

SERENDIPITY

The term “serendipity” has become ubiquitous across all spheres of life, particularly in the process of research and scientific discovery. On the surface, serendipitous scientific discoveries appear to be accidental or unexpected events that yield positive outcomes, which are frequently only realized in retrospect. In reality, these discoveries often have many aspects in common, suggesting that serendipity is not a random occurrence but rather an emerging property in the discovery process.

Nonlinear by nature, this process is characterized by the complex and cumulative interactions of experiences, ideas, questions and events, combined with relentless work and the means to see and make new connections between observations and existing knowledge and theories. Louis Pasteur beautifully captured the essence of serendipity when he said, “In the fields of observation, chance favors only the prepared mind.”

One of the hallmark features of serendipitous discoveries is exemplified by NOMIS researchers—openness—in particular, openness to bodies of knowledge and disciplines outside one’s own field(s) of expertise. Other prevailing features include participation in collaborative research networks; the utilization of cutting-edge technology, which can enhance one’s capacity for observation and inquiry; and something that NOMIS considers paramount to discovery: having the freedom to take unanticipated turns to explore compelling observations when they emerge.

As we confront the COVID-19 pandemic and are racing to find effective vaccines and therapies, our hopes of encountering new serendipitous scientific discoveries are perhaps as high as ever. These discoveries may already be emerging thanks to the unparalleled international collaborative efforts and the sharing of data currently underway. Given the importance of serendipity in the intellectual history of humankind and its game-changing potential as humanity faces this and other major challenges, we ought to try and better understand its relevance in the discovery process and study how and where it may occur again.

On our journey to better understand the conditions that foster discovery, we invited two world-renowned researchers—Juliane Vogel and Rusty Gage—to share their experiences and perspectives on serendipity in science, research and their lives. As you read their contributions in this feature story, maybe you’ll recall or even realize a serendipitous moment from your own journey—we invite you to observe and connect!

—Rubén García-Santos

Serendipity: The Art of Discovery
Cultivating Serendipity, in Science and in Life

Serendipity: The Art of Discovery

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Serendipity is a capricious word. It challenges the tongue. With its bright vowels it bears an air that I associate with 18th century sophistication. I have a strong liking for words like these, words that do not come naturally but even by their sounds evoke intellectual, erotic or artistic refinement. What I also like about capricious things is that they are intertwined with chance. They incite surprise; they behave unexpectedly and are thus creatures of the moment. This is also true of serendipity, which addresses the moment of chance in the process of discovery.

In my work I have always wanted chance to happen—I have always been excited when an unexpected finding would lead me sideways to a new discovery or a change of perspective while working on forms of theater or when studying the material foundations of writing and especially collaging texts. I am interested in the conditions that make productive discovery more likely and possible. Knowing how to “find” in this way has always been essential for the working methods of the humanities from the time of their formation in the 19th century up until now.

A Starting Point for Innovation

Serendipity is such a *Findkunst* (the art of finding)—a productive practice of accidental reading or searching, but foremost a method for mastering and making one’s way through an archive, for scanning to find what is minor, odd or strangely singular, which then turns out to be a starting point for innovation. For me, serendipity stands for adventure that is equally philological and poetic. Goethe aptly wrote in his poem *Found*: “Once through the forest/Alone I went/To seek for nothing/My thoughts were bent” (translated from “Ich ging im Walde/So für mich hin/Und nichts zu suchen/Das war mein Sinn”). This is the motto of a passionate serendipidist.

“Serendipity requires a prepared mind that anticipates discovery and expects the unexpected, though no one knows where and when it will take place.”



The Three Princes of Serendip

As a scholar of literature, I insist that words matter. Knowledge of the word “serendipity” is not only philologically gratifying, it also illuminates the richness of the concept and its methodological potential. Words may have long histories whose knowledge is indispensable for a deeper understanding of what they signify. In the case of “serendipity,” this history indeed leads us back to the 18th century. We know the very moment of its invention: It was created by one of the famous eccentrics in England, Sir Horace Walpole, who designed an architectural folly called Strawberry Hill and was himself a virtuoso of the art of finding.

Walpole coined the word in a letter to his cousin Horace Mann on January 28, 1754, explaining to him the ways he found what he wanted and allowed discovery to happen. Instead of defining serendipity, however, Walpole derived it from a “silly fairy tale.” Serendipity is practiced by the three princes of Serendip (an old name for Sri Lanka) who, while traveling, discover things they were not looking for. They are adventurers without a determined quest. Registering traces and even the rubbish on the road they are riding along enables them to draw conclusions about the nature of the creatures who passed by previously: a blind mule with a missing tooth carrying a pregnant woman.

