

The Beginning of the Beginning: The New Way of Inquiry

The first lecture of the academic year is traditionally a welcome lecture, a welcome for those returning to St. John's but especially for those who are joining us for the first time: the freshman class. So I want to talk about beginnings, especially beginnings of inquiry, but I also want to make a beginning. I propose in what follows to suggest a frame for discussion rather than to stake out a territory.

All of us who are members of the community of learning here already officially began our odyssey this year, of course, last night with seminars; but obviously the first classes cannot be an absolute beginning, since one starts from where one already is and with what one brings to a class—one's opinions, previous learning, and attitudes—and some of us have been bringing these things for longer than others; but in other ways the fall semester is a new beginning. It marks a start as we move both together and as individuals toward the sort of understanding we call "being free of ignorance." We enter again into a program of learning that is continuous with the past without being simply of the past. What reposes in books, in traditional laboratory assignments, and in musical scores lies ready to be made live again, through critical, cooperative reflection on it. So in some ways, we always start anew.

New beginnings are nothing new, then, especially when it comes to seeking to free ourselves from ignorance. The freshmen soon will be encountering some famous, instructive examples of beginning. I will mention only a couple, and will hardly do justice in this small space to them. The first is Plato's Socrates, who tells a story about himself in the dialogue *Phaedo*. As he tells it, when he was a young man he had a

“wondrous desire for wisdom,” especially the wisdom called the inquiry into nature. Why does something come to be and perish? Why *is* it? He was looking for causes. He began by thinking about heat and cold and blood and eating and drinking as causes but the path he took ended in perplexities from which he could not escape. He heard about someone named Anaxagoras, who claimed that an intelligence or mind accounts for why things are the way they are, but here, too, Socrates was disappointed because while Anaxagoras pointed to mind as the source of order or good, he did not explain the many things that are and their coming to be in a way that showed mind to be the cause. Socrates then made another start in a different direction, looking away from beings perceived with the eyes and each of the senses and instead taking refuge in *logoi* (the plural form of the word *logos* freshmen will soon learn in language tutorial if they have not already and which has many related meanings: speech or reasons or accounts or arguments.) This marked for him a new beginning that he called a “second sailing.” That new start was decisive because it kept him on a course of life-long inquiry, an inquiry he carried on by asking his fellow Athenians to give an account of the opinions they willingly offered or sometimes were prodded to offer in public about such things as justice or piety or courage. He “began,” then, with what we ordinarily say, with opinions. This activity unearthed and brought his interlocutors face-to-face with both their unacknowledged assumptions and their hidden contradictions. His way of questioning was taken over as a model by some, especially the youth of Athens, but in imitating him they often forgot something crucial that Socrates always recalled, namely: that serious inquiry is always also self-inquiry. So Socrates’ way and the practice of it by others angered many and even irritated some who imitated it, for it demanded that one always be ready to take up

an argument wherever it leads, even when it requires that one publicly admit ignorance, that one engage in a revision or abandonment of an opinion one had held dearly to be true, and that one be mindful of where one begins. Thus, Socrates' new start required constant starting over, refining opinion, exposing and stripping away all the ignorance we do not know that we have. One could say, then, that Socratic inquiry always had an end or aim, but was never over.

Aristotle is a second example. He does not report on his own life or dramatize anyone's life of inquiry as Plato does. He addresses it through his writing by advising us about it from time to time and by example. For instance, at the opening of his book on nature, the *Physics*, he tells us that learning begins with what is more familiar and clearer to us and advances by way of those things toward other things that are more knowable or clearer simply, which he calls first principles and causes. In his view what is first for us has a kind of clarity that we live in and among every day often without realizing that it is preliminary clarity. We have to be brought to see that this sort of clarity is a first step to greater clarity, a clarity that may be removed from the everyday without being utterly separate from it. Thus he likens us to children who first call all men "father" and all women "mother": beginning with an indiscriminate but not wholly incorrect notion, we nevertheless learned to identify the one who is our own father or mother; Aristotle's distinction points out that this is the case for inquiry of all kinds. Accepting the distinction is a kind of first step: begin by realizing that you begin with what is first to us. The distinction runs through Aristotle's thought, even at its most ambitious, and it often appears that he has to direct us to the beginnings for us in particular cases, to show us what is obvious. For example, in the opening chapter of Book 2 of the *Physics*, Aristotle

tells us what he means by nature: “nature is a certain source and cause of being moved and of coming to rest in that to which it belongs primarily, in virtue of itself and not incidentally.” This definition is not first to us, in the sense of being immediately known; it has been arrived at. Aristotle makes it a practice to think through with utmost seriousness arguments his contemporaries and predecessors have proffered, before announcing that he will make a “fresh start” of his own. That “fresh start” is the culmination of his prior inquiries, that is to say, of what is present in the thoughts he has examined and criticized. But to accept Aristotle’s definition, we must think through his arguments and reflect on why this formulation is revealing of nature, how it has a source in what is first for us. Since inquiry is about what is primary and since our intellects see such things “in just the way that the eyes of bats are related to the light of mid-day,”ⁱ no learner sees everything wholly or adequately. Learning requires thinking and rethinking and listening to the thoughts of others.

