intellect is not solely dedicated to language but to knowledge as a whole. The Intellect, though, is in fact where all language originates in an individual and where it goes into another or one's self, serving as both formal and final cause in the teleology of language. It is also that which separates us from animals, and being that language is a uniquely human trait, we must say that it, and no other powers of the soul, is the true essential component of language.

It can be succinctly said that the External and Internal Components are the core of current linguistic knowledge. Any investigation into cognitive or behavioral science around linguistics is inherently concerned with these two component types. Phonetics, for example, is concerned with the reception and production of sounds through mouth, ear and even eye (see the McGurk effect[11]). Psycholinguistics is concerned primarily with the efficacy of words inbound and outbound through mouth and ears, and how neurons respond to these events.

[11] The McGurk effect is one available to us through modern technology. A video recording of an individual producing a certain sound *x* is paired with an audio recording of that same individual producing a certain sound *y*. A listener, rather than hearing sound *x* or *y,* hears instead sound *z*. The McGurk effect demonstrates that hearing is not a purely aural process for the human brain.

Syntax is concerned with the logical structure and ordering of sentences and how language is constructed and received in language groups; in other words, it is concerned with the way in which neurons fire to construct sentences on a level of thought and determine and comprehend what is acceptable language, creating a general theory of sentence structure. All of these fields necessarily touch on the edge of what could only be seen as the soul, but do not prioritize the engagement of such questions as these questions would leave the realm of the tangible nature of reality. They investigate and contemplate that which exists in the realm of External and Internal Components but go no further. Linguistics necessarily discovers scientific information about the function of language within a human and generalizes this information to say that it is the full breadth of linguistic knowledge, despite the fact that not every part of language exists within the observable domain. Certain research has begged the question of the soul, such as when psychologists and psycholinguists question consciousness or when second language researchers contemplate the importance of 'meaning,' but just as all other answers about language have been found in the material body, answers to these questions are assumed to be found there as well.

Aquinas and his philosophical proof for the soul already create a foundation for understanding why it is not good enough to understand linguistics in terms of mechanism alone. If linguistics is only understood in terms of mechanics then we only understand the what and how of language, or only the material and efficient causes of language, or only the External and Internal Components of language. ACTFL as a corporate entity, for example, does embrace this idea. They highly stress the four modes of communication (Listening,

Speaking, Reading, and Writing) but treat these modes, these mechanics, as the sum of what language is, failing to see the full depth of that which exists.

The intellect depends on the body and its mechanisms to receive knowledge, to produce knowledge, or to communicate knowledge with other humans, but the intellect is a power whose operation is independent of corporeal organs. One can conceive how the human soul might be separate from the human body at some point, and Aristotle and Aquinas both argue that the human soul persists after physical death, but during the physical life of a human one must acknowledge that the soul must be inherently attached to the body, the form attached to matter. As the soul is inherently tied to the specific instance of the body that it relates with, it must use this material existence to ascertain knowledge. Its operation is independent of the body, but its perception of reality is limited through our sensory organs. Were the soul to be emphasized as distinct from the matter of the body then a mind/body problem would be created, a Cartesian problem that never needed to exist in a teleological world, a Platonic problem that was firmly rejected by Aristotle and Aquinas. For this reason I adhere to the fact that the soul cannot view reality without the physical eye, at least during the physical duration of the body, and it cannot know something without processing experiences of reality through External and Internal components. For this reason modern science is still important, but the relevance of the soul is foundationally more necessary.

So how do the components work together to effect language? To receive spoken language, sounds comes into contact with a human, primarily through the ears. Sound waves hit the ear drum, bouncing through bones into the cochlea, finally vibrating hair cells

on the interior that, after a certain point of tolerance, fire a nerve that excites appropriate neurons in the brain. A specific collection of neurons, affected by whatever inbound sound had hit the hair cells in the cochlea, activate jointly a specific remembered sound, resonating as a single sound in the human experience. A concoction of these sounds, just as a combination of frequencies correlate to a sound, correlates to a word. From here the process is more difficult and abstract to point out. The images concocted by the brain are first that which is sensed. Light patterns shining onto the back of the interior of the eye are visualized via clusters of firing neurons. Sounds are heard through similar clusters of firing neurons. The same goes for the other senses of touch, smell, and taste. Certain patterns of sense that the brain actively receives are remembered. As psychologists have noted that certain parts of the brain are dedicated to memory, it is appropriate to say that these memory centers of the brains are capable of initiating a recall of senses. They can cause images or previously sensed senses to be sensed again, however imperfectly. In the very least, even if a sense like smell cannot be entirely recreated, it is remembered and recognized if it is smelled again.

This is, in effect, what Aristotle and Aquinas refer to as the sensory power. What starts as movement outside the human person results in centralized phantasms in the brain. Of note, however, is that this is a similar process that happens in animals. Animals sense through their bodies and the senses are centralized as phantasms in animals' experience. They have been noted to have clusters of neurons dedicated to memory as well, and so they remember that which they have experienced. Yet animals do not understand language. If it was true that all of humans' abilities were based in solely material ways, then it would follow

that animals, like dolphins and chimpanzees, would somehow be capable of all of the things we are, too.

So how does language relate itself to phantasms? Here we must turn to the intellect. Aquinas tells us that the power of the intellect is to understand. Animals, like us, perceive the world and concoct phantasms in order to sense it, but it is void of any meaning for them. Dogs remember commands, chimpanzees can use images and words to get rewards, and dolphins play together, but none of these things require meaning to be understood. Commands for dogs can be sounds that pair themselves in neural memory with certain positive or negative outcomes that are in line or out of line with a dog's sensory appetites. Chimpanzees use of any 'language' shows that they are not curious about the meaning of the things they know words for. Instead, chimpanzees' use of language is indicative purely of the fact that they are trying to fulfill their sensory appetites, whether for hunger or for diversion. Dolphins' act of playing together is not indicative of understanding, either. It is entirely reasonable that dolphins' desire to divert themselves is to satisfy their sensory appetites and to feel good, not because they understand their feelings or because they understand anything abstract, but because they have a desire to appease their senses.

Humans, then, do understand. By the mere fact that we ask the questions "What is yellow?" or "What is language?" it is evident that humans can understand. It is not sufficient for us to react to our environment and for us to only satisfy our sensory appetites. Every person seeks to know things more intimately as they are. Children are infamous for asking "why?" for exactly this reason. Even for those that do not consider themselves intellectuals there is a lot that they do every day that indicates they derive meaning out of the world

around them, the most principal act being language. When phantasms are constructed in the mind, the intellect abstracts an essential idea of what that perceived thing is. When children observe dogs and learn to call them 'dogs' in English, they go through a rational process of observing various dogs in their surroundings. In observing the many instances of dogs, all which share a form of dog, children are able to form a quiddity that resembles the form of dog based on all of the qualities of the form of dog which are in act in the specific instantiations of dogs they observed. Initially the form is not as noble a form as is found in actual dogs and is only a lesser form based off of actualized elements of the specific dogs observed by the child, but later on through understanding more dogs the child will perfect the form they possess or divide their quiddity once they learn that some dogs are actually cats. The forms that are being abstracted and understood, however, are in fact the same forms that exist in reality in front of the children. A child may not understand that the actual form of dog virtually contains the form of an anal gland (as I did not for many years), but the child will come to understand a form of a creature very approximate to the true form of dog. In other words they may be observing something of a form that might look like the number 4,382 and only understand a number of 4,104, but they have still understood a true form, a form largely indistinguishable from the actual form that exists in reality. In the future the child will learn to further compose the form of dog with the virtual form of an anal gland, perhaps filling in some more numbers along with the original 4,104, but it does not necessarily undermine what the child has already learned.

