

Intersections

I was not a student of Solomon Marcus. In the close to 60 years of contact with him, I morphed into the role of a student, but also into the roles of an admirer, a critic, and, when he requested, into being the professor's professor. The word *friendship*, i.e., *friend*, meant for him, as it does for me, more than what is meant in the casual use of the qualifier. I can't recall if we ever said to each other "You are my friend." But I know that he treated me like one; and I know that he felt for me as only those very few whom I trust feel. The naïve high school graduate who asked the still young very young professor of mathematics where I could study "What is creativity?" discovered in Solomon Marcus a mentor, at the beginning, and, as time passed, one of the few able and willing to enter a dialog. He was genuinely interested in learning; he was a good listener; and more than that, a generous source of questions. Let me use this opportunity to lend substance to these qualifiers through facts.

As still a young student wanting to find out whether computers could be used in and for creative activities, I needed access to the University Computer Center. Solomon Marcus first wanted to be sure of how serious my interest was. In the early 1960s, we spent quite a number of afternoons together. I showed him my first attempts at mapping from numbers to simple elements of pictures: lines, geometric shapes, shades/shadows. It took a while for him to decide that it was time for him to introduce me to Grigore Moisil, the man behind the University Computer Center and the IBM machine that I so eagerly desired to use. Grigore Moisil trusted Solomon Marcus not only as a mathematician, but also as a man of character. No one else would have been able to introduce me more convincingly than did Solomon Marcus. I showed my computer-generated images to Professor Moisil. These were probably among the first ever produced. I showed them to Solomon Marcus. And I started writing about my experience in terms involving geometry, the theory of perspective, and Aristotle's notion of *prolepsis*. It was probably Aristotle's text that triggered not only the interest of Marcus and Moisil, but also my own awareness of what would become the dominant subject of my activity: anticipation.

Here I am getting a bit ahead of myself. Before anticipation, I indulged in semiotics. Solomon Marcus was already established in the field. For more than ten years, he gave me unrestricted and unlimited access to all the resources he had accumulated. His reputation grew very fast even within a regime not always supportive of his activities. It is in this context that I learned what greatness means. Solomon Marcus copied for Mihai Nadin all eight volumes of *The Collected Works of Charles Sanders Peirce*. Let it be acknowledged here, as emphatically as possible, that in an age of limited access to books and scientific publications, in which even permission to read at the Library of the Academy was not easily granted. Solomon Marcus literally made possible my own work in semiotics. Without his help, I don't believe that I would have attained the level of acknowledgment in semiotics that I did. His was not the generality of generosity; it was generosity in its most concrete forms.

Let's return to some more specific examples. Solomon Marcus spent some time as the guest of my wife and I during my tenure as the Head of Computational Design at the University of Wuppertal (Germany). During that time, we had extensive conversations on the nature of computation, the relation between computation and semiotics, and the relation between theory and practice. He was fascinated by computational design—a discipline I founded in 1994 and for which I was trying to provide a conceptual foundation. In the perspective of time, I understand why, in making reference to my activity, he highlighted computational design. He worked hard in my laboratory, discovering how to manipulate images and trying to suggest interesting tasks to

students. In the tools of computational design, the “child” in Solomon Marcus found a medium for creatively expressing himself.

The man who xeroxed Peirce’s eight volumes for me was happy to find in my laboratory library a xerox copy of Robert Rosen’s *Anticipatory Systems*. To understand the way Solomon Marcus approached everything he’d done in his life, one had to have the experience of his reading. You could read on his face how he took in a book or a journal article, his beautiful handwritten notes should be considered as yet another form of his expression. I hope they are still available and that someone will eventually scan them. He shared such notes with me. They contained not only the summary of whatever he had read, but also many, many questions. I know that Edsger Dykstra’s notes, which the University of Texas at Austin offered to the public after his death, fulfill a similar function of posing new questions for further exploration.