These two examples (and one could cite others as well) tell us that new beginnings will be required of us as we inquire—and for most of us this will happen frequently—but the new beginnings occur not because we can learn nothing or because we must rethink everything always from the ground up or because we have not found the one and only way to inquire.

I’m going to describe tonight another new beginning, one that claims to depart decisively from those mentioned above and from previous beginnings. It is a beginning insisted on by an author that some, maybe many of you, have not yet read and may not read for some time, and that others of you have read but may want no more dealings with than you have already had. But I’m going to risk summarizing—briefly—his thoughts

about this matter of beginnings because it is famous and important, and because I want to call attention to and raise questions about often neglected aspects of it.

René Descartes opens the first of the *Meditations on First Philosophy* (a text written in 1641) by announcing that he must “once in life seriously undertake” to rid himself of all the opinions he had previously accepted and “begin to build anew from the foundations” in order to establish “anything firm and permanent in the sciences.” The *Meditations* thrusts into prominence something known as radical doubt. He proposes a thoroughgoing, purging doubt of everything beforehand in order to arrive—if possible—at something securely known, something unshakable. He describes the process of his doubt—doubt not only of the whole tradition of learning, but also of his own opinions, even of what is right in front of him, including the existence of the world and his own reason. There is a dramatic but happy result as he proclaims this one certainty: “I am, I exist.” He maintains that I can know that I am even if I know nothing else. The subject of the verbs “am” and “exist,” (sometimes called by the pronoun “I” or ego), he identifies as something that thinks, something he calls mind or thinking thing; it emerges as the locale of, or at least the only avenue to, those foundations of the sciences he was seeking. Thus in the *Meditations* Descartes upholds a critical rigor about inquiry: it cannot even begin until we eliminate once and for all everything dubitable and step to a different level, the level of what is present clearly and distinctly to our thinking. No inquiry can begin without a preliminary discovery of the right beginning. Because of the insistence on a beginning that is indubitable and on locating that beginning in the thinker thinking, a thinking accessible only to itself, Descartes is seen as abandoning the legacy of the prior

tradition in all its forms and introducing a new beginning and a new realm of inquiry, the mind or “subjectivity.”

Think back now to the earlier examples. Aristotle surely investigates the opinions of others and finds them wanting. There is a moment in Book 1 of the *Nicomachean Ethics* where Aristotle chooses the love of truth about the good over opinions held by his well-loved friends “who introduced the forms”—Plato among them. Yet Aristotle conveys no sense of having undergone a skeptical crisis or of needing to reflect on the opinions of others once and for all; as we have seen, he detects germs of truth in the thoughts of others. In the first book of the *Metaphysics* he interprets his predecessors as “on the way” to his own view, and in the second book he begins by asserting that “while no one happens to be capable of [truth] in an adequate way, neither does anyone miss it, but everyone says something about nature.” Socrates in his autobiography reports reaching an impasse and turning to speech or accounts as a new beginning for inquiry. At first sight this may look similar to Descartes’ experience—and I suspect that Descartes wanted it to—but it is different. However skeptical Socrates may have been about the account of causes of coming to be, once he admits foundering in that account and turns to *logoi*, he provides no indubitable standpoint from which to escape Socratic ignorance. The *Meditations*, by contrast, subjects everything to doubt at once, seeks secure foundations for the sciences, and claims to have found them

But the beginning of knowledge Descartes describes in the *Meditations* actually began earlier and in a different way. More than once prior to the *Meditations* Descartes reports a decision to undertake “once in life” the revision of his opinions in order to start afresh, and in those other places we find no radical doubt or mind as a thinking thing.ⁱⁱ

We find instead that he lays down a method, we call it the Cartesian method, which is non-metaphysical and is meant to replace what he refers to as “fruitless thinking,” characteristic of traditional inquiry, with clearly known beginnings. Only with the *Meditations* does that revision involve radical doubt and lead Descartes to argue—as he famously does—that mind or soul is a substance utterly distinct in kind from the body. As a consequence, while it is now a commonplace that Descartes had a principal role in shifting the starting point of inquiry and requiring a presuppositionless beginning for knowledge, an investigation of his earlier formulations indicates that this is not the beginning of Cartesian thought, either historically or in its principles. It shows us the beginning of that beginning and makes us reflect on the not so obvious conditions of the claim that one must make the kind of new beginning called for in the *Meditations*.