Remember that all things that undergo change, the reduction of potentiality to act, have an immaterial form. To know something that possesses a form is to somehow possess

that same form. Children, after learning what dogs are, form a general and abstract form of dog. They can even create dogs that have never been seen in reality by drawing them on paper, and adults can recognize a loosely drawn dog-like figure as a dog all because they already possess a likeness of the form of dog within their intellects. While animals can recognize previously felt senses, it is not an abstract recognition. When dogs remember what to do when they are told to 'sit,' it is because they associate specific, positive satisfaction for their natural appetites when they conform to specific motions upon hearing the sounds of the word 'sit.' It is not because they abstract a meaning of 'sitting' from the word, or because they understand the logic of consequences. The knowledge they have is of specific instantiations, and it is easy to convince a dog of a new association, one that changes their entire perception of the world. The knowledge that humans have is non-specific. The knowledge that humans have about something is universal because it is applicable to other things which share the form of that same thing. The knowledge abstracted about a generic dog is applicable to other dogs that share the same form of dog. But in order for humans to consistently be able to do this, then it must be true that humans can possess something of a form. To possess a form, however, means to take on the shape of that form. If something material possess a form, then it has a visible and material instantiation of that form. Neurons, in a commonly known fashion, do not physically take on the forms that someone understands and possesses. There is, then, some other aspect of human nature that possesses these forms, but in order for the possession to occur it has to be in an immaterial part of the person, which is the soul, and specifically the intellect.

As phantasms come into the mind, the intellect abstracts universal qualities and understands an essence. The Intellect takes on the form of what is being perceived. This is not enough, however, to complete an act of comprehension. Remember that change is a combination of act and potentiality. When sensing occurs, the power manifests itself physically, where the sensory power is the act and the potentiality is in the sensory organs. The intellect, though, is an immaterial power. While it does perceive the phantasms the act of comprehension is separate from the sensory organs. Since the act of comprehension is a change, then there is potentiality and act somewhere in this change. The intellect taking on the quiddity, according to Aquinas, is the act, while the potentiality is a different part of the same intellect. The Active Intellect and the Passive Intellect are the potentiality and act that make up the intellect. The Active Intellect takes on a single quiddity at a time and the Passive Intellect understands the Active Intellect as a whole, which is in the shape of the essence abstracted from phantasms, completing the reduction of potentiality to act, completing the act of comprehension.

Language, as far as the brain is concerned, is a bunch of sounds that are strung together. Words are phantasms that the brain perceives and can effect into production via the External Components. When the Active Intellect becomes a quiddity, and it is all understood by the Passive Intellect, there results a singular quiddity that resides in the Passive Intellect until it is recalled again for active comprehension. Humans are able to label and name that quiddity. We are able to associate a quiddity with a specific phantasm, a phantasm of sounds, a word, as any specific image. In Question 85, Article 2 of the *Summa Theologiae*, Aquinas states

> "For in the first place there is the passion of the passive intellect as informed by the intelligible species; and then the passive intellect thus informed forms a definition, or a division, or a composition, expressed by a word. Wherefore the concept conveyed by a word is its definition… Words do not therefore signify the intelligible species themselves; but that which the intellect forms for itself for the purpose of judging of external things."

Aquinas here differs between the intelligible species, which are the forms that compose things in the world, the quiddities that the intellect forms for the sake of judging external things, and then the words that represent the quiddities. These quiddities are less perfect forms of the things they are actually desiring to comprehend, but are also therefore subject to gradual perfection over time.

Here is the crux of what modern linguistic philosophy is missing, however: language is a body of phantasms residing in neural memory that are made significant *via their connection to forms stored in the intellect*. Without the intellect's capacity for comprehension, then language would not exist. To understand language is to understand forms as they exist in reality as well as our intellects. This is why, however, this is an addition to the modern study of linguistics (or why modern linguistics is an addition to an understanding of the soul, as Aquinas kind of came first… sorry not sorry), and this is not just a replacement for modern linguistic study. Other notions of neural structure, of syntax rules, psycholinguists' words structures and relationships, of phoneticists' sound structures, are all residing in the brain itself and merit such study.

Knowing how our direct knowledge about the world relates to our intellect and how it relates to language may be clear enough from this logic, but what perhaps remains unclear from this description of language as directly sourced from the intellect is how to reconcile speaking about what is true and speaking about what is not true. This logic may flow well enough when talking about an objective view of reality, but it seems that if someone were to start speaking about lies or fictional things that the logic of teleology would fall apart, and there would go an understanding of language as being underpinned by forms. Does the individual create forms that exist in their own soul but do not exist in another until they share it? No, forms do not exist enclosed and apart from the rest of reality under the roof of an individual's soul. A soul may come to possess a form, but it may yet do it imperfectly and even between the soul and conceptual remembering there might be a corruption that prevents the form from being clearly communicated in language. If the expression "A cow grew wings and flew around the moon" was uttered, what one will find is that the concept of a whole is derived from a concoction of forms yet does not have a single form itself. Each of its members, the words, do have a form and it is the flowing of these forms to and from the concept and language to the intellect that is ordered in language's teleology. The concepts may be flawed, false, or simply concocted with no worldly truth, but they are still relying on the underpinning forms from the intellect to create utterances. Lies and fairytales may seem to undermine the validity of teleology but they do, in fact, reinforce it. G.K. Chesterton once wrote that "truth must, of necessity, be stranger than fiction… for fiction is a creation of the human mind, and therefore is congenial to it" (Chesterton, *The Club of Queer Trades*, 1905). What he is referencing is the fact that any fictional creation of one man

is necessarily going to be subordinate to reality, made by no man. Tolkien was of a similar opinion. In an essay titled "On Fairy Stories," he writes about "the realm of fairy-story" which "is wide and deep and high and filled with many things." But he warns that while man is very fortunate to be able to wander there that "it is dangerous for him to ask too many questions, lest the gates should be shut and the keys be lost." Tolkien uses faeries to teach us about the fragile world of fantasy, and he appeals to the image that England of that time knew of faeries. In popular belief they were "supernatural beings of diminutive size," supposed to "possess magical powers," having "great influence for good or evil over the affairs of man." Tolkien warns, though, that "it is man who is, in contrast to fairies, supernatural; whereas they are natural, far more natural than he." He is calling to mind the fact that the natural world is large and mysterious and we know very little compared to what is truly out there. The fairy, though, is mysterious only to the extent that man makes him to be. When a man, such as Tolkien, creates a fantastical story that has even a full history and is chock-full of languages, then he is a creating a story that is based on his own form knowledge. Tolkien is not an infinite being. He can only possess a certain amount of forms because of his material existence – there are going to be forms that he cannot know, and it is likely that there are a great deal many more forms than what he possessed. This means that the repository of forms for the world of Middle Earth is much more limited than the real world. Tolkien intellectually knew all of the forms of his story, and that means that it is more real: it can be or was at one time entirely possessed by a limited being. Tolkien makes this note in his essay:

> "We may put a deadly green upon a man's face and produce a horror; we may make the rare and terrible blue moon to shine; or we may cause woods to spring with silver leaves and rams to wear fleeces of gold, and put hot fire into the belly of the cold worm. But in such 'fantasy,' as it is called, new form is made; Faerie begins; Man becomes a sub-creator."

Tolkien acknowledges that the faerie realm can only be within the scope of the human mind. The faeries are subject to our ability to create and imagine. They are the epitome of the truth that we know things abstractly and in terms of form, because they are the result of the minds of men that have absorbed and abstracted knowledge from the real world and then churned them up into their own visions of possibility. Tolkien also notes that "the human mind, endowed with the powers of generalization and abstraction sees not only green-grass… but sees that it is green as well as being grass."

