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Study

Introduction

The topic is this talk is study, and I am going to address it in two parts. First, why should we, as Christians in the middle of the world, study? Second, what is study? If we understand what it is to study, it will be apparent how to study.

Why Study?

We ought to study because God commands it and because it helps to fulfill two of our deepest needs, the needs for truth and freedom.

The first and greatest commandment is this: "you shall love the Lord your God with all your heart, and with all your soul, and with all your mind, and with all your strength." And the second is like it: "you shall love your neighbor as yourself." Mark 12:30-31. The object of study is truth, and thus to study is actively to love the Lord, who is Truth, with the mind. In this vein, St. Josemaria writes: "An hour of study, for the modern apostle, is an hour of prayer." The Way 334. Moreover, study for most of us who are not full-time students and have little or no "free" time demands a bodily sacrifice of lack of sleep or recreation. Study is an expression of love of God with the body and strength as well as the mind.

To study also fulfills the second greatest commandment. Through study, we become capable of serving others in a way that would be impossible without it. Think of nurses, teachers, plumbers, priests: all of these professions, and yours too, serve the common good and all of them depend on study. In fact, the more one studies, if the studying is along the right path, the more service one can render to the public and even to those within one's own profession. Study is a key to the sanctification of our work.

Another reason to study is that it is simultaneously a means of acquiring virtue and an expression of virtue. It demands discipline, sacrifice, concentration, humility, and perseverance. When we study, we gain in these strengths, and these strengths help us in other areas of our life, too.

Finally, study enables us to fulfill two of our deepest needs. Everyone wants to know the truth, and everyone wants to be free. St. Augustine famously said that man's heart is restless until it rests in God, but he also could have said that the mind is restless until it rests in the truth. God created an intelligible universe and has implanted in us the desire to know and understand it. We are marked by what some philosophers have called an "eros of the mind." Our intellectual curiosity, our thirst for the truth, is erotic. Study slakes this thirst; but, as we gain understanding, it also spurs us on to seek greater and greater understanding. The contradiction is only apparent, as we find the same phenomenon in our relationship with Our Lord. It is sweet consolation to love Him, and yet the more we love Him the more we long for Him.

As for freedom, for reasons that will become clearer in the next part of this talk, on the question of what is study, the contribution of study is that it facilitates something called self-appropriation or owning oneself. If you study well, the insights you will gain will pass into the habitual texture of your mind and will become your own. You will own your judgments and decisions, and have a confidence in them and in yourself, that otherwise you would not have. This is a liberation.

What is Study?

The next part of this talk is on the question of what is study and, implicitly, how to study. This part is more theoretical than the first, and to illustrate the points there are many practical examples.

To begin, if we want to understand what study is, or should be, we need to know at a basic level what the mind is doing as we come to know something.

- The ground of our knowing is sensory experience, as St Thomas Aquinas taught. We experience things through our senses of hearing, sight, touch, and the rest, and then we ask questions about those things.

- The essential question we ask about something is, what is it? (When we ask this question, we are usually asking what is the thing's form or nature.) From this question (what is it?) and the experiences in which the question is grounded, insights arise. Insights are answers which present themselves in our minds to the questions we ask, and they might be correct or incorrect. Insights are sometimes called acts of understanding.

- We can check insights by attending more closely to the experiences from which they arose, seeking out wider experiences if necessary, asking any further relevant questions, and letting additional insights suggest themselves. The process of verifying insights and answering the question, is it true? about an insight, is called judgment.

- In a nutshell, this is how our minds work, and how we come to know what we know. By means of asking relevant questions, EXPERIENCE gives rise to INSIGHT or UNDERSTANDING, which gives rise, through further questions, to JUDGMENT. Questioning is the driving force behind it all—the engine. No questions, no knowledge in the strict sense.

In this light, what is study? Study that is fruitful and worth our time is nothing other than putting this process of knowing to work in regard to a worthy subject.

In the first place, and here I am talking about both the what and the how of study, that means seeking out or creating and then attending closely to pertinent sensory experiences. I once met a student of Dr. Maria Montessori, who founded a long-running Montessori school in London. She wanted to master a very dense and difficult work of Catholic philosophy. Do you know how she approached the problem? She copied the entire text, all 200+ pages of it, in long-hand. She

created for herself a rich sensory experience of the text that she never would have gotten from flipping pages. Of course this is neither necessary nor sufficient to understand such a book; but in this case the student found it helpful as an aid to understanding to enrich her experience of the text.

To give another example: think of how hard it would be to do a complex math problem entirely in your head, without paper and pencil.