Descartes’ idea for the reformation of inquiry surfaced in the unfinished *Rules for the Direction of the Native Intelligence* (written in 1628 when Descartes was 32). This text contains the first sustained description of the new beginning. I am not going to treat many of the issues we find in this earliest writing; most especially I will not treat the issues we concentrate on at the end of sophomore mathematics at St. John’s—the questions about number and general magnitudes. Rather, I’m going to concentrate on the first eight rules, with some mention of later rules, and in places I will anticipate teachings in his later writings, but I will not give an account of how Descartes’ thought developed. At salient points I may compare and contrast themes and teachings in the *Rules* with others in the prior tradition in order to highlight how he makes use of them rather than to settle the question of his sources. I have sought rather to elicit some teachings of the *Rules* as we find them there in order to reawaken the issue of the beginning.

The full title of the *Rules*ⁱⁱⁱ signals that Descartes wants to embark on a different way than that of his illustrious predecessors. Two things stand out. First, we are going to be given rules that will direct our inquiry and, second, what will be directed is something called “*ingenium*.” The word *ingenium* is formed from the Latin verb *gigno*, to bring forth, to beget, or, in the passive, to be born, to arise. Hence, my use of the word “native” to translate it: it is natural in that it is inborn. Many translators use the word “mind” to translate it, and I will use that on occasion too, but for the title I prefer the word “intelligence,” understood in a wide sense at this point, since in Latin it also has the meaning disposition, temper, inclination, or natural capacity and Descartes includes that meaning. If the natural intelligence needs direction by rules, we are prompted to wonder why, considering the long, prior tradition of thought, someone had not prescribed rules before 1628.

Descartes begins Rule 1 by calling attention to his goal in writing and indicating the relation of that goal to a comprehensive goal. To this purpose he employs a noted image we find in *Republic*, book 6, but transforms its meaning. In book 6, Socrates likens truth to light: in the presence of light from the sun, the power of sight and that which can be seen are yoked together in a triadic relation. So, too, the power of intelligence and what is able to be understood must be yoked in the presence of truth, which has its ultimate source in something Socrates calls the Good. Descartes pares down this image, shifts its focus, and relocates its force. Here is his version: “The sciences taken all together [*scientiae omnes*] are nothing other than human wisdom, which always remains one and the same however applied to different subjects, being no more altered by them than sunlight is by the variety of things it shines on. Thus it is not necessary to confine

the native intelligence [*ingenium*] within any limits” (Rule 1).^{iv} The sun is not an image of the Good as *arche* or source of intelligible knowing or of the illuminative power of truth; it has become in Descartes’ hands an image of human wisdom, something that is not beyond Being, as the Good is said to be in the *Republic*, but is *our* wisdom. It has been thought to be beyond us, but that is because it has not yet been understood correctly. All the sciences are together and are human wisdom. Descartes’ “human wisdom” is comprehensive, which means in the first place that he wants to unify the sciences by virtue of the fact that the light in which different subjects are seen is the same, and this analogue to the light of the sun is a light of truth present in the knower.

In the then dominant tradition, however, which can be traced at least as far back as Aristotle, there are several sciences divided into two categories. On the one hand, the speculative sciences, although demonstrable, are diverse in that they have diverse subjects that call upon diverse ways of knowing and consequently have distinguishable domains: the science of nature and that of mathematics, for example, differ in what aspects of beings they study and how they study them. These speculative sciences may be in a hierarchical relation to one another in virtue of the relation of their principles or of the beings they study to one another, and so they may share some principles and beings, but their procedures are appropriate to each in its own right. The ultimate account of the highest principles would belong to the highest science, which is comprehensive of what there is; but the highest science would not have constituent sciences as its components. On the other hand, the practical and productive sciences address a different order, the order of what is true only for the most part and therefore not strictly demonstrable, and the relation of them to the speculative ones is not secured by the same procedures. In

sum, there is no single procedure that fits or describes the ways of thinking in the several speculative sciences much less meshes with practical or productive thinking. The account of what there is is not systematic. Descartes' envisioned new order would replace this notion of science with one that is more unified. It is more unified because sciences follow the same procedures grounded in a single knowing power, and more universal in the sense of including or embracing all.^v

According to Descartes' sun image, then, truth yokes knower and known through the "light" "within" the knower and provides unity for what beforehand were those diverse sciences with diverse subjects. This envisioned union will remove the limits on native intelligence, limits imposed by confining the sciences to specific subjects and subject-specific procedures. The unity of knowing is to make possible universality in knowing. The purpose of the treatise, then, is to reorient and redirect inquiry so as to make real—to bring about—this idea of wisdom as the sciences taken all together.