This logic ties together especially in the context of how Aquinas says the intellect relates to the sensory powers, or how the Essential Component relates to the Internal Components. The intellect does not understand a form of something without having a connection to a phantasm. There are many implications for this. In question 85, Article 6 of the *Summa*, Aquinas poses the question: "Whether the intellect can be false?" as to ask if the intellect can know falsely. It seems to the objector of Aquinas' work that the intellect can be false, but Aquinas refutes the notion, arguing that any falsehood conveyed to the intellect is due to incompatible components being construed together:

> "The intellect, however, may be accidentally deceived in the quiddity of composite things, not by the defect of its organ, for the intellect is a faculty that is independent of an organ; but on the part of the composition affecting the definition, when, for instance, the definition of a thing is false in relation to something else, as the definition of a circle applied to a triangle; or when a definition is false in itself as involving the composition of things incompatible; as, for instance, to describe anything as a 'rational winged animal."

It should be noted, however, that while the intellect may come to conceive a quiddity of something not manifest in the world known around us, it is still a quiddity composed of true forms. Simply because we have never seen a myriagon (a polygon with 10,000 lines) does not mean that it is absent of its own form.

If forms exist, then how many forms exist? Are they countable? With enough time, if a human lived forever, could they come to possess all forms that exist? It is doubtful. A burrito is subject to change and therefore has a form, but that form was not known to cavemen. Tolkien's elves have a form, yet this is a form that not everyone even in the modern time knows. The size of the body of forms that we as humans go forth and pull from is indeed infinite. We humans could create changeable things for the rest of the life of the earth and still not exasperate every form that exists. Remember that forms are not dependent on human nature. They exist outside of any one individual and are simply acquired by various individuals' intellects. This must be the case for Tolkien's elves or burritos as much as trees or flowers or rivers.

How can an infinite number of forms exist? Eventually all material things will fade away, meaning that things possessing forms or the intellects knowing them will eventually not hold them anymore and the forms wouldn't exist. This is a contradiction to a previous claim that forms are entirely independent of humanity and that forms persist whether found in nature or not. So where do these forms reside? Regrettably for the Atheist I must now have to present Aquinas' Fifth Way; an argument for the existence of a Supreme Intellect.

Aquinas begins the Fifth Way by establishing the existence of final causes. Knowing that a teleology exists for everything that experiences change, it has been well established in this text that final causes exist. Then it must be noted that at any one given slice of time there are an unimaginable number of changes happening, changes that act towards a final cause. Countless eyes are fulfilling their final cause of seeing, beds are being slept on, trees are undergoing photosynthesis, stars are giving off light and heat; in the whole of the universe there are an almost infinite amount of final causes being worked towards. Yet for what is known about final causes, they are things that don't exist yet. An eye that is seeing wasn't seeing before, trees that fulfill the need to produce energy work from being a tree with less energy become more, etc. Thus at any given point in time there are an infinite amount of final causes that exist somewhere that are not yet in the things about to fulfill the final causes. Therefore there must be some place that holds all of these final causes, a necessary being that contains the forms that are more perfect than the ones already existing. Now it cannot be something that holds the causes in its hands, for example. It has to possess them. It can't be a simple object like the t-shirt you're wearing. It has to either take on the form in its entirety in a material fashion, and be the t-shirt, or it has to be an

entity that can possess forms. The only way for something to possess a form and not be that form itself is for it to be something of an intellect; a form that holds other forms. This would have to be a very large intellect to accommodate an infinite amount of forms; it would be an intellect of infinite size. Thus this Supreme Intellect necessarily must exist for forms to exist in the world. This, Aquinas says, is what we know to be God.

Now this argument alone does not prove that the Christian God exists, and since the focus of this work is language's relationship to the soul I won't try to demonstrate the rest of Aquinas' arguments about the other traits of the Supreme Intellect. What must follow, however, is that there *is* a Supreme Intellect. Without the presence of such a necessary being we would not have the capacity to speak language, much less move and change and exist. Since it does, we know that language can flow and that intellects such as ours are able to acquire and possess forms and thus use them in conjunction with sounds to create words. When the forms and final causes do not yet exist within us or even if they don't yet exist in the world, there is a place that they can come from and go to, grounding reality. Just as an infinite existence of final causes resides in an intellect, the formal causes can and must exist within this Supreme Intellect as well.

To understand that forms are, *per se*, causally necessary for language is one thing, too, but how do they relate to language on a moment to moment basis? There needs to be some sort of logic for it. A really good example of how forms exist within a language is with personhood. In any language there is some way to mark subjecthood, and subjecthood can come in many forms. There is, more often than not, a form of "I," that I may speak of myself, even if the person hearing the language doesn't know who "I" is specifically. This logic

obviously extends to notions such as "you" or "they" but may be differently found in forms of "I and he-who-is-with-a-stick." Whether such an example is real or not is irrelevant, because it demonstrates the maneuverability of forms with language. Each of these pronouns point to a form. In some cases we can appeal to a form with a singular word, such as "I", and it may even be shared across languages. The Spanish "yo", the Italian "io", the English "I", the Irish "mé" all consult a singular form. In other cases languages may have a form such as "I-and-he-who-is-with-a-stick," which may be extremely bizarre for someone who does not have it in their language, but is an entirely rational form for someone who does have it in their language.

Besides pronouns, which also contain subjecthood, we can also look at prepositions. Prepositions are often relegated as simply being function words, but this negates their value. While they may be more difficult to involve in an explicit thinking process for a native speaker, it does not mean that they would be denied a form either. Instead prepositions like 'at,' 'with,' and of' also appeal to forms, and these forms deal specifically with relationships, bridging the gap between otherwise separate concepts.

In verbs the use of forms can be much more dynamic. In Spanish, we can use the word *teníamos* as an example. This word is a verb that has certain morphemes tacked on to the end and would break down as such: *ten-ía-mos*. *Ten-* is the root of the verb, coming from the infinitive concept of *tener*, which means 'to have.' Here in the verb is where the basic form exists, an infinitival notion of having that is not specific to any condition. *-ía*, the first morpheme in the group, combines another form onto the main word, of imperfect past tense, that relegates the notion of having as being related to an imperfect past. Lastly the

morpheme *-mos* is put at the end, to mark the form of the subjecthood of 'we.' With all elements combined we can understand an instantiation of us having something imperfectly in the past. So *-íamos*, while not being able to independently stand on its own, does contain these forms. This process of combining forms into a single word, and not seeking to make one new form out of it, is one of the reasons I believe that learning a new language such as Spanish proves difficult for many people. But I will address that part later.

While a description of how each word type can have an elaboration on how it specifically relates to forms, such specifics may detract from the overarching goal of language as a whole. When all of these words come together, they use forms to concoct an image or idea in the minds of the thinker and of the recipient that is specific. From there, then, the recipient feeds the intellect by deriving new or higher forms and serves the ultimate final cause of language. With the utterance "Three ducks are eating your toes," it is not true to say that the image concocted is itself a form, but it is true that such an utterance requires forms to be able to be communicated and it is also true that it requires forms to be understood and it is yet also true that such a specific instantiation serves the general intellect. While the prospect that ducks eat toes is unpopular and maybe untrue, this information from this statement enters into the intellect and uses the form of "duck" that the listener holds to contemplate. It may convince the listener that ducks do eat toes and that the form of reference for "duck" needs to be altered or upon considering the previous form the listener deduces that such a statement is false and does not believe it, or the listener might ponder it any number of other ways, all based on the intellect. It might even serve indirectly to be figurative or idiomatic language, communicating to the recipient that

the admirers the recipient thought liked him are actually taking advantage of him and hurting him. The point is that language begins with a source in the intellect and ultimately ends up in the intellect.