Here's another story to illustrate the importance of experience. Richard Feynman was a Nobel Prize-winning physicist; he helped develop the atomic bomb at Los Alamos; and he taught for many years at Cal-Tech and has published many books and lectures, as he was a very gifted teacher. He was a very funny man – for example, he used to pick locks at Los Alamos and open filing cabinets containing highly classified material, just for the fun of it and to show that better security was needed. One of the funny things, to me, about him is that it is said that his IQ was only somewhere in the 120s. That's smart, of course, but it's nowhere near genius level, and not what you'd expect in a physicist with his accomplishments. He wrote a book called Surely You're Joking Mr. Feynman, and in it and in interviews he reveals his techniques for learning and discovering. The key is that whenever he had to try to understand something that was difficult, he translated the technical terms or jargon into things he could understand and picture. Then instead of thinking in terms of the jargon, he thought in terms of the familiar things and the pictures. To give only one silly example that I remember, he said that when he was a child and reading a book about dinosaurs, and the book said the dinosaur was 30 feet high, he immediately pictured the dinosaur being as tall as his house and looking into his bedroom window. This practice of thinking of abstract things in tangible, concrete terms enabled him to stay grounded in rich experiences, and it was a key to enabling him to have the insights he had.

Here is another example: one of my friends teaches physical science at The Heights. This year he has set a goal to illustrate every major new concept with a physical experiment.

So, when we study, we ought to try and employ the senses as best we can. For example, instead of just reading a page, can we take notes, too? If we take notes, rather than just copying the author's words, can we translate those words into our own? Can we put the notes into an outline form -- this is a very effective trick of law students. Maybe the subject lends itself to drawing pictures, diagrams or tables as an aid to comprehension. Even better, can we discuss the subject with others who are also studying it? Does the subject lend itself to experimentation? These are all ways to enrich the experience of study.

What links experience to insight is questioning, so let's give examples of it. Here is an example from the field of business and management. Alfred Sloan was the legendary president and CEO of General Motors, when it was the biggest manufacturing company in the world. He knew implicitly that to find the truth and make right judgments and decisions, it is necessary to ask questions and in fact to encourage conflicting viewpoints. At a meeting of one of his top

committees he said: “Gentleman, I take it we are all in complete agreement on the decision here.” When everyone at the table nodded assent he said: “Then I propose we postpone further discussion of this matter until our next meeting to give ourselves time to develop disagreement and perhaps gain some understanding of what the decision is all about.” (Peter F. Drucker, The Effective Executive, p. 148, HarperBusiness, 1996.) The men on the committee had not really studied the matter, or perhaps they had but were intimidated by the CEO. Had they really attended closely to the data or reports or whatever experience they had, and had they asked the relevant questions based on the experience? If they were just going along, passively, not asking tough questions, then they weren’t engaging with their experience, and consequently, as Sloan suggested, they had not really come to an understanding of what was at stake in the decision.

We can grasp the role of questions in understanding by turning our attention to Jesus’s life. The first time in the gospels that we read of Jesus speaking—what is he doing? He is 12 and he is in the Temple, with the scholars of the Law, asking questions. See Luke 2:46. One could write a dissertation on the questions Jesus asks. For example:

- At the wedding of Cana, speaking to the Blessed Mother: “Woman, what have you to do with me?” John 2:4.
- To the Pharisees, asked if it is lawful to pay tax to Caesar: Bring me a coin: whose likeness and inscription is this? Mark 12:16.
- To the Pharisee, asked by what authority he does what he does: “Was the baptism of John from heaven or of men?” Luke 4:14.
- To the Pharisees again: “"What do you think of the Christ? Whose son is he?" [The Pharisees] said to him, "The son of David." He said to them, "How is it then that David, inspired by the Spirit, calls him Lord, saying, 'The Lord said to my Lord, Sit at my right hand, till I put thy enemies under thy feet'? If David thus calls him Lord, how is he his son?" Matt. 22:42-45.
- To Peter: “Do you love me more than these?” John 21:15.
- To the Father: “My God, my God, why have you forsaken me?” Matt: 27:46.

It is amazing what rich insights have arisen from these questions. When we study alone, or in a passive manner, though, it can be a challenge to generate sufficient questions to move the study along. That's one reason it can be helpful to work in study groups. Note that I am not talking about “bull sessions” or support groups. Stephen Covey recommended as a discipline that whenever you have just learned something important, make the effort to explain it to someone else within 24 hours. In doing so, you'll anticipate questions about the material, and answering the questions will enable you to come to a deeper understanding of it. Moreover, the experience of preparing to explain it and then explaining it will fix it in your memory.

Questioning is active, but insight or understanding is passive. In other words, questioning is something the active part of us does, whereas insight is a gift received by those prepared for it.

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How do you know that you've had an insight? Some of the characteristics of insight are: (i) it comes as a release from the tension of questioning; (ii) it comes suddenly and unexpectedly; (iii) it depends on inner conditions rather than outer circumstances; and (iv) it becomes part of the habitual texture of the mind. Have you ever had an experience like this? There was a problem you were dealing with at work, you'd been thinking about it a lot, maybe you were even dreaming about it. You could not figure out the solution to it, and you put it aside. Then one day you were driving or taking a shower or mowing the grass when, boom, the answer just appeared. Maybe it had to be refined with further thinking, but basically the answer was correct. That's an insight.

When we study, we should find that we are having many insights. We are making connections. We are discovering how one thing we have learned relates to other things we have learned. We are also finding that the more we know, the more we want to know: the eros of the mind is stimulated, and we have more and more questions. That's good: questions are paths leading to greater and greater understanding.