The wisdom foreseen requires a kind of cure in order to be undertaken; Descartes calls the result of the cure "*bona mens*"— a "sound mind" —or "universal wisdom." As the Stoic formulation indicates, it is a healthy state of mind, but it comprises much more than the Stoics' "life according to nature" had deemed possible or desirable. In Descartes' rendering, wisdom includes contemplation or, more exactly, the pleasure (*voluptatem*) of contemplation as well as the benefits of action; it includes particular scientific discoveries "conducive to the comforts of life" and the wisdom to make proper decisions in "each of life's contingencies." Descartes intends that his revision not only unify the sciences in its procedures and extend them to the pressing concerns of human beings but also care for and benefit the mind. *Ingenium* has to be made healthy. Our inborn powers should not be

warped or distended or led astray as we seek to know. That they have been and still are led astray he claims in rule 4. The connection of this constellation of goods to virtue, so prized by the Stoics, he does not mention.

This ambitious enterprise required that a decisive new beginning be established, one that will lead to a sound mind, and this is what he proposes to establish. Descartes identifies two conditions for making such a beginning. The primary condition is natural, our natural powers. He has drawn attention to the natural powers through the notion of *ingenium*. *Ingenium* is natural because it includes our inborn power to know; but it is natural in another sense, too, as a source of fecundity within the knower. In Rule 4, he points to our inborn power as containing “seeds” of “useful ways of thinking”^{vi} and refers to it as “a sort of spark of the divine” [*nescio quid divini*], but again Descartes adapts: unlike the Stoic doctrines to which these formulations allude, he does not link the inborn source with the cosmos or with nature as a whole understood as a divine being or as a being ordered by divine rule. Instead, he has indicated that, although inborn, it is misguided or errant.

This is a claim about the condition of being human: even the most gifted minds have been in error. The faulty conception of science or inquiry Descartes at first traces to a propensity to be misled by analogies; that is to say, to infer too readily on the basis of similarities we notice between things or aspects of things and so ascribe to one thing what is true only of the other. He identifies the problem as a likening of science to art. One person cannot learn all the arts at the same time, but, in practicing each singly, becomes capable in that one art to the exclusion of others. The arts require dexterity for their exercise, a specialization of function that Descartes describes only insofar as it is an

ability acquired by repeated use and exercise of the body. The repeated uses determine our aptitudes in such a way that the acquisition of one skill does not lead to the acquisition of others. In his view the mind—or more precisely the cognition of the soul—is not like body; or, rather, the intelligent operations of soul are not like the motions and the motor memory of body and do not have like effects. The faulty inference, then, is ultimately grounded not on a confusion of art and science but on underlying, mistaken notions of soul and body. Descartes can correct the analogy only because he already has in hand a “proper” distinction between cognition and motion, a distinction revealingly he does not argue for in this treatise; it remains a tacit but critical assumption.

The difference he proposes means that cognition is not a skill like the skills acquired by the body. This by itself is not a new or an even mildly surprising thought; the surprising thing is that Descartes insists that, although it is not like the motions of body, cognition needs to employ and to assimilate a practice of its own before beginning to inquire. In fact—and here we see the departure from the tradition deepen—he holds that insofar as soul is not like body, it not only needs reliable procedures, but needs only one sort of starting point and one procedure, or set of procedures, for all its cognitive operations rather than many or diverse ones. Cognition is not one of the arts of the body but it needs an art of the mind. What is more, if, despite its difference from body, mind uses body or needs body in some way in its knowing, the motions of body will not diversify it in the way body is diversified: although very different from body, mind can use body not only without detriment to itself but also in order to work effectively in the realm of body. The difference of mind from body presupposed in the opening rule foreshadows that described in part 5 of the *Discourse on Method*: “While reason is a

universal instrument which can serve for all contingencies, these organs [those of the body] have need of some special adaptation for every particular action.” The justification of this assertion will require the account of cognition and the cognitive powers given later in the *Rules*, one that will involve the human body but will keep true to the difference of cognition from the motion of body so that sciences may contribute to one another and employ essentially the same mode of reasoning. The way is open to systematic knowledge.

Within our power, then, is a source of knowing that needs to be properly released and directed. Like the sun in *Republic* 6, then, the power to know is a source of illumination—as the light of reason or intuition, as we shall see—and contains within itself the seeds from which knowledge may grow. Descartes exposes the natural illuminative source by mentioning two sciences in which we can detect the native power in its most precise and reliable mode. These sciences, arithmetic and geometry, he sometimes calls “discoveries”; they are for him the mind’s “spontaneous fruit.” In an attentive state and in the presence of objects such as those of the mathematical sciences, the mind lays hold of what is clear and indubitable, a mode of knowing Descartes calls “intuition.” Intuition is reserved for “objects” that are pure and simple, which he emphatically distinguishes from what he calls the “fluctuating testimony of the senses” and the “false judgments of the badly conjoining imagination.” Knowledge belongs properly to the intuitive capacity, and we should not take the senses or imagination as avenues to knowledge; that is to say, the evidence available in intuition does not arise out of or through them and it surpasses their powers. Thus, purely natively, the scientific capacity of mind is not in relation to any particular object outside itself,^{vii} and yet its

spontaneous separateness is not of a kind that prohibits it from relation to world and body. Instead, it qualifies it in Descartes' mind to be susceptible to relation with everything of concern to human beings.^{viii} The expansive possibility for knowledge that Descartes promised in Rule 1 is shown to have an accompanying condition, namely, the restriction of scientific cognition simply to intuitive knowing.