Words are not static things, however. When a form of dog is paired with material, there will always be an observable dog of predictable qualities. But if the form of dog is paired with sounds from human experience, it is not necessary for certain sounds to be paired with the form to make it intelligible to other people. What, as well, can be said about children learning language, who, as building up their language, come up with deviant words and structures that do not conform to the language of the adult population around them? Or what can be said about learners in the classroom who do similar things? Even more, what can be said about the difference between what a thief calls 'good' vs what a lawyer calls 'good' vs what a devout Catholic calls 'good'? The answer has to do primarily with the quiddities of our intellects. Quiddities, per Aquinas, are definitions or compositions or divisions of forms. These quiddities are, as well, paired with words to create language. These words, though, are not limited in material form the way that normal material is. The concoction of sounds that are applied to the quiddities that we come to possess *are entirely arbitrary and of our own creation, completely relative compared to the existence of forms*. Not only must forms come to be understood, but a certain population's collective name for specific forms must be acquired by children and other adults who wish to acquire the language. Furthermore, as flexible as forms are composed and divided, so their words can be with all the rest of language. A thief may call something good and a lawyer may call something else good, and while the specific use of the word comes out to different degrees,

they are still basing their statements on the existence of the form of goodness, however imperfectly. This logic further extends to grammar, and in truth demonstrates why grammars are so complex and difficult to understand. When words' relationships to forms are anything but fixed, a set of implicitly guiding rules that strings words together in elaborate compositions is going to be extensively more difficult.

This principle has an interesting relationship with a conflicting set of viewpoints on how to approach grammar within the current field of linguistics. There are a couple of 'camps', if you will, that say there is either a prescriptive or a descriptive approach to grammar. The prescriptive is associated with an older approach to linguistics that says there are a number of prescribed rules that language must conform to, and that if it doesn't then it isn't correct. Observing a language's development over time, however, has demonstrated that prescriptive rules don't stay relevant for a prolonged period of time. Oftentimes they are also only associated with a select amount of a population, those typically with more money and education, meaning that prescriptive rules tend to neglect the other members of a language population. Simply because one group may not have the same use of a language does not mean that one can't communicate what the other can. Descriptivists say that this last statement shows that a prescriptive approach doesn't work to understanding language. A descriptive approach instead looks at whatever rules that a community has established at any given time. It is understood that language constantly varies, and that one group's use of one language is not inherently better than the other. Prescriptivists say that *ain't* isn't correct, but descriptivists say *ain't* is a perfectly allowable utterance. Over time something

of a mix of the two ideas has prevailed, where languages are known to have variant rules and that a single standing body of explicit rules is not appropriate, but a statement of how this is not really clear.

From an understanding of language as being underpinned by forms, and specifically with the understanding that any specific language is arbitrary compared to the knowledge which is conveyed by it, it may seem that grammar itself must also be arbitrary and that there is no reason to teach a specific grammar to children or to students of language. In a way, this notion of grammar is true, and it is all incredibly arbitrary on a level of principle, but it is also clear that getting rid of a set grammar undermines communication and language as we know it. Removing language as we know it is clearly an unintelligent task. It is true, though, to say that there is such a thing as good and bad language. Rather than arguing from which direction grammar is to be best judged, it is better to say that language can be rated on its ability to convey forms.

If, for example, I were to write the phrase: "Are papers at me because write I," then that language would not be good because while it has the capacity for conveying knowledge and it is made up of words that can do that, as a phrase it has failed at perhaps what it's speaker was trying to convey. My description of good and bad language, however, sidesteps the issue of descriptive vs. prescriptive. Whether or not the nature of the grammar is descriptive or prescriptive is unimportant and what matters is whether the language has the ability to convey its knowledge to a random user of the language or at least to a large body of users. The practice of verifying language quality based on speaker receptivity is something that some linguists already take into account for their studies. A set of rules can

be put in place for correctness, as is done by the Real Academia Española (Royal Spanish Academy), for example, and there is no issue in pursuing a common grammar amongst a body of speakers. This is a lesson that Ireland could use. The Republic of Ireland has established an official standard across its people so that the language may be more widely used and so that it may be more consistent across time, but has decided not to pursue a single dialectal sound, and thus suffers a division that may diminish the language's success at survival. Regardless of this debate, it does not change that in either situation a rating of good or bad according to how I define it here will work. It does not change, in the United States at least, that the phrase "Are papers at me because write I" would be incomprehensible and bad language. Each language does have its own rules and vocabulary to which a person must conform as far as the pursuit of good or bad communication is concerned.

This example of bad English, however, can also show us the very relativistic nature of language. While within a language or within a single group of users of a language a certain level of goodness can inevitably and probably should be achieved, other languages may actually find such an utterance to be good already. If we were to literally translate this bad example of English into Irish Gaeilge it would read: "Tá páipéair agam mar scríobhaim." (Better translation: I have papers because I write). Thus in Gaeilge this sentence is good and is correct, even though it's direct translation into English isn't good at all. This will ultimately be the explanation as to why everything beyond the connection of forms to words and structures is a firmly relative aspect of language. It does support, though, a notion of language that does not advocate any specific language above another. What matters is the

uniquely human ability to convey knowledge of forms via arbitrary sounds, due principally to the power of our intellects.

All of this information, then, serves to show what the exact relationship is between the soul and language. It shows what is unique about humanity, what the idea answers about linguistics that science cannot, and it claims why it should be necessary for the future study of linguistics. Animals know how to communicate sound to each other and to use these sounds as indications of desire, wish for change, or communication of current events. But animals do not ever contemplate patterns, talk about what things in the world are, or move from the concrete to the abstract. Humans do talk about what is abstract and they constantly consult their knowledge of the abstract in order to make a whole range of statements, questions, and exclamations through language. The human ability to do this resides in the soul, where language is motivated. The intellect and will cooperate and push a person to desire communication and interaction, to know truth and to act on truth. Every language act and every thought are dependent on this. Without the intellect to provide the scaffolding for language then there is no manner, without the will to provide motivation of speech then there is no purpose, for language to exist. Every linguist and scientist that recognizes language as a part of their research needs to recognize the place that the soul has in regard to language, or else they are not recognizing the entirety of what they are investigating.

Understanding this Essential Component of language, the intellect, one can understand what the study of linguistics is missing. The External and Internal Components being understood and studied in their own rights still need an additional element to be

properly understood. That being said, every linguistic study need not necessarily mention the Essential Component, but if the realm of study takes the researcher outside the realm of pure mechanics, or if the material at hand comes into abstract contact with the Essential Component, then an absence of it would certainly need to be explained. This all being said, however, there is a further question that now exists. What does the knowledge of the soul add to our knowledge of language as it exists in the current body of research?

CONSEQUENCES ON THE FIELD OF LINGUISTICS MORE GENERALLY

We now arrive at the conclusion that the soul exists, and that it is incredibly relevant to the study of linguistics. The implications are far reaching, because they affect the very core of the philosophy behind the study of any linguistic investigation. There are some areas of study, however, that are more impacted than others. One of the most important areas is that of language acquisition.

Traditional language instruction has been mostly put to the wayside in recent years. At this point it is perhaps commonly known that learning a language is least effectively accomplished when students are made to study large lists of vocabulary with flash cards and when they are also made to study grammar charts. While some teachers may still teach this way it is less common now than it has been in the past. This manner of teaching stems from a time when classic languages were the primary languages taught in school and the goal was more for students to know how to decode language rather than speak it and listen to it and comprehend.

