St John's College

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This is a personal account of a place where I spent four years.

St John's College is an American private non-denominational liberal-arts college. Its Great Books program was instituted in 1937. The College itself was chartered in Annapolis, Maryland, in 1784, and one of its early alumni was Francis Scott Key, who, after witnessing the failed British attack on Baltimore in the War of 1812, wrote the poem that gave its words to the American National Anthem. Over a century later, in 1936, Key's *alma mater* was failing, and its governors brought in the reformers Stringfellow Barr and Scott Buchanan, who created the Great Books program. In 1964, the College established a second campus in Santa Fe, New Mexico. Students may transfer between campuses, as indeed I myself did.

I matriculated at St John's College in Annapolis in 1983, because of the line that today is found on the College's website:

> The following teachers will return to St John's next year: Homer, Euclid, Chaucer, Einstein, Du Bois, Virgil, Augustine, Aristotle, Washington, Woolf, Plato, Tocqueville, Austen, Newton, Cervantes, Darwin, Mozart, Galileo, Tolstoy, Descartes, Freud, ...

Such authors[1] are read at the College in classes of four kinds:

1) *Tutorials,* in mathematics and in language, in each of the four years of the undergraduate program; and in music, in the sophomore year;

[1] There is no fixed list of Great Books or Great Authors; the works read at St John's College may change somewhat from year to year.

2) *Laboratory,* in the freshman, junior, and senior years;
3) *Seminar,* every year, Monday and Thursday evenings, from eight till ten o'clock or later;[2]
4) *Preceptorials,* replacing the seminar for some weeks of the last two years.

Teachers at the College are called tutors. They do not lecture. Classes are discussions around a table, with excursions to the blackboard or the laboratory bench by students as appropriate. A seminar consists of about twenty students and two tutors, who read and discuss books more or less chronologically.

The ideal of the seminar as I see it is to come to terms with the book under discussion—be it Homer's *Iliad,* Dante's *Inferno,* or Kant's *Critique of Pure Reason*—without calling on secondary sources. All members of the seminar should participate in the discussion, as in the deliberations of a jury. One role of the tutors then is like that of a jury foreman: to keep the discussion from being sidetracked, and to ensure that quieter voices are still heard. Unlike a jury, a seminar need not reach a unanimous conclusion. A tutor starts each seminar with an Opening Question; but this may be forgotten in the course of the discussion.

The *ideal* is not to use secondary sources. On the other hand, until one reaches Chaucer in the sophomore year, all of the readings themselves can be considered as secondary sources, because they are in translation (from Greek, Latin, Hebrew, Italian, and so on). One function of the language tutorial is to address this problem. Its focus in the first two years is ancient Greek; in the last two, French. One learns enough to read in the original, or at least translate, Plato and Homer, Flaubert and Baudelaire. One thus learns to be a bit suspicious of *any* translation. The tutorial is not the Greek tutorial or the French tutorial; it is the language tutorial. An important aim is realized if the student comes to see what a miracle it is that we can communicate at all.

I have not said it, but the reader may have inferred it: there are no electives at St John's. All first-year students take the freshman mathematics tutorial, so they all read Euclid and Ptolemy; in the junior year they all read Newton.

[2]It was so in my day; apparently now seminars in Santa Fe are half an hour earlier.

The preceptorial *resembles* an elective: each of the junior- and senior-year seminar tutors leads a preceptorial, to which students are assigned according to their preferences. When I was a student in Santa Fe, the ideal articulated by the Dean of the College there was that the preceptorial studied in depth a work that students had already encountered. My preceptorials were on Plato's *Republic* and Aristotle's *Metaphysics*; a few others that I remember were on Kant or Flaubert or George Eliot.

The reader may wonder how students are evaluated. From teaching at conventional universities, I have learned how concerned *students* can be with how they are evaluated. Perhaps the most important evaluation at St John's is *self*-evaluation. In any case, students *are* assigned letter grades, but these are not routinely told to them. I myself did not ask to see my grades until I had graduated from the College and was applying to graduate school. Grades at St John's are presumably based on written essays, classroom participation, and individual meetings with tutors; there are no written examinations to base grades on.

There *are* a few examinations, oral and written, designed to ensure that a student is technically ready to pass from, say, junior language to senior language. Twice a year, in the so-called Don Rag, each student meets with his or her tutors, who discuss the student's performance in the third person.[3] This causes some students not to sleep the night before, or to flee from the event itself in tears.

St John's College asserts that many of its graduates go on to achieve success in fields such as law or medicine or even mathematics. Early in my time at the College, I met a student who was keen to become an astronomer afterwards. But I think she did not finish the College's four-year program. I myself cannot see any point in attending the College for the sake of the degree at the end. You attend because you believe it is the place to be; you continue to attend because you are moved by inner compulsion to do the work.