Thus rules 2 and 3 are an introduction to the natural source from which science can arise. Intuition occurs spontaneously and provides knowledge in the form of what we might call loosely "atoms" of clarity. Thus, Descartes also must acknowledge a natural operation he calls "deduction," which accounts for clear and indubitable inferences from intuited truths, clear step-by-step linkages between clearly known truths. Knowledge accrues by means of "continuous and uninterrupted acts of cognition." The uninterrupted acts approach as closely as possible the condition of intuition, where everything is present to thought clearly and at the same time.^{ix}

The second condition is the necessity for method, given in rule 4. The mathematical sciences evince that knowledge is possible, but natively the intuitive power is undirected; it has no specific tendencies of its own; or, to be more exact, it is not a seeker by nature but a light that shines indiscriminately and seemingly for no reason. Questions arise for us. Despite its capacity to grasp and to link clearly known truths, we do not know why the intuitive power does what it does. No desires move or purposes guide it from within, and since it is a source—in the sense that knowledge spontaneously occurs—it is not clear how it can be led from without. The very freedom of knowing—its separateness from the limitations of sense and imagination—signals to us its insufficiency. Something more is needed if there is to be knowledge that is not merely

gratuitous or sporadic; that is to say, if there is to be sustained inquiry. Descartes knows this and for this reason the rules direct not intuition but *ingenium*. *Ingenium* is naturally capable of being directed or formed, but it has been misdirected and stands in need of correction.

Thus for Descartes the exemplary status of the mathematical sciences stands alongside and within the mind's accretions, which includes both natural and acquired habits of thought. The circumstance in which our thinking most often operates—the emphatic presence of sensible and sensory evidence and the force of habit that goes with it, along with the diverse array of things that exist—greatly inhibits our success where it does not confound or distort our powers. The need for methodical inquiry thus goes hand in hand with a critique of the tradition and an assessment of the condition of being human. That critique is unelaborated and scattered throughout the *Rules*, but its import is more clearly visible here than it becomes in later writings, where we find it generalized and concentrated in a skeptical crisis through doubt. Intuition needs no corrective; it needs direction. The subject of the corrective offered by method is *ingenium*.

The thrust of his critique in the *Rules* falls on the learned and anticipates the charge laid against them in the *Discourse on Method*, namely, that, for all the effort of all the thinkers, the science of the tradition lacks certitude and utility. But he clearly has a more thoroughgoing critique in mind. The Socratic turn in the *Phaedo* away from the sensible toward *logoi* may resemble in one respect the Cartesian turn away from the senses, but the Cartesian method is meant to correct the state of perplexity into which Socrates was drawn so that it is not a permanent condition. It will identify the objects of inquiry that are beyond us and keep us from getting lost among them. If there are ultimate

beings or principles of knowledge “above” us, method is premised on the notion that they do not guide us, and neither sensible experience, which is unreliable, nor the knowing power, which is spontaneous, directs us toward them.

On this account, human beings, even the most talented, have been mired in what we now call a premethodical or prescientific condition, with its penchant to dwell among lofty and obscure thoughts, and to use them to indulge one’s selfish vanity at the expense of others: “Because they have thought it unbecoming for a man of learning to admit to being ignorant on any matter, they have got so used to elaborating their contrived doctrines that they have gradually come to believe them and to pass them off as true.”^x These are signs of more than a simply intellectual need, that is to say, a need for right reasoning. It is a need that goes to everything about oneself that accompanies right reasoning. It is a need to treat those traits that inform or condition the way one seeks—to the need for a healthy mind.

The *Rules* first presents method as a natural outgrowth from a natural beginning in the intuitive power. “Method” in this sense means rules of inquiry or scientific procedure, a meaning in keeping with rules 5-7 and with the four rules we find in *Discourse* Part 2. Those rules are prescriptions that lay out in general a procedure to follow, given the account of the intuitive power. They are followed by a fuller articulation compared to what occurs when one refines one’s “instruments” in rules 9-12. In this sense “method” is not quite a natural outgrowth but a result of mind and art working together. The account of method, then, takes place in several stages. The method or rules of inquiry—what we may call method’s first stage—is tailored to the native powers of intuition and deduction. The first stage (rules 5-7) sketches in a rudimentary

way the procedure for thinking through any problem by using the native powers as far as possible: Problems should undergo a reduction followed by a composition; regard the problem as a complex that requires analysis; reduce that complexity by thinking out its simplest components. Once we have intuited those simple components, we then relate them to one another. Reasoning is separating and relating or dividing into simple elements and compounding out of those elements by the use of intuition and deduction.