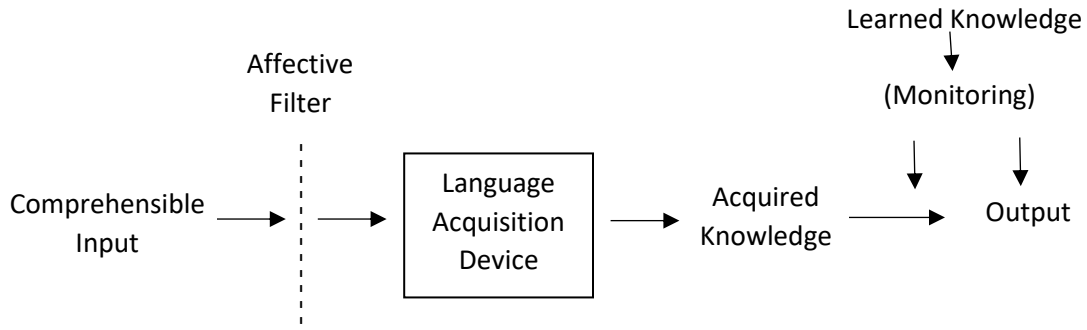
Things really started shifting in the middle of the 20th century, however. As behavioral psychology gave way to cognitive psychology, language researchers began to think differently about how people learn languages. About this time Noam Chomsky started his work. As evidence of this timing, Jackendoff even informs us that some of Chomsky's work

that has specifically not withstood the test of time has many anti-behavioralist tendencies[12]. By attempting to refute the behaviorists so intensely he ended up going too far in some of his word choices and statements. Regardless of any agenda, Chomsky accomplished many things with his work, basically founding the sub-field of syntax, but he of course also founded his theory of Universal Grammar (UG). Over time UG became a primary way to explain how children acquire language, and it is in stark contrast to the behavioralist explanations of the same. It is not any less materialist, however. Rather than it being a behavioral aspect of human existence, Chomsky established a conceptualist view of language that squared language as a cognitive trait.

At a similar time, Stephen Krashen significantly affected the way people viewed second language acquisition. He suggested that learning and acquiring were different things, suggesting that one can learn a language without acquiring it, and that someone can acquire a language without necessarily learning the rules of the language. He claimed that in order for someone to acquire a language they needed to regularly receive input, and that they needed to receive input at a level of complexity just beyond what they were capable of understanding. He called this i+1 (input plus one level). By regularly comprehending language and by focusing on i+1, someone would acquire a language. His work has inspired many sorts of changes by those who really want to make an impact on student acquisition of foreign languages.

[12] *Foundations of Language*, Jackendoff, 28

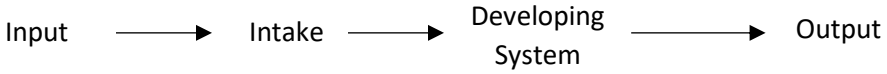
To show clearly how acquisition occurs in this fashion, Krashen devised a model to summarize it, and it looked something like this:



Krashen (1982)

There are many elements of this model that different people like, but the most important thing to note about this model is that practicing grammar rules and memorizing vocabulary have no place under Krashen's model of language acquisition, because none of that addresses the need for i+1.

Further built on Krashen's work is that which was done by Bill VanPatten. VanPatten's theory of Input Processing built on Krashen's work, mainly by saying that there were multiple levels of input for the learner that had relevance to acquisition. His model looks like this:



VanPatten (2015)

Beyond the normal and even comprehensible input, VanPatten stated that was not enough. He said out of the input a learner was only going to build up their developing system of language by receiving intake. The intake is the language, derived from the input,

that the learner actually processes. Since acquisition only occurs by processing intake, VanPatten changed the discussion by saying that input alone was not enough.

There are consequences to what VanPatten offered. What sorts of things come into the input that don't make it to the intake? A prime example of what enters the input but somehow stays out of the intake are *redundant* features of a language. Let's say that a learner sees the following sentence:

Nosotros vamos a la tienda.

We go-1.pl to the store.

The verb carries morphology indicating that the subject of the sentence is a first-person plural entity. The subject is just as equally marked, though, on the explicit pronoun *nosotros* at the beginning of the sentence. VanPatten claims that since a learner expends more effort processing a sentence than a native speaker, superfluous elements are cut so that the learner can prioritize meaning. Superfluous elements tend to be morphology, and especially redundant morphology, because oftentimes the learner will more easily comprehend the meaning of the redundant morphology from the words that actually embody the same knowledge. In other words, it is easier to process the subject as a full word rather than as a morpheme attached to the verb. These processing cuts and costs are not explicit; they are implicitly done by the learner's brain as they are receiving input.

He also claims that learners' brains make other choices while processing input, for example by assuming a specific word order. In almost all situations where someone is

learning a second language, Subject Verb Object (SVO) word order is assumed[13]. If in a language, such as Spanish, sentence components are switched around, a learner is likely to not correct them for their correct feature. They will instead process the first objects as subjects. The following is a standard SVO Spanish sentence:

1a. Yo compro chocolate en el mercado.

1b. I buy-1.sg-pres. chocolate in the market.

In Spanish there is a possibility to substitute the word *chocolates* with the object pronoun *lo*, and Spanish grammar dictates that the pronoun would go in front of the verb. To add, since the verb marks the subject, the explicit subject pronoun *yo* can be dropped, and the following sentence could be made:

2a. Lo compro en el mercado.

2b. It buy-1.sg-pres in the market.

2c. I buy it in the market.

2d. He buys (it) in the market.

2a conveys the same meaning as 1a, but the way the words are presented, learners tend to interpret the object pronoun *lo* as the subject pronoun *he*, resulting in a translation looking something like 2d.

[13] *Explicit Information, Grammatical Sensitivity, and the First-Noun Principle: A Cross-Linguistic Study in Processing Instruction*, The Modern Language Journal; VanPatten, Borst, Collopy, Qualin, & Price (2013)

The remedy that VanPatten proposes is that teachers, or facilitators of input in a language classroom, structure language so that learners process language where redundant morphology is put in the front of the sentence and have students do activities where they explicitly need to process and respond to similar sentences. By setting students up to comprehend language that prioritizes placement of redundant morphology in easy-to-process places in sentences (right at the start, for example), then it is more likely that these redundant elements find prioritized entry into the Developing System through the intake instead of being left in the input. He proposes, in short, to take advantage of learners' natural processing tendencies and use them to make learners try to process redundant features they would have otherwise ignored.

These developments, UG and the development and application of prioritizing some input theory to language acquisition, have been incredibly impactful on the field of linguistics and have severely influenced the way that linguists view acquisition. At this point in the field, these developments have plainly made it on to a level of assumption within the field. They are brought up in support of new work or are at least rejected before moving on to a perhaps contradictory viewpoint. The field of Second Language Acquisition largely bubbled up around the work of Krashen and VanPatten, in fact, and this can't be ignored.

The reason that they might be rejected, though, is because they have some degree of not being able to be scientifically tested. UG relies on an assumption that DNA controlling brain development is preset to allow a conceptualist view of the human mind, but how can that be scientifically measured and observed in the modern context? UG serves to inform a lot of modern ideas, but is heavily based on a philosophical or logical claim rather than a

scientific one. The idea of input is good for a theory, but how can it be operationalized as a variable in a scientific study? It has a place and it makes sense for many, and many would also say that it has invaluably affected their way of teaching language, but there really isn't a scientific way to establish their validity.