Who wants to go to college to listen to what eighteen-year-olds have to say about the most profound books ever written? Not everybody does. I did.

[3] According to a recent student handbook, the junior-year don rag is called a conference, and there is no longer a don rag at all in the senior year, on the grounds that seniors can judge their own performance.

One might just as well ask, Who wants to engage a psychiatrist just to listen to oneself speak? Some people do, and it can be worthwhile. I say this in part from considerations of the Freud that I read and discussed at St John's. When I was a freshman I described the College as a kind of psychoanalysis of civilization.

There are truths that cannot be told to us by anybody else. They may be truths about our individual selves; they may be truths about humanity. If at the age of eighteen one is not ready to appreciate all of the truths in Homer's *Iliad* or Aristotle's *Ethics,* perhaps there is no purpose in having them pointed out by a professor in a lecture. At least if one has the experience of reading the books oneself and talking about them, one is better able to return to them later to find out more of what they have to offer.

Johnnies—College alumni—*do* return to the books. They join alumni seminars on the College's campuses, or in the various cities where there are critical masses of Johnnies; they hold seminars by email or so-called social media.[4]

Again, why attend St John's in the first place? Some of my own motivation can be traced to my high-school sophomore year, before I had heard of the College at all. My geometry class was rigorous: we proved everything, albeit in the two-column, statement/reason format. I developed the idea that the real purpose of geometry was to learn, not about shapes, but about logic. Still I found something unsatisfying about our course and its textbook. I wondered why we did not just read Euclid. I got hold of the three volumes of Heath's translation, and I read some of Euclid's propositions myself, though not in any systematic way.

In the next two years I learned calculus. When I found out about St John's College, and I understood that freshmen there read Euclid, this in itself may not have been an attractive point for me personally. Euclid should be read, but perhaps in high school rather than in college. Still, better late than never. In any case, after Euclid there would be Ptolemy's spherical geometry, Apollonius's conic sections, and so on.

[4] I have been part of a Johnnie email discussion list (currently constituted as a Google Group) for thirteen years. I submitted a draft of this article to that list, and I am grateful to those members that read it. Comments by Marion Billington, Bill Randolph, and Michael Schneider in particular led to changes in the article.

Meanwhile, I read Robert Pirsig's *Zen and the Art of Motorcycle Maintenance.* I came to share Pirsig's grandiose notion that the foundations of Western civilization needed to be questioned. St John's College appeared to be just the place to do this questioning.

Some colleges and universities try to attract students by requiring them to take no particular courses. Students work out their own programs in consultation with advisors. To me at seventeen such a possibility was not an attraction. I didn't know much of anything; how could I pick and choose among various courses? What would be the point of specializing so soon? St John's College offered the whole world.[5]

Still, in the last two years of high school I was particularly fascinated by mathematics. We used Spivak's *Calculus,* a book that does not condescend, but treats its readers as fellow mathematicians. Reading Spivak's chapter on the transcendence of e was a mystical experience.

But at seventeen I could not see myself as being just a mathematician. There was too much else to learn. Also, while my calculus teacher made me excited about mathematics, he was not personally admirable. I did not want to be like him. I understood that mathematics was an excellent escape from the uncertainties of adolescence. But I did not want just to pursue this escape.

I performed well in a contest held by the mathematics department of a local university. The aim of the contest was to attract students to that department. At the reception after the awards ceremony, I did not then feel as if my place was among the professors there. One of them, not knowing what else to say, asked me what kind of mathematics I was interested in. How could I know? I was being asked to specialize, not just in mathematics, but in some particular branch. I was not ready for that.

An aunt recalled to me her college music course. She had known nothing about music before. In the course, she learned something completely new. It filled her with elation. In telling me this, my aunt was probably trying to discourage me from just pursuing something that I was already

[5] One may quibble that this was only the Western world. The College does have a graduate program in Eastern classics, instituted since my time.

good at. She may have been wrong to do so, particularly if she herself had a prejudice against mathematics.

And yet a marvelous thing about St John's College is the willingness of all students to take the complete program: to learn to read

> Κατέβην χθὲς εἰς Πειραιᾶ μετὰ Γλαύκωνος τοῦ Ἀρίσωνος, προςευξόμενός τε τῇ θεῷ καὶ ἅμα τὴν ἑορτὴν βουλόμενος θεάσασθαι τίνα τρόπον ποιήσουσιν, ἅτε νῦν πρῶτον ἄγοντες

and

> La sottise, l'erreur, le péché, la lésine
> Occupent nos esprits et travaillent nos corps;
> Et nous alimentons nos aimable remords,
> Comme les mendiants nourissent leur vermine;

to go to the blackboard and prove

> If a cone is cut by a plane through its axis, and also cut by another plane cutting the base of the cone in a straight line perpendicular to the base of the axial triangle, and if, further, the diameter of the section is parallel to one side of the axial triangle, and if any straight line is drawn from the section of the cone to its diameter such that this straight line is parallel to the common section of the cutting plane and of the cone's base, then this straight line to the diameter will equal in square the rectangle contained by (a) the straight line from the section's vertex to where the straight line to the diameter cuts it off and (b) another straight line which has the same ratio to the straight line between the angle of the cone and the vertex of the section as the square on the base of the axial triangle has to the rectangle contained by the remaining two sides of the triangle;

to read and discuss *The Brothers Karamazov*; to perform the Millikan Oil Drop Experiment and understand it as evidence for the quantization of electrical charge.