Although inquiry will require both separating and combining—in this case intuition and deduction—Descartes means to mark a departure from some traditional accounts. As Descartes admits, it “may not seem to teach anything very new.” But it is new. He calls what distinguishes his way “the main secret of my method”—that “all things can be arranged in certain series, not insofar as they are referred to some kind of being (*genus entis*), such as the categories into which philosophers divide things, but insofar as one can be known from another.”

His exposition of this directive throughout rules 5-7 is difficult because it is so general and preliminary, yet we can note three things that characterize method in this part. First, it is adaptable to all kinds of problems because it posits explanatory simples that are known with certainty, but which cut across differences between kinds of beings. These simples he calls “simple natures”^{xi}; they are irreducibles in the order of thought that are grasped by intuition, and this intuition can occur in the midst of experience as well as in mere thinking. For example, if we are addressing a problem about motion, we understand motion in all its empirical cases as a simple nature. Thus in scientific cognition one can be indifferent to the varieties of bodies, whether natural or artificial, living or non-living, in which motion in any of its varieties occurs.^{xii}

Second, in place of the relation between substance or being and attributes, such as is present in the Aristotelian categories, method proposes that a problem be organized in virtue of relations between absolute and relative components of a problem. Note that he assumes we begin with a problem: method does not provide the problem. (Where does the problem come from, we ask? He gives us no thematic answer.) We look in the given problem for instances of the thing we seek, and distinguish a primary instance from other, secondary instances, in which what is sought is combined with other things. To adapt from a case mentioned in Rule 9, suppose we want to know whether motion has to take time—in Descartes’s words, whether some natural power travels instantaneously over a distance. We have in mind the “simple nature” “motion.” It is not to be understood as a nature in a metaphysical sense; it is an explanatory simple, a simple notion. We gather from experience many instances or cases of motions, and find among them the most obvious kind, the local motions of bodies. We then note among them a particular case of local motion, the one in which one end of a stick immediately moves the other end, and compare that to other cases, such as a stone that moves from one location to another. The former case is absolute or primary because it contains what we are in search of. This absolute instance contains motion unimpeded, motion simply; the motion in the case of the stone is combined with other things, like the stone itself traversing a distance and taking time. Of course, actual problems are much more complicated, and Descartes has in mind a more sophisticated way of relating components of a problem, which becomes clearer in later rules. But this simple example illustrates that an absolute depends on the problem at hand—it is not absolutely absolute—and, more importantly, it is a way of organizing that is intended to bypass the traditional categories of substance and accident.

At this point in the treatise, Descartes merely introduces the simple natures as that which makes possible linkages among the components of the problems. That is to say, the various items or instances or observations relevant to a problem are understood in virtue of complexes of natures or in some cases as a nature purely by itself; the item or items that contain the simple nature purely—by itself or in unmixed form—will be absolute.

Third, Descartes adds to the natural means of knowing, intuition and deduction, a process he calls enumeration. Enumeration has two different meanings. In its first meaning it is one of the rules for reasoning, reinforcing the scientific adequacy of the other two procedures. Deduction links each intuitive step to the next, and then to the next, and so on, so that reasoning takes place in a series of steps. Since perfect knowledge would require that all the steps in the sequence be present together in one intuition, enumeration allows us to approach this sort of perfection by surveying all the steps of the sequence in a “movement of thought that is continuous and nowhere interrupted.”

The second sense of enumeration, however, is more interesting because it is external to the rules for reasoning. In issuing those rules, as I have noted, Descartes assumes that one is already faced with a problem. Before one begins to solve it, one must gather everything that seems related to it, be they observations or thoughts that occur to you or reports from others one can test out. This aspect of method, which he calls “enumeration” in rule 7,^{xiii} is a survey and setting out of all those factors that are relevant to the problem. It is not intuition or deduction or even a review of deductions—and certainly is not indubitable—and it may be improved by practice. It requires a kind of discernment that is almost always an empirical matter. Seeing what belongs or may belong; detecting relevant cases and instances; distinguishing more and less important

factors; and making sure nothing is being left out, are necessary accompaniments for methodical inquiry. Although Descartes includes as a rule that enumeration in this sense is necessary, there are and can be no rules for how we should do it. Method requires the extra-methodical—some extra-methodical situation that he does not account for.

Descartes' attempt to provide simple rules of method already shows its weaknesses.