Of course they should not be rejected purely because they cannot be scientifically proven, but they also have certain logical gaps that merit being filled. UG and either theory of Input have an essential component that is more or less missing. Krashen labels it as the "Language Acquisition Device" and VanPatten calls it the "Developing System," while UG has a sort of assumed drive deriving from DNA with no specified organization that achieves what it claims. Even if for the input theories the central functions and participation of these essential components are not necessary for altering classroom instruction, this lack of an identifiable essential component serves as a weak point for a full explanation of these topics.

It is this gap that the soul serves most to logically fill. By including the soul in these theories to fill the gap, the relevance of the soul can be most plainly seen. VanPatten's work serves as the perfect entry point for this matter. VanPatten's idea of redundant grammar being a difficult processing aspect for early learners works well to explain why learners struggle getting on with a language. VanPatten already assumes the normal difficulty of learning vocabulary but focuses on these grammatical features. One gap here, though, is that redundant grammar isn't the only place in language that could be said is difficult to learn due to processing issues.

After learning about and understanding VanPatten's ideas about input vs intake and considering what makes it between the first and the latter, one intuitively begins to wonder about what else presents a processing difficulty for learners. Researchers in other subfields even want to try to incorporate why Input Processing as a theory explains why language learners don't learn sounds or other elements of language, or even other grammar points[14]. This is an intuitive reach, one that anyone should begin to make, but as the way it sits within the actual study of Input Processing, there are actually a limited number of ways that a learning problem can be identified as a processing problem. A Spanish instructor might say "well learning ser vs. estar [the two Spanish copular verbs] is a processing problem, so we can probably explain it with Input Processing!" but they would be wrong, because that doesn't have to do with a processing issue, it has to do with a regular acquisition of the concepts (or, spoiler alert, forms, but we'll discuss this momentarily).

I will not validate all pushes to use Input Processing outside of redundant morphology and problems of word order, but I think people's intuition to over-extend VanPatten's theory of Input comes from a fair place. In that Irish expression we learned earlier, 'Tá páipéar agam mar scríobhaim', there are some typical grammatical redundancies that learners might face when learning the language, but there are other things that are difficult to acquire even if they aren't redundant. In our expression there is the word 'agam' (at me). In Irish prepositions can take on indirect objects as a morphological component, and learners struggle to find meaning in the various endings. The struggle is not dissimilar to

[14] Manuela Gonzales-Bueno was particularly interested in trying to see if VanPatten's Processing Instruction intervention was applicable to the instruction of second language phonology in *The Teaching of L2 Pronunciation through Processing Instruction*, Applied Language Learning; Gonzales-Bueno, Quintana-Lara (2011).

the acquisition of verb endings, which in a lot of western languages are redundant, because the meanings of the endings can be found in other full words in the language. Learners struggle with verb endings because they don't have to pay attention to them in order to get meaning out of the sentence, or so at least claims VanPatten[15]. But Irish prepositions with their morphological additions don't have the same redundancy. They aren't found elsewhere in the sentence. These forms would not work well in an Input Processing study because there is no redundancy about them. The difficulty of their acquisition is unexplainable by VanPatten's theory.

Yet perhaps Vanpatten's work can enlighten things a bit further. What if the reason that verb endings are difficult to acquire is not because of their redundancy, necessarily, but because of the fact that verb endings inherently present a compounding effect, a compounding of two ideas, or, dare we say, forms? VanPatten states in his chapter on Input Processing in *Theories in Second Language Acquisition* that there is a

"Lexical Preference Principle. If grammatical forms express meaning that can also be encoded lexically (i.e., that grammatical marker is redundant), then learners will not initially process those grammatical forms until they have lexical forms to which they can match them."[16]

By looking at the soul as an essential component of language, though, the difficulty presented for learners of another language in acquiring fluent grammar could be restated as

[15] *Theories in Second Language Acquisition*, "Input Processing in Adult SLA"; VanPatten, Williams (2015)
[16] Item. Page 116

"Learners will not only fail to initially process grammatical forms that present redundancies, but primarily fail to initially process any instance of language where words and structures of language are compounded forms made into single words."

This not only explains the processing issue the learners encounter with redundant grammar, but it goes on to explain the difficulty of acquiring grammar in general. In a study by VanPatten and others, which analyzed word order mistakes by second language learners of a range of languages[17], all learners assumed something like an SVO order for the language they were learning, even if their original language contained the regular possibility for other orders. When encountering a new language, or more generally a new subject, a learner's assumptions about the material is simple. When someone is learning about cars for the first time, they understand that the car moves forward, but even if they know something under the hood is making it move, they don't know the full complexity of the machinery underneath.[18] When approaching a language, even if someone knows that there is more at play than what they understand, assumptions of simplicity are going to be made. Psychologists have long noted tendencies in the human character to make assumptions about the simplicity of the world they are processing and interpreting, biases and fallacies such as hindsight bias and others. When interpreting language, a person will implicitly have assumptions of simplicity. The neurons that fire within the brain are, more or less, a mechanical process. This process, as any other mechanical process, can only handle so much

[17] *Explicit Information, Grammatical Sensitivity, and the First-Noun Principle: A Cross-Linguistic Study in Processing Instruction*, The Modern Language Journal; VanPatten, Borst, Collopy, Qualin, & Price (2013)

[18] An older person may assume that there is much technicality at hand and refuse to even look at the engine, which might explain many learner assumptions about their inability to learn language, but learner motivation is a different subject matter.

a material and physical load at a time. They can only fire so fast and they only have a limited number of connections to other neurons. They are subject to the same physical laws of nature as a leaf that falls to the ground. Since they can only process so much at a time, there has to be a prioritization of what is processed. Just like an SVO order was assumed by participants in VanPatten et. Al (2013), words are going to be assumed to have a singular form of reference. Over time, with experience of the language, a learner will develop a specific knowledge of a language, to know what sorts of forms are attributed in a singular way and what other sorts can be attributed in a compounded way, but, just as structured by VanPatten, the words that compound forms must wholly make their way into the intake and not just stay in the input. This idea, that learners will implicitly assume only to find a singular form on a word that they interpret, is where understanding the soul connects to the study of language acquisition, and where it enters the study of linguistics more broadly.

How so? To claim that learners make implicit assumptions about how forms connect to words is not just a gimmick to help teachers figure out how to approach their classroom; it is a profound statement that reflects a greater truth about language. To begin, it is a statement that cannot be made without a logical proof for the existence of the soul. The existence of forms and their use in language is entirely dependent on the existence of the soul, and the soul as argued by Aquinas. It is also a statement that changes the definition of grammar. It redefines it as a system of compounding, or networking, forms into specific patterns of words and sounds.

Vocabulary, rather than solely being a repository of ‘material' words stored in neural memory, is a connected store of forms to which the words connect. Cognates are not easy

to translate solely because of their physical structure, it is also because they share a common form. When words breach the size of one form and those multiple forms need to be networked, it is grammar. If we introduce a common modifier to the previous Spanish word, the plural marker, *manzana* becomes *manzanas*, ‘apples'. This introduces a modifier right into the word itself and while the actual form of the apple does not come into question, the form of apple is networked with the form of plurality in the context of a single word. Another example would be the Irish genitive. The phrase *obair mo mhic* means ‘my son's work'. Literally it translates to ‘work my son'. Technically speaking this phrase is a networked image put together by various forms, but there is a modification to the word of ‘son'. Unmodified the word is *mac*, but here it takes on a different form of *mic* (also the plural in other contexts) and becomes lenited, (m [m] → mh [v]). This inevitably extends to syntax, a networking of words together that is more or less the same notion of grammar. The Irish phrase *obair mo mhic* Is not just a morphological and phonological phenomenon as it is a syntactic one, and yet it all accomplished this notion of grammar based on the underlying structure of forms.