Our time together in Wuppertal also involved the arts, his love of theater, his love of poetry. It was also the first time we discussed what Jewishness meant to him. My wife was working on *Jewish—Does It Make a Difference?* (a book of interviews with significant Jewish personalities) and Solomon Marcus provided several references and insights, which are reflected in the book. The subject of his own Jewishness deserves the attention of those who want to understand the extremely broad perspective revealed through his almost encyclopedic work. It was in Wuppertal that we discussed the relation between science and religion, as well as his unreserved dedication to Romanian culture.

Our first meeting after my move to the USA was at the IV Congress of the International Association of Semiotic Studies in Barcelona and Perpignan (1989). Of course, he was happy that his work was acknowledged there. In Perpignan, Umberto Eco, who held Solomon Marcus in high regard, made sure that his colleague and friend from Romania was treated with the dignity he had earned. Another conference, in Dresden, Germany (April 1995), gave me the opportunity to experience a colleague defending my new work—*The Civilization of Illiteracy*—against those who were so deeply captive to the past that they could not understand the various challenges of a new civilization transcending the literate model that had dominated life and culture for centuries. About one year later, at the renowned Dagstuhl International Seminar and Research Center for Information Science, Solomon Marcus was my guest. Together with Professors Frieder Nake (Informatics, University of Bremen) and Peter Bogh-Andersen (Information and Media Studies, Aarhus Universitet, Denmark), I organized the conference on Information Science and Semiotics, where Solomon Marcus gave a most inspired presentation.

Mentioning all this is not an attempt to simply extract some intersections from my own biography and his. Rather it is meant to suggest an international journey during which Solomon Marcus evolved as a respectable scientist of the age of computation. The superb mathematician never gave up his desire to see his ideas applied. Always honest, never taking credit for accomplishments that were not his, and most important, always bringing up the work of his students, celebrating their successes in a manner in which I wish others would emulate. It does not suffice to be a good teacher—he was exceptional—it is more important to give to your students an opportunity to find their own voice. The opportunity to learn from and with Solomon Marcus pertains not only to those who were formally his students. He enjoyed giving public lectures, just as he enjoyed participating in conferences and study groups of all sizes and on all types of subjects. By way of recollection: on the evening of March 4, 1977, a group of us semioticians were discussing the semiotics of earthquakes. Less than 30 minutes before the meeting ended, we experienced “semiotics in action.” The earthquake and everything it entailed—people yelling (“Au venit rusii”), confusing the rumble of the quake with that of

invading tanks, or blaming the sins of their neighbors and families. To the same semiotics belongs the image of hundreds of people—ordinary citizens and soldiers—on their knees. Later came the jokes: the diabetic earthquake (many *cofetarii*, i.e., bakery-cafes, were destroyed); and later the stories and reports in *Scinteia*. I eventually presented a report of my semiotics experience to Solomon Marcus, and we both concluded that strange associations can sometimes lead to useful thoughts.

Sorin Istrail, yet another distinguished scientist, involved in the Genome Project, with an endowed chair at Brown University (Providence, Rhode Island) was insightful enough to invite Solomon Marcus—not once, but twice—to lecture, thus offering a generous gift to all those—including me—who had the privilege of listening to Solomon Marcus. I spend summers at the Rhode Island Oceanside, where he and I spent some days discussing the ideas set forth in his lectures. More important, we discussed those scientific questions that became our respective lives. Most of the time, we did *not* agree. Still, our dialog evolved in an atmosphere of serenity and within the same understanding that constitutes the foundation of a reciprocally respectful relation. *Time* was brought up, a subject that preoccupied him quite a bit. The famous confrontation between Bergson and Einstein was replayed in our attempt to make the distinction between *duration*—the outcome of a machine called “clock”—and the large variety of rhythms associated with life. The scientific field of *anticipation* made up a large part of our conversation. He could not see how a possible future could influence the present. But health—much on his mind since a major surgical intervention—aroused his interest, opening the door to the extent that I had to promise him a list of my articles on anticipation. Both in 2010 and 2012, our time together brought up memories of conversations dating back to 1964, when he became conferențiar and years later when he became Membru Corespondent al Academiei. That my book, *The Civilization of Illiteracy*, was translated into Romanian 20 years after its publication in English, and that Doamna Lavinia Spandonide made this happen are only reflections of her own love and admiration for the genius that Solomon Marcus was.