



## SYMPOSIUM "PERSONAL ENCOUNTERS WITH SERENDIPITIES"

# Serendipity in Writing the Lives of Scientists

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When writing the life of Gérard Debreu, a celebrated and multi-layered mathematical economist, I encountered two cases of Serendipity.<sup>1</sup> First, when Debreu spoke about his discoveries - a perspective that I could hardly neglect - he repeatedly spoke of a series of chance events, as though he never actually wanted to discover anything. It would not have been possible to say much more about what really happened to him without the chance events that his personal archives were recently opened at the Bancroft Library in Berkeley, and that I got in touch with a cooperative daughter, who had more to say about her father than he had said himself.

These two cases imply two questions: When writing the lives of scientists, how much should we allow our narratives to be infused by luck and chance? And what would be the consequences for the method of life writing?

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The first question might seem trivial. It is palpable that a convincing account of a scientific life must avoid the cheap determinism of the 'inborn genius' which slowly but surely becomes manifest through great discoveries. Biographical determinism is at odds with the idea of the creative encounter with the novel that describes scientific discoveries. The ability to make 'lucky discoveries' while looking for something else, as Merton viewed Serendipities, has nothing mystical to it; it requires no more than a generalized alertness to the unexpected. The genius with the privileged gift of receiving truth is a character that better sits in writings about saints with mystical abilities than in science biographies. The genius does not help us understand science; on the contrary, it removes it even farther from ordinary life. Perhaps it is for this reason that life writings are often seen as an uncritical genre in the philosophy of science.

While avoiding overly predictive narratives, some chance events must be employed if only to give some value to *context*. The contingency of finding oneself 'in the right place at the right time' is at the heart of narratives that reveal the historical specificity of discoveries. Serendipity is thus an essential element of any historical narrative insofar as it gives value to the historical situation in which *prima vista* unrelated social domains are brought together in surprising ways. In science - precisely because it is supposed to be independent from other departments of cultural life - there are often surprising links to social, political, or moral orders that give occasion to scientific adventures. Moreover, if one wishes to avoid anonymous social structures, it is through the lives of the scientists that these surprising links can be described in experiential terms.

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<sup>1</sup> Düppe 2012a, 2012b, Düppe and Weintraub 2014.

While it is well known that the historical contingency of such narratives contrasts with the idea of the scientific method, another aspect of Serendipity is essential to the modern image of science. Considering the places from which knowledge can be seen to arise, serendipity appears at the very root of its fruit: the spontaneity of truth. Truth must entail a spontaneous force in order to defy that which is the mere will of the scientist. Truth is that which is not merely made, but which shows itself, which surprises us, and which resists beliefs and hypotheses. Insofar as the spontaneity of truth-bearing beings is the defining element of realist sentiments in science, one could even go so far as to say that only that which one ‘discovers by chance while looking for something else’ can be true. It is the stumbling scientist without mission, a daydreamer searching for nothing in particular, who would be the most worthy of trust. The notion of serendipity would, in fact, be elementary for the modern production of knowledge; it is a symbol of the a-subjectivity of knowledge.

Serendipity as a symbol of modern knowledge takes different meanings in different disciplines. Consider mathematics and economics, the two disciplines Gérard Debreu combined. While the reasoning of mathematical proofs is fully controlled by logic, the Eureka moment of conceiving them remains a mystery. Since there are no other senses than our contemplation that create a context through which mathematical ideas can wander, the gap between the control of reasoning and the lack of control of discoveries is greater in mathematics than in other disciplines. Serendipity is thus a notion that comes naturally to a mathematician. The same applies to economics, but for a different reason; economic science always travels under a cloud of suspicion, the suspicion of ideology (Düppe 2011). Reference to serendipity in the context of economics might thus be viewed as a response to those naggers who see only intentions, strategies, and personal interests. Therefore, it comes as no surprise that economists were keen to turn chance into a method; stochastic models “tame” chance, to recall Hacking’s (1990) ground-breaking study on Serendipity. Economic regularities can only be serendipitous discoveries, as long as one prefers to avoid the specter of ideology.