This means that syntacticians should not immediately ban a computational view of syntactic structure, but it means they should also focus on adding formal and final causes at the beginning and the end of the syntactic process. Phoneticians should not abandon a view of sounds being stored as mechanical portions of language systems, but simply need to keep in mind the inability to isolate sounds from the words they are trying to construct. Psycholinguists don't need to forgo their complex models on language as a complex system within the brain but should instead orient their models to reflect the origin and end point of

language. The logical arguments for the existence of formal and final causes for languages do not nullify the need for understanding the mechanics of the material body. The fault at hand for these various fields is that they view their subject matter as beginning and ending solely in the material realm. The logic of the soul, though, again, does not nullify what already is known in these fields. Instead of altering what they study it is more wise to change the limits on what these fields study, more systematically defining what these fields can and cannot study, what questions they can and cannot answer, by mere virtue of stating that they study the physical and not the metaphysical.

What will change the most from the inclusion of the soul in the study of linguistics is the field of language acquisition, first and second. Jackendoff's work, *Foundations of Language*, that effectively summarize the current state of linguistic philosophy and how UG is supposed to be interpreted, is a great place to start a discussion.

When UG is positioned in such a way as to explain First Language Acquisition, language is understood to be an inevitable consequence of neural architecture. Because of how neurons are positioned between sensory organs and because some are allocated more for one task than another, a disposition for language is found biologically in a person even before they can formally receive input of a language. Following arguments for the existence of the soul, however, this logic quickly falls apart. Since sensory organs cannot have in and of themselves a capacity for comprehension, much less ordered reason, then UG cannot adequately explain how a First Language is acquired. There must be a prioritized element of language that supersedes the material and animal.

Understanding the existence of the soul, the acquisition of a first language is much more better understood as being directed by the soul itself. Children after birth and closely after seem to have an incredible knack for picking up a language, stemming from their youthful nature of having un-dedicated language structure. The truth of this is that the brain doesn't have nearly as much sway over the development of language. Even if there were predetermined structures in the brain that make language more feasible than it might be in an animal, there is a principle act of comprehension that is necessary for language to occur. Since comprehension cannot occur in the material realm then UG cannot be the answer, the soul must be.

When children's fresh new souls encounter the world, they hit the ground running. As adults we understand a lot about the world that we see every day. Any one view contains such a large amount of comprehensible information. Children encounter this not knowing any of it. With no intention at all they are comprehending an incredible amount of forms, and language in all reality is a slow trailing bridge of communication that relates what they know to other people. In any case, the priority of comprehension is what drives first language acquisition, especially since adults use language to quickly communicate comprehensible knowledge. As children increasingly seek to be involved in the world with other people, they are intrinsically motivated to find efficient ways of relating themselves and what they know to the world. When seeking to establish this communication, errors are likely to be abound, and children are bound to attempt to produce language samples that they never heard before. They already have the knowledge of what the different parts are and that they can practically go together.

With the base of first language acquisition covered, we can already see how the inclusion of the soul will change the field of second language acquisition. We know that the work of Krashen and VanPatten join neatly with the logic of the soul, further expounding on how the comprehension of input, and especially intake, develops language structure within the human person. While Krashen and VanPatten attribute the internal language systems to purely mechanical concepts, though, instead we should see that even if there are more intricate neural structures at play, the soul is the core of it all.

More traditional instructors of a language classroom, and others developing materials outside of the classroom, see memorization as a key component of language acquisition. The unfortunate side of viewing humans as machines is that there is a belief that learning knowledge is just a matter of downloading content onto our organic hard drives. This is especially true when it comes to language. We know that people have memories and that when we use language we do not actively consult memories to pull it up, so we assume that language is just one aspect that is memorized so well that we don't have to be active agents about it, like when we drive. For language instruction, then, instructors think that they just need to get the information downloaded as quickly as possible. This often leads to having memorization as an important activity in normal class operation.

Memorization ultimately, though, will not seat the connection between forms and words. Instead it is the meaningful processing or interpretation of the word and its form that leads to a successful improvement in the developing system. Even in a situation where

learners might have to fill in a blank with a vocab or a grammar word, the teacher will find that if the student has no inherent direction or need for understanding, and it won't occur. VanPatten, utilizing this knowledge, developed the intervention known as Processing Instruction. It catered to his model of input to intake to developing system, navigating learners' natural processing shortcuts. This methodology moves away from forcing output from students, concentrating on offering them input and the opportunity to process those redundant forms or the chance to train the brain to process alternative word orders in sentences.

While VanPatten's teaching intervention changed the field in the mid-90s, the intervention methodology itself still has a few flaws. In his work on Input Processing theory, VanPatten pushes away from explicit instruction of grammar rules, and insists on letting learners' developing systems form and modify 'rules.'[19] The brain does have grammatical rules, but it doesn't have a stored file on the dative case, or regular -ar verb present tense conjugations; it forms implicit rules. VanPatten says that these implicit rules can't be taught, they have to be acquired, and it will only add into the developing system as learners comprehend intake.

Yet Processing Instruction, while being a methodology that intervenes according to his theory, still caters to the old thinking. Rather than leading students through comprehensible input and generally applying IP inspired principles, instructors still try to categorize learning in terms of grammatical 'sections.' Textbooks are plagued by a focus on

[19] *Theories in Second Language Acquisition*, "Input Processing in Adult SLA"; VanPatten, Williams (2015)

moving from grammar section to grammar section, using Processing Instruction techniques to teach explicit grammar rules. It isn't anyone's specific fault, though. The PI intervention first has the teacher conduct the class in a brief, jargon absent, grammar lesson. It tells students about a processing problem students are likely to have, how to circumvent it, and then gives examples before leading the students through PI activities. This means that in order for a teacher to have a PI based classroom, they still have to lead their students through grammar sections of a book.

VanPatten has since moved further away from PI as a specific intervention. Further research after his initial work with the matter showed that students successfully showed signs of acquisition without the explicit component, and did well acquiring a rule without even truly being aware that they were. Even with a fully up-to-date PI based classroom, though, teachers and students will inevitably find themselves sifting through point after point, and not actually building on student acquisition of a language. If the focus of a language classroom is rule focused, and not comprehension focused, then forms don't have the time to connect to the words and morphemes they are associated with, and they don't have a *cause* to, either.

If we move back to Krashen, though, we will see that VanPatten was not the only person to come up with further intervention based on Krashen's main idea of comprehensible input leading to acquisition. These next methodologies have gained traction but are not widely accepted by second language acquisition researchers. One of the probable reasons for this is that tricky element of scientific observation and the scientific methodology. Science, according to the modern episteme, requires observable and

quantifiable observations of nature. If a classroom is not focused on a quantifiable acquisition of grammar points, then how can acquisition be measured? Recently steps have been made to create standards of general fluency acquisition, such as ACTFL (American Council on the Teaching of Foreign Languages) and CEF (Common European Framework), to create standards so that learners, teachers, and researchers can measure development of fluency, but these standards are still vague. They aren't enough for researchers to make quantifiable predictions about learners' language acquisition, and if they are to any extent they are really time consuming and costly to try and navigate during a study. It is much easier to do a grammar or a vocabulary test to see if acquisition occurred, even though a grammar or a vocabulary test don't measure acquisition – they measure language knowledge.