This second sense of enumeration proves to be even more fundamental when it resurfaces in Rule 8, a point which marks a new development in the argument. Here Descartes announces a comprehensive task that unfolds through the following five rules and is conducted by means of enumeration in the wider sense. That task is the investigation of the nature and scope of human knowledge. We have to understand our powers of understanding before we can inquire correctly. The investigation thus includes identifying and regulating the use of other helps to our knowledge besides the scientific powers we have naturally; that is to say, it includes the powers of sensation and imagination. In this stage of the argument, the “true instruments of knowledge and the whole method of inquiry come to light.” This inquiry, which specifies each cognitive function, is the task that is to be done “once in life.” It is the most important inquiry—Descartes calls it in one place the “finest” and in another “the most useful”^{xiv}—the one that underlies all other inquiry. If we are to seek knowledge rather than to happen upon it occasionally and if we are to achieve what we can rather than either to pretend to know or wrestle over and over with what we cannot, this inquiry is its foundation.

The inquiry is essential but not because the knowledge is uncertain or doubtful, as claimed in the *Meditations*; rather, since the intuitive power reliably lays hold of knowns or simple natures but does not in and of itself relate us to what exists, the inquiry is

necessary in order to establish the correct cognitive relation to the world. The investigation he now begins includes a more ample account of simple natures and determines the proper relation between them and what exists, including how those faculties we left behind in Rule 3, imagination and sensation, avail us. It both makes use of the intellect's freedom from those other powers and establishes strictures upon it so that it can function properly. But we cannot but note the problem: the account of mind's powers that is necessary to have before inquiry begins has to be laid out by mind before having the account by which it could be laid out. The benefit of the inquiry belongs to mind in the wider sense. The benefit is the harnessing and correction of *ingenium*, which turns out to be the corrected imagination. Without the correction, the desire for knowledge that drives inquiry often pushes us beyond what we really know or can know. Sometimes it leads to an almost permanent state of pressing yet unsatisfied inquiry and even to an elevation of that state—some have deemed it a kind of wisdom. Others have assuaged the desire by convincing themselves or others that they know more than they do, claiming insight into certain “philosophical entities.” The inquiry announced in Rule 8 intends to cure the mind of this disordered desire by making it possible to determine which problems are not within our powers to solve and by what means we may solve those that are. “It shows those who have perfectly mastered the [previous rules] how in the pursuit of any science so to satisfy themselves as not to desire anything further.” And it is specifically addressed to “a common failing of mortals to regard the more difficult as more fair; and they often think that they know nothing when they see a very clear and simple cause for a thing, while at the same time they are lost in admiration for certain sublime and profound explanations of the philosophers.” Thus the *Rules* undertakes and

perhaps^{xv} inaugurates a fundamental kind of inquiry critical of all forms of thought, an inquiry into the proper scope and nature of knowledge, which was taken up by subsequent thinkers, even those who curtail or reject the notion of intuition—Locke, Leibniz, Hume, and especially Kant, who will claim to have achieved definitively the corrective outlined here.

So the inquiry into the nature and scope of knowledge—the thing to be done “once in life”—is premised on the idea of science that Descartes has in mind and is tailored to realize that idea. It is not really a reflection on knowledge as much as it is a program for attaining knowledge: if we would have scientific knowledge that is unified, relies on native intelligence, and bears fruit in all sorts of inquiry without leading us into inescapable conundrums, this is the account of knowledge that we shall need. Giving such an account depends, then, on the intelligent artistry of a well or healthy mind. That artistry, although everywhere present and guiding the exposition, is to be nurtured in others through the habits of mind encouraged by Rules 9 – 11, but is nowhere fully accounted for in the *Rules*.^{xvi}

Descartes had anticipated at the outset of the *Rules* that all the sciences could be unified. The step he takes “once in life” in the *Rules*—the inquiry into the nature and scope of knowledge—culminates in a proposal for unification of the corporeal sciences only. The account of the nature and scope of knowledge supplements our native cognitive powers, intuition and deduction, with a corrected, methodical account of human sensation and perception, for which and in which Cartesian dualism of mind and body has its first appearance as two different powers, *vis cognoscens* and *vis motrix* (the knowing power and the motive power). This is followed by instructions for the proper use of our

cognitive faculties. The supposed account of human knowledge, then, turns out to be an account of how we can know corporeal things and utterly neglects an account of how we know and what we know when we know spiritual or intellectual things. The emphasis of the *Rules* insofar as it is completed is on the knowledge of the corporeal, and the unification that can be achieved through the construction of equations in that arena. Reason in its “pure” activity is important in that unification but only when it is limited: its natural power to generate abstractions exceeds what can be imagined truly. It does not give us access to a realm of beings separate from corporeal ones. The *Rules* fails to achieve science that is universal and unified since it recognizes two domains of knowledge—the spiritual and the corporeal—but attends only to the corporeal and makes no effort to combine the two domains.

