

## Encounters with "Le cas de Sophie K"

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### One

I first came across the name of Sofya Kovalevskaya, when as a graduate student in Switzerland I was reading about what to me is one of the most fascinating periods of the history of mathematics—the second half of the 19<sup>th</sup> century. It was a time of outstanding creativity and rigorous exploration of (im?)possible abstract universes, as if the game had been how to mathematicize the most obtuse of counterfactuals. Geometry became non-Euclidean, and continuity and limits—the dynamic and holistic cornerstones of Calculus—became the opposite, static and discrete! The great Karl Weierstrass, Sofya's teacher and mentor, made the latter possible. The European society of the time, solidly settled on its well-established moral and family values, was beginning to witness the first germs of social change that would explode in the century to follow. With a few exceptions, women couldn't enroll in Universities, and a large part of the population still remained illiterate and practically out of the intellectual and scientific *Zeitgeist*. Kovalevskaya's short and intense life unfolded in that Europe. A gifted, determined, motivated young girl from the Russian aristocracy who would navigate her mathematical talents through her passion for literature and artistic expression. She would carve her way, often painfully, through the monotonous unfriendliness of the male-shaped social milieu.

## **Two**

That was my (rather academic) understanding of Kovalevskaya, until the Spring 2005, when I was introduced to the play (or should I say the emerging play-to-be?) "Le cas de Sophie K" by Jean-François Peyret and Luc Steels. The play was, at that moment, literally being put together at the old monastery of La Chartreuse, just across the Rhone from Avignon. It was scheduled to have its première right there as part of the official program of the well-known theater festival in July. In this opportunity, I learned about Sofya's life, not through academic books or journal papers, but through apparently random sounds, smells, gestures, and colors, improvised chants and dialogues. Reflections and images spiraled into my mind via melodies finely executed by the fresh presence of human voices, or by the complex elegance of a piano, and often by pristine recordings of arhythmic everyday noises. The music would shift from classic to popular, from religious to profane, and the whole would blend with video cameras, gracefully distorted photos, digital archives, webcasts, provençale food, spontaneous rehearsals, and talks. Yes, talks and discussions. Presentations covering all kinds of heterogeneous materials—mathematical topics, human language, history—would interact with piano and dance, in various spaces, closed, open, indoors, outdoors. The entire troupe would be immersed in actual collective creation. Such was, in my understanding, the setting of the plot of "Le cas de Sophie K" that spring: unsettled, improvised, in the midst of gestation, not even young yet, unfolding in real time before my eyes. And I was (quite indirectly) part of it.

## **Three**

That Spring I had a wonderful time at La Chartreuse! Beyond the intrinsic poetry embedded in the thick walls of the monastery, I deeply experienced the beauty of scientific and academic contents through artistic expression. How enriching it can be to sense a given subject matter without the necessity of providing right answers supported by flawless argumentations, but rather with half-interpreted

proposals and multiple suggested meanings—with free unbounded associations instead of decisive formal proofs. And how valuable is to exploit the subtleties and unpredictability of human improvisation! Inviting endeavors such as “Le cas de Sophie K” pay tribute to the complexity and diversity of the human soul. They are nourishing and healthy. I realized how essential is to actively engage our selves in the investigation of primarily rational and intellectual content through the basic grounding of artistic sense-making. Why don’t we have more adventures like this one?

## **Epilogue**

But that Spring, one last question remained open in my mind. I was still intrigued to see how that shape-free organic process I was experiencing would actually become a full blown play—with a plot, with a specified narrative, with definitive choices of set, costumes, and music. Certainly, Sofya’s life naturally provides drama and excitement, dilemmas and peculiar characters, intellectual inquiry and emotional struggles. But how would this be accomplished during the remaining weeks before the première? Tremendously curious, I returned to Avignon in the Summer for that opening performance. And what I saw was a masterpiece of coherence, accuracy, and fluidity. Ambiguously precise, synchronous, meaningful, melodic and colorful. A superbly distilled delivery of the organic gestation I had witnessed.