One of the more successful methods that addresses Krashen's original ideas of input, and which is just as successful under VanPatten's model of input processing, is an intervention style known as Teaching Proficiency through Reading and Storytelling (TPRS), invented by Blaine Ray in 1990[20]. TPRS, when fully implemented, doesn't use any curriculum, so to speak. There is no standardization to it other than the guidelines by which it is conducted. It makes it a scary bear to approach from the outside, and language teachers who have no experience with it are likely to be extremely suspicious. Well what are they learning? How do they make progress? How is student advancement measured? Because of its flexibility there is not an exact way to do it, but one solid recommendation is a weekly

[20] http://tprstories.com/what-is-tprs/

TPRS plan[21]. The teacher starts off the class week with introducing whatever new vocabulary will be put on through the week. Vocabulary is best taught through images, Total Physical Response (TPR, where students respond physically to guided teacher input), or context of a story of some kind. By combining vocabulary with secondary stimulus, the idea is to make new content more salient to the learners. It is to allow for more possibility of connection between the word and the concept (albeit here I would say the form).

After working through the new content, another day the teacher can guide the class through a storytelling process. By using simple question and answer set ups, the teacher works cooperatively with the class to build up a character, walk the character through a simple plot, and reach a conclusion. The process of storytelling means frequenting a lot of simple language, repeating important vocabulary, and in an overall way engaging the students in comprehensible intake and not just input. Whereas traditional and even PI based classrooms are trying to shuffle through an incredible amount of content in a short amount of time, TPRS classrooms are trudging through a small amount of content for a long time. The act of storytelling is a process that engages students and grants them ownership of their language learning experience, and makes trudging through simple language a smoother process.

On other days after creating the story, the teacher guides the class through reading exercises and through retelling activities. With the story set up on one day the teacher reworks it and formalizes it so that it reflects what sort of language that he wants them to

[21] https://www.mtsu.edu/cala/documents/tprs_lesson_planning.pdf

be practicing. Retelling the story that was previously built on by the class reinforces what they previously were learning, and makes comprehending what was gone through a more important task. The end of the storytelling arc culminates in a rewrite activity, where students have to try and write down the story from beginning to end as best as they can in a small amount of time. The goal is not to remember every single specific word that the teacher collected from the first storytelling experience, but to write simply as much as they can with as much detail as they can. On the last day of the school week students move on to a completely different topic book, written in simple language, to practice reading fluency.

Over the course of an academic period, students increase not in their explicit grammar knowledge, or a solid list of memorized vocabulary, but in their proficiency for reading, writing, listening, and speaking skills for a second language. There are a host of activities that surround this process and many teachers have turned their experience into products for other teachers. Krashen is still involved in this community of teachers, as well as VanPatten. It is increasing slowly in popularity, but in an experiential way rather than in an academic way. When listening once to a podcast, *Inspired Proficiency*, I noted that the conversation was not dissimilar to how protestants Christians talked about engaging in faith. The host and her guest for that particular episode kept talking about what they were like as teachers before they got into CI (Comprehensible Input), and what it meant to fully embrace CI, and how CI changed their lives once they fully committed to it. For these teachers this is what they mainly have – feelings and experiences about how these alternative teaching methods have led to success.

Yet if we look at these teaching methods from a different angle of logic, then we can see how they have more merit than just the experiences of many teachers. If the soul exists, and language is formally and finally concerned with the existence of forms that come to reside in the intellect, then the best interventions for second language acquisition need to foster a connection between words and forms. Alternative methods like TPRS accomplish exactly that – they do not focus on teaching categorical linguistic knowledge out of textbooks, they focus on fostering connections between words and forms, a process that takes time and lots of meaningful repetition. To embrace such an intervention for the classroom is more than what the teaching markets are ready for, however. For a while VanPatten was heavily involved in the textbook creation process, but publishers couldn't even get behind a purely PI based curriculum. As long as teaching markets and schools are focused on having textbooks, they aren't going to be concerned about the primary role of students comprehending input and intake. This is the reason that an understanding of the logic of the soul will have the most impact on the area of acquisition, and here for second language acquisition. The soul is at the core of language and especially how it is acquired, but language instruction is the area where formal and final causes of language are most important and the most ignored.

For other areas of study for linguistics it is not necessary to change much. They are trying to understand the specifically mechanic processes of language, which surely exist, and they don't have to push far beyond that. Language acquisition, for first and second languages, are not just concerned with the mechanical processes but are also and primarily concerned with the *whole of the human person*. The whole of the human person,

definitionally, is not and cannot be a purely material being – we are composed of form and matter, meaning that language acquisition *must* be concerned with the formal aspect of the human person. Additionally, language acquisition, for first and second languages, are not just concerned with the mechanical aspects of language. They are concerned with the *whole of the nature of language*. The whole of the nature of language, definitionally, is not and cannot be a purely material thing – it is composed of form and matter, meaning that language acquisition *must* be concerned with the formal and final aspect of language. The logic that accounts for the existence of the soul is therefore essential to a complete understanding of language, and proves that the rational soul itself is the Essential component of human language.

CONCLUSION

As it currently stands, the modern field of linguistics stands in a very weak position. By rejecting previous philosophy on the soul, they essentially choose to live in a place of constant wonder, never finding a true reasonable answer to the philosophical base of their field of study. It fits, generally, with the way that knowledge and the study of knowledge have passed on through the ages, but now is the time to be aware of such changes and to set our knowledge straight once again.

Here, in this work, I have argued that the human soul, as philosophically defined by Aristotle, Thomas Aquinas, and even Edward Feser, is an essential and necessary component for the full and complete study of linguistics. Not only are the ancient philosophical arguments laid out for plain comprehension, but they are drawn in comparison with the current metaphysical understanding of language. It can be plainly seen just what problems the current field has and it can be plainly seen how to address these problems with explanations about the human soul. By understanding philosophical mistake of classic philosophers who misinterpreted their predecessors, we can mend the bond they tore with pride and reunite knowledge in a way that it was meant to exist.

Much more work is in order after reading through this work. Many a researcher and philosopher need to set out in understanding language to see just exactly how the soul relates to individual words or phrases. There is so much more to be learned about the way that people are in relationship to language, and it best begins around the soul.

REFERENCES

Aquinas, T. (1274). *Summa Theologiae.* (F. o. Province, Trans.) Coyote Canyon Press.

Feser, E. (2008). *The Last Superstition: A Refutation of the New Atheism.* South Bend: St. Augustine's Press.

Feser, E. (London). *Aquinas: A Beginner's Guides.* London: Oneworld Publications.

Foucault, M. (1970). *The Order of Things: An Archaeology of the Human Sciences.* New York: Vintage Books.

Gonzales-Bueno, Q.-L. (2011). The Teaching of L2 Pronunciation through Processing Instruction. *Applied Language Learning*.

Jackendoff, R. (2002). *Foundations of Language.* Oxford: Oxford University Press.

Krashen, S. (1982). *Principles and Practice in Second Language Acquisition.* Pergamon Press Inc.

Merriam-Webster. (2020). *Psychology*. Retrieved from Merriam-Webster.com Dictionary: https://www.merriam-webster.com/dictionary/psychology

Palmer, J. (2016, Aug 2). *Parmenides*. Retrieved from Stanford Encyclopedia of Philosophy: https://plato.stanford.edu/entries/parmenides/#OveParPoe

Rowan, K. (2017). *What is TPRS?* Retrieved from TPRStories.com: http://tprstories.com/what-is-tprs/

Shelley Thomas, P. (2015). *TPRS Lesson Planning.* Retrieved from Middle Tennessee State University: https://www.mtsu.edu/cala/documents/tprs_lesson_planning.pdf

VanPatten, B. (2015). Input Processing in Adult SLA. In B. VanPatten, & J. Williams, *Theories in Second Language Acquisition* (pp. 113-134). New York and London: Routledge.

VanPatten, B. C. (2013). Explicit Information, Grammatical Sensitivity, and the First-Noun Principle: A Cross-Linguistic Study in Processing Instruction. *The Modern Language Journal*.