According to Walpole, serendipity calls for two ingredients—accidental observation and sagacity—a capability of noting and a capability of drawing conclusions. Both ends have to meet in order to make discovery happen. The story may also be a late founding myth of early modern empiricism, which claims that knowledge comes first from sensory experience.

From Fairy Tale to Method and Discovery

From the perspective of literature, the story also raises questions of genre. I find it remarkable that the methodological principle of serendipity comes from a fairy tale. And I am thrilled by the fact that Walpole shifts from narrative to epistemology and from the symbolic to the abstract. What do we learn from the fairy tale about this method? What does it impose on our understanding of serendipity? What does it tell us about the conditions of accidental discovery and sagacity? The following thoughts may explain how the fairy tale continues to resonate in the method that is derived from it:

- ▶ Serendipity is related to traveling: It requires mobile bodies and minds; it demands readiness for perception; and it includes the whole range of experience, exploiting the contingencies that happen en route.
- ▶ Serendipity is not only practiced by individual persons but often by a collective. In the fairy tale, it is performed by three princes. Their observations make sense when “drawn together,” as French philosopher, anthropologist and sociologist Bruno Latour might say. The fairy tale thus informs us that accidental sagacity may be a skill of the many and that three pairs of eyes see more than one.
- ▶ Serendipity requires a prepared mind that anticipates discovery and expects the unexpected, though no one knows where and when it will take place. The princes have been well trained by their royal father. Their capability and openness are the outcome of a good education.
- ▶ Serendipity in the fairy tale is marked by the temporality of delay and deferral. Discoveries may not happen instantaneously; in fact, perceptions or observations may be interpreted much later. Sagacity



Portrait by John Giles Eccardt, 1754. Source: Alamy

young royals how to prepare for the world. It can appear in a novel like Voltaire’s *Zadig*, in which it satirizes the ignorance of the authorities; it may take the shape of a “Persian Robinson” that teaches basic survival skills for the world as well as at court; and it may finally transform into a detective story and turn the princes into a Sherlock Holmes cooperative. We see a variety of forms and transformations that tie together traveling, adventure and knowledge in many different ways.

Serendipity in the Sciences

Serendipity also may encounter local finding practices and mix with them. With Walpole, however, the traveling narrative is finally translated into an epistemological tool that has since been spreading through various disciplines, the world of arts and popular culture and is currently increasing its speed, mobility and radius. As Merton noted, since the 1940s serendipity has traveled to the sciences, changing its meaning and its methodological implications. Especially the idea of preparation has become more and more important. It is now widely agreed that conditions for unexpected discoveries have to be actively created. The princes are no longer traveling with balanced attention. But in the background behind serendipity, they are still present, and now more than ever. They remind us that scientific methods are also rooted in imagination and that fairy tales and poetry know more about them than academia may admit. Humanities help us to understand that the sciences, too, draw on the resources of the imagination and that this imagination may be global.

can be activated retrospectively on the basis of an archive of observations that effect innovation at a given but unpredictable moment.

The history of this “silly fairy tale,” however, also makes clear that Walpole’s neologism marks a turning point in a long history of translations and transformations. Serendipity is a concept with an itinerary. Not only does it deal with adventurous traveling—it also travels itself. As American sociologist Robert Merton and others have shown, it reaches back to the poetry of ancient Persia and was imported from Persia to Venice by a figure shrouded in mystery, Cristoforo the Armenian. His book, *Peregrinaggio di tre giovani figliuoli del re di Serendippo* (*The Three Princes of Serendip*), published in 1557, was translated into French, English, German and Dutch in the 17th and 18th centuries. It gives us an early example of European Orientalism and testifies to the success of oriental fairy tales in the 18th century as a new resource of imagination and as a medium of philosophical reflection.

Traveling Forms

This brings me to our project, *Traveling Forms*, which studies the traveling of cultural and aesthetic forms across temporal and spatial borders. We want to understand how forms are communicated and relocated in new environments. But we also think that ideas and concepts cannot spread independently from the forms they take.

Serendipity gives us an example. While traveling through time and space, it takes many different shapes. It may appear in the form of a travelogue or a peregrination, in the epic shape of adventure, in the form of a philosophical journey or as a mirror of princes that advises

Left: Painting depicting *The Three Princes of Serendip*, the Persian fairy tale that inspired Horace Walpole to coin the term “serendipity.”

Right: Painting of Horace Walpole by artist John Giles Eccardt.



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