In high school I noticed that classmates struggling to solve an exercise in Spivak were reluctant to ask me for help, though they knew that I could probably give it. They were competitive and wanted to feel that they could succeed on their own merits. Perhaps this was not a bad impulse in itself. But when I had been at St John's for a while, I was impressed by the students who did ask me for mathematics help, although they knew me only by repute. There was no exam coming up, there was no homework to turn in. The usual classroom procedure was for students to present the reading at the blackboard; but students volunteered for this duty. A friend once expressed satisfaction at having got through a semester without having to go to the blackboard. Other friends pointed out that this was not something to be proud of.

The number of freshmen on either St John's campus is a hundred or somewhat more. My graduating class in Santa Fe was around fifty. Evidently many students may drop out.[6] When graduating, I did not know what I would do next. I decided to pursue a completely new kind of education: I went to work on an organic farm. I learned to spend all day out in the sun, bent over, pulling weeds, looking under leaves for strawberries, digging little holes for squash seeds; or riding on a hay wagon, getting blisters and scratches as I stacked up the bales spat out by the baler. I became physically stronger than ever before, and I ate food that my comrades and I had grown and harvested and cooked ourselves. But I realized that I had to study mathematics. It would always fascinate me, and I would suffer if I did not actually learn the subject as it was taught today.

Again, there are four years of mathematics at St John's, but learned from original sources as far as possible. This is not always possible. One needs a crash course in multivariable calculus so that some sense can be made of Maxwell's equations of electricity and magnetism. One can however read Newton's own derivations of Kepler's laws of planetary motion, because one has learned about conic sections from Apollonius, as Newton himself did. One reads Lobachevski as a counterpoint to Euclid. The latest work of mathematics that I read at St John's was Gödel's 1931 article 'On formally undecidable propositions of *Principia mathematica* and related systems'.[7]

When I entered graduate school, I took graduate courses right away. I had taken an undergraduate analysis course in the preceding summer,

[6] Apparently the drop-out rate in recent years has been much lower than before.

[7] I read this in an extracurricular study group whose other members were tutors; this was in the summer before my senior year, when other students were not around. In an earlier year I had joined a Kepler study group, initiated by a student and led by alumnus William Donahue, who was translating Kepler.

on the recommendation of my new department; but this was frankly not challenging,[8] so after that I went ahead with the regular graduate real analysis course. I never had computational or problem-solving courses like linear algebra or differential equations, and probably I suffered for this, though it was not clear how. I learned something of those subjects only when I was asked to teach them later.

As a teaching assistant given sections of a large calculus lecture, I needed time to get used to leading a classroom and writing quizzes. I had little experience to draw on, unless I thought back to high school. I particularly did not like giving grades to students' quiz answers. I asked the students what *they* thought of the practice of grading. One of them told me that grades helped him to know how well he was doing in a course. But particularly in mathematics, students should be able to tell on their own whether they have solved problems correctly. A solution is a proof, even if it leads to a numerical answer. The authority for the correctness of a proof lies within each of us. This is obscured by the traditional classroom setup in which all students sit facing the teacher.

I had to sit that way myself in the courses that I took, and I found it strange. Perhaps there was no alternative. But I am sorry I did not get to know the work of my classmates as well as that of my St John's classmates. I know what *I* consider to be good mathematical style; I know what publishers and journal editors consider to be at least acceptable mathematical style. But I do not know how well my graduate-school classmates wrote, because I did not see their writing.[9]

At St John's I did not usually see the *writing* of my classmates either; but I heard them speak in class, and I saw them present arguments at the blackboard. I made such presentations myself.

For the last twelve years, I have lived at the eastern half of the Mediterranean Sea, in what is now called Turkey, because the person I fell in love with and married happens to be from here. Most of the books of the first two years of the St John's program were written here, and this

[8] On my own I had already worked through some of Apostol's *Mathematical Analysis*.