The reasons that led Descartes to propose that an inquiry into knowledge must be taken “once in life” remain with him. Intuition and deduction had been left outside the turn to method in the *Rules*; in later writings, they will be what allow one rescue from universal doubt—they become “found” as reliable. Universal doubt will take the place of an account of “the need for method.” The need for method had its source in part in nature because nature has given us rudiments of knowledge but not reliable direction in or support for inquiries. The problem is not only that we have not succeeded in knowing those matters to which our powers are suited, but also that we seek to know those things that “pass the limits of human intelligence.” The inquiry “once in life” was to correct this situation. But it was presented as a tool, an instrument, added to natural powers; and the goal of the inquiry was only partly explicated and left wholly unjustified in the *Rules*. In the *Discourse on Method*, the goal of inquiry is explicit; in the *Meditations* implicit.

But there are further absences. *Ingenium* starts out as a “wandering” power that nevertheless has the ability to be formed differently; it isn’t mind in its scientific knowing that has to turn to method, but *ingenium* that has to abandon its customary ways. This power becomes regulated and more fruitful through the inquiry of Rules 12 and 14. But the turn to method is not itself methodical and looks to be necessary only if we accept the goal Descartes has in mind. The *Rules* completely neglects accounting for the artistry by which the method is designed or the good of desiring it.

In subsequent writings, Descartes will develop a theory of matter and motion and address more adequately an account of soul or mind especially in its cognitive capacity. In doing so, he does not abandon utterly the *Rules*; he abandons the idea that comprehensive wisdom can be based on the unity of scientific knowledge. Beginning with the *Discourse on Method*, *ingenium* returns in another guise as he attends to the natural propensities of human beings that lead or help fashion the desire for knowledge. Another aspect of soul, even perhaps a more fundamental one than its knowing power, eventually emerges and receives its fullest treatment in Descartes’ last work, *The Passions of the Soul*.

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ⁱ Aristotle, *Metaphysics* 993b8-10.

ⁱⁱ The phrase occurs three times in the *Rules*; in the *Discourse on Method* he uses a slightly different formulation: “I could not do better than to undertake to reject them [everything hitherto accepted as credible] once and for all [*une bonne fois*].” Citations from René Descartes, *Discourse on Method* translated by Richard Kennington, ed. by Pamela Kraus and Frank Hunt (Newburyport, MA: Focus Press, 2007).

4 The manuscript copy annotated by Leibniz contains the following addendum in Leibniz's hand: "a treatise of useful and clear rules for the direction of the mind in the search for truth." See *Regulae ad directionem ingenii*, ed. Giovanni Crapulli (The Hague: Martinus Nijhoff, 1966) p. 1, n. 1.

^{iv} Gilson cites theologians prior to Descartes, Mersenne, most notably, who use similar formulations, in which the cognitive faculty and the natural light are one and the same, e.g., p. 45. See notes on Gilson, where one finds other expressions.

^v As early as 1619, Descartes mentions a "completely new science" that will solve all problems that involve quantity. See the letter to Beeckman, 26 March, 1619. The Rules has a more extensive science in mind, one that will incorporate this "completely new science."

^{vi} See *Discourse on Method*, part 6, para. 3 for a similar formulation.

^{vii} Jacob Klein called attention to this, see *Greek Mathematical Thought and the Origin of Algebra*, (Cambridge: MIT Press, 1968) p. 202; p. 298, n. 316.

^{viii} The tension we see first in the *Rules* between the mind's power to know on its own and the necessity for it to be led will remain in Cartesian philosophy.

^{ix} Intuition appears to be atemporal.

^x René Descartes, *The Philosophical Works*, vol. 1, ed. John Cottingham, Robert Stoothoff and Dugald Murdoch, (Cambridge: Cambridge University Press), rule 2, p. 11. (Hereafter abbreviated CSM)

^{xi} Francis Bacon used the term "simple natures" as early as *Valerius Terminus*, 3.243.

^{xii} The example also indicates that Descartes is at least on the way to a theory of matter.

^{xiii} There are two meanings of enumeration in rule 7. It is a way of running through all parts of a deduction so that one can be sure it is complete. The other meaning is the one cited here, namely, the setting up of the factors involved in the problem by scouting and sorting all the relevant matters for its solution.

^{xiv} Rule 8 is not finally finished, but consists of at least two drafts (and possibly a paragraph of a third) in which Descartes tries formulations of the task. The term *semel in vita* occurs three times in the course of this rule.

^{xv} The Stoic tradition shows up once again here, but the inquiry into how we know is being turned to an end not envisioned by the Stoics.

^{xvi} In the *Discourse on Method*, he openly admits that this aspect of art, and by extension of scientific procedure, cannot be taught.