By contrast, what is study like without insight? It's boring. It's very hard to concentrate. It's a battle to keep the mind from wandering to a million other things we would rather be doing. It's superficial. And whatever we do pick up will likely soon be forgotten: it has made very little impression.

The last part of the process of knowing, or study, is judgment. Insight answers the question, what is it? Judgment answers the question, is it true? Math is a good source of examples of the two. Imagine you're trying to solve a problem using algebra. What are you looking for? x! Of course! So you work at the problem for a while, writing it all out with paper and pencil – that's experience – and insights come to you about which operations to try (for example, factoring out), and at the end you write out $x = 5$. That's the insight or culmination of insights. But is it true? Check your work. You go back to the original equation you were attempting to solve, plug in 5 for x, and try it again. Yes, you're right. x does equal 5. You're ready to stand by that answer. It's still possible that you're wrong, but you've moved beyond a reasonable doubt. That's judgment.

Judgment can go wrong in two basic ways. Most obviously, pre-judgment or prejudice or jumping to conclusions. The other is less obvious: refusing to make judgments at all. This could be the result of a belief that judging is bad or truth cannot be known; or maybe it results from laziness or cowardice. But as Christians and professionals, we have to make judgments and we have to take personal stands.

Study is fruitful and worthwhile when we are engaging in these mental operations: EXPERIENCE, QUESTIONING, INSIGHT, JUDGMENT, and when the subject of the study is worthy. But if study is bypassing these operations, then it is superficial and maybe it is a waste of time.

Before concluding, I want to mention two common impediments to study, which will also help illustrate what study should be.

First, not trying. Giving up before we've even begun. Not playing the game. Relying on others to study for us, which really means relying on others to think for us.

How could this come up? At work, it comes up very easily. One gains a certain level of professional formation and knowledge, then coasts on it. Study is hard, we have many other responsibilities, there are so many demands on our time, and in the short term study may not be rewarded. It might be something we have to do on our own time, not recognized by our employers. But the battle with ourselves to make time for professional study and to delve deeply into the questions that we're asked to tackle at work, and not to settle for superficial answers, is well worth fighting.

How does this come up in our spiritual lives? Again, very easily. Certain priests and popular speakers are very pleasing to listen to. They tell great stories and share with us their own insights. There's nothing wrong with listening to them, and we should listen to them. But we also need to study and think for ourselves. After all, it is we, not Father So-and-So, who are going to have to answer for ourselves on the day of judgment.

A second impediment is what could be called "conceptualism." It is the mistake of thinking that knowledge is a matter of words and definitions as opposed to insights. This is a subtle distinction, so let me give an example from Surely You're Joking Mr. Feynman.

Feynman was invited to teach physics at a university in Brazil. The students were book-smart and had done well on tests given by other physics professors, but Feynman noticed that when he asked them questions testing their knowledge of how physics applied in real life, they could not answer. At the end of the academic year he was invited to give a lecture, and there were VIPs present, government ministers, and the professor who wrote the physics textbook; and he was told, whatever you say, don't criticize the textbook. Feynman told the assembly that science is an understanding of the behavior of nature, and then he told them that no science was then being taught in Brazil. The students' study was limited to book-knowledge, and they were clueless as to how the natural world worked. To demonstrate the problem, he said he would choose, at random, any page of the textbook and show why it was not teaching science. He did so, picked a page at random, and started reading: "Triboluminescence. Triboluminescence is the light emitted when crystals are crushed…." Feynman said: "And there, have you got science? No! You have only told what a word means in terms of other words…. Did you see any student go home and try it? He can't. But if, instead, you write, 'When you take a lump of sugar and crush it with a pair of pliers in the dark, you see a bluish flash. Some other crystals do that too. Nobody knows why. The phenomenon is called 'triboluminescence.'' Then someone will go home and try it. Then there's an experience of nature."

Do you get the difference? Conceptual knowledge – one concept defined in terms of another, defined in terms of another – is knowledge without experience, questions, or insight. Definitions are formulations of someone else's insight, in someone else's words. As such, they are stale and forgettable, and not conducive to gaining insights on one's own.

If we need to work with definitions in our study, and sometimes we do, then we should aim to make the insights that led to the definitions our own. How? By attending to the experiences and asking the questions that led to the insights, which led to the definitions. That's what Feynman is urging on the listeners of his lecture: write the book, and teach the class, in such a way as to encourage the student to go home, get some pliers and a sugar cube, go in a dark room, and find out for himself what triboluminescence is. Then it won't just be an unpronounceable word or the answer to a question on a test. It will be a reality that the student won't soon forget and that might even spark wonder and further questions, leading to greater and greater understanding.

Conclusion

In conclusion, these same principles apply to our study, too, regardless of the field, whether professional or theological. We ought to aim for understanding, and this requires rich experiences and many questions. It takes time and effort to study at all, and potentially it takes even more time to study for understanding. But this is a pleasing sacrifice to God, who asks for the love of our whole minds, and it greatly benefits us in that it enables us to serve our neighbor and sanctify our work, makes us more virtuous, satiates our desire to know, gives us confidence, and helps make us effective professionals and apostles.