These serendipitous constituents of truth cannot be ignored when writing about the lives of scientists because they are omnipresent in the self-descriptions of scientists. Modern truth urges an image of the scientific self as being somewhat a-intentional, if not absent. When reading the self-accounts of the lives of scientists, it is striking how often the decisive moments of discovery are presented as chance events. Robert Merton’s manuscript bears witness to how widespread this self-perception of scientists can be. In chapter eight of his manuscript, Merton considers the moral persona that corresponds with this self-image (2004: 149 ff.). The scientist tends to view his life as a *random walk*, which was indeed the title of Gérard Debreu’s autobiographical essay:

As a particle performs a random walk in a high-dimensional space, an observer may discover a subspace in which the projection of its path approximates a straight line. The observer may then be tempted to anthropomorphize the particle, and to believe that it has a ‘system which a person forms for the conduct of life’ [Debreu quotes the “philosophy” entrance of a 1909 dictionary]. In an inversion of roles, a scientist or humanist who is asked to expound his life philosophy must feel inclined to identify with that particle if he is aware of the many chance events that shaped his career, and of the inchoate system that he formed for its conduct as it began (1991b: 3).

Note how the conception of scientific truth feeds back onto the perception of the self. Scientists tend to view their lives, like their work, as a play between control and lack of control; a play for which serendipity might be the most striking symbol (*cf.* Düppe 2012).

When writing about the lives of scientists, we face an old philosophical problem: in order to understand how science springs from life we need to ignore the self-accounts of the scientist, or better, view them as symptoms of their acquired image of science. A material account of the knowing self – which *is* life-writing – must deal with the fact that the knowing subject does not know of those material conditions of knowledge. Is this a case of false consciousness?

Not entirely. The scientist does in fact know of his or her own involvement in science: he or she enjoys, and also suffers from it! When speaking of Serendipity, we should not only speak of the role of chance in the making of discoveries, but also of the role of affect: it is the *happy*, and *fortunate* event of discovery without searching for it. The absence of the scientist's intentions is the liberation of a *joyful play of truth* that is otherwise buried by the protocols of the scientific method. The value of the notion of Serendipity for the writing of the lives of scientists is that it makes us aware of the affective level of the joyful play of truth.

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What are the implications of the above for *how* we reconstruct the life of scientists; for the method of life writing?

If it is true that the rhetoric of chance is part of the self-image of scientists, they leave fewer traces of their lives than other professionals. Scientific writings are opposed to personal writings. Gérard Debreu has always avoided speaking about himself, even to his wife. Trained to think of the world rather than themselves, few scientists write intimate diaries. Historians must therefore rely on some luck when searching for relevant sources that reveal their motivations. In the case of Debreu, I was fortunate enough to establish contact with his daughter, Chantal Debreu, who wished to counterbalance her father's secrecy about his own history. She spoke more openly about her father than he ever could have.

There is another problem when it comes to the witness of friends, colleagues and family. In contrast to the person who is the focus of study, others tend to be protective of their friend, father, mother, husband, wife, etc. and wish to see a narrative written that might resemble that of the genius mentioned earlier. The genre of life-writing is an integral part of the system of credit and reward in science (Hankins 2007). Chantal Debreu did in fact attempt to demystify the image of the genius and thus was crucial in providing evidence about the role of his work in his efforts to live a good life.

These and other obstacles make it difficult to anticipate the process of discovery or apply a rigid method of life-writing. The luck of being the first who sees an archive, of finding a telling letter exchange or a key contact that knows about the persona of the scientist makes life-writing an adventure of serendipity. But what is the difference between this sort of serendipity of the historian and that of the scientist? As much as one might experience luck, note that a science biography can never result in an image of a-subjective truth. Yes, biographies such as Skidelsky's Keynes or Monk's Wittgenstein give an air of definitiveness, but there will always be things to add or reconsider. A life cannot be told in terms of spontaneous truth that reveals itself in its entirety to the historian; writing the life of the scientist remains an *encounter* of two people.

Moreover, this encounter between the historian and the scientist is an *equal* encounter to the extent that neither the historian nor the scientist have the last word over what is to be said about the meaning of science in his or her life. By understanding the many modes of a knowing life, we might



also better understand the possibilities that we ourselves might seize upon. It is for this reason that the biographer Thomas Söderqvist has called science biographies an ‘edifying’ genre (Söderqvist, 1997).

Many historians consider that historical sources, once exploited by one historian, are no longer interesting. This is false. The serendipity of priority does not exist in history! It grants too much authority to those who are fortunate enough to win the race to newly opened archives, or are first to hunt down those who keep the sources. Historical research is personal, and open to many narratives.

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