[9] A particular question I have is whether any of those classmates tried to fake their way through a proof. Did they write something that a grader might accept, although they themselves do not understand it? Sometimes I think the best thing I can do as a teacher is to induce my own students not to engage in this practice.

is one more reason why it is a thrill to live here. Having experienced an insistent Turkish hospitality that may not take no for an answer, I feel as if I can finally understand the first page of Plato's *Republic,* where Polemarchus compels Socrates and Glaucon to stop by his house in the Piraeus.

Part of the Turkish national mythology is that the Turks entered Anatolia in 1071 after the Battle of Manzikert, and they took Istanbul in 1453. Even this late date is older than 1492, when Columbus sailed the ocean blue and—according to the American mythology—discovered the land where I grew up. Still, a thousand years is not long in the history of Asia Minor. It is a shame to limit one's feelings for this place to the last millenium. Istanbul is mine now; it was mine in 1453; it was mine when Constantine founded it as Constantinople in 330; it was mine when it was Byzantium, and Xenophon passed through with the remains of the Ten Thousand around 400 BCE. Centuries before that, somewhere down the coast, Homer composed the verses that I often read there today. As John Donne wrote in the meditation that gave Hemingway the title of *For Whom the Bell Tolls,* 'I am involved in *Mankinde*'.

Many people declare allegiance to a football team. They care whether their team wins or loses: it affects their happiness. I do not understand this passion very well. On the other hand, I do have my own team. It includes anybody who has played the game of life and left some record of what can be done with it. At St John's College, I spent four years pondering such records—poems, dialogues, treatises, plays, novels, operas, paintings—in a community of people who were intent on doing the same thing. I could say the experience was a high point of my life; but the experience is not over, nor will it ever be.

Indeed, when I graduated from St John's, I told somebody that I had learned to be happy. That was a grand claim, and I am not sure why I made it. It was premature, because of the miseries that were to come as I tried to figure out what to do next. But it seems to have turned out reasonably correct so far, as a prediction of the role that the College would play in my life.

Allan Bloom addressed our 1987 graduating class. His popular treatise *The Closing of the American Mind* had come out recently. From his address, I remember the assertion that we are most human when we are reading great books with friends. Now, this is just what St John's wants to hear, and therefore a Johnnie should be leery of it. But I think there is something to it. At any rate, St John's either helped me to become myself, or made itself a part of me.

There may be many ways of feeling, if not fully *human,* then fully *alive,* fully engaged, fully doing and being what one wants to do and be. A friend at the College described, in some such terms, the experience of being drunk. That is fine as far as it goes, and indeed, if people are going to be incorrigible alcoholics, it would be better to give them a place to drink in safety, rather than in the gutter. But perhaps alcoholism should not be encouraged, while reading, thinking, and discussing should. Questions are raised about the value of education. What is it good for? It does not have to be good for anything. Not everything can be good for something else. Some things are good, simply. The more people have those goods, the more the world is better. You can measure a society by average income, or car ownership, or cell phone use, or years of education. What measure is best? *Is* there a best measure?

I can propose freedom as the best measure, except that freedom itself is not really measurable or even definable. The last seminar reading for my class at St John's was *The Adventures of Huckleberry Finn.* Who is free in that book? Jim becomes free from legal slavery; but for him *and* Huck and Tom, becoming free from the *habits* of slavery is not something that can be accomplished by legal decree.

I mentioned the freedom to choose electives at conventional colleges and universities. I am not sure it is a freedom to be proud of. But then I am convinced by the arguments of Plato's Socrates: it is hard to know what we really want. Students are not customers who should be presumed to be always right. If they were always right, they would have no need for school in the first place.

At St John's there is no freedom to choose courses. There is freedom to question what one is told, whether by another student, a tutor, or a book. There is freedom to express one's own opinions, provided one is then willing to face others' questions. This is a freedom that can be granted, perhaps, like freedom from chattel slavery; but the grantee cannot be forced to take advantage of it. This is why I do not propose that all schools should be like St John's. But schools like St John's should be available.

Sometimes at the beginning of a semester now, at my conventional university, I declare to my students that mathematics is freedom. Religions and governments try to impose dogmas, making children recite formulas that they are supposed to believe. Mathematics cannot be so imposed. It is not mathematics if belief in it can in any way be imposed. Mathematics must be freely accepted through personal conviction. But I cannot make students believe *this* just by telling them.

Possibly I can *show* them, or induce them to see it for themselves. In recent years I have found the freedom to run a class like a St John's tutorial. In three semesters at two universities, I have had undergraduates go to the board to present propositions from the likes of Euclid, al-Khwarizmi, Cardano, and Newton. But the student at the board will often just address me, not the class; she or he may parrot the mathematics without understanding it; classmates may not pay attention. Education for these students is still just something they receive from a teacher, not something they demand from everybody around them, *including themselves.* They have the freedom to demand it, but they cannot be forced to do so. Still, sometimes students do raise questions, and discussions among them ensue. *Then* they are learning something.