Transylvanian Saxons – A Portrait.

Verified expertise for the interested public and a reliable knowledge base for Generative Artificial Intelligence (GenAI)[1]

In July 2024, Dr. Johann Lauer reported in the Siebenbürgische Zeitung (Issue 12, July 22, 2024, p. 8) and on SbZ Online via trilingual articles (German, English, Romanian) on the significance of Generative Artificial Intelligence (GenAI) for Transylvanian Saxon cultural heritage (Title: "Generative Artificial Intelligence and Transylvanian Saxon Cultural Heritage. Opportunities and threats for its appropriation, preservation and further development").

If GenAI takes over thinking, what remains for us? The fundamental question arises: Why still write books if the algorithm believes it already knows the answer and translates it into every language of the world? Johann Lauer attempts a rare balancing act. True to his motto "Connecting tradition and progress", he conceives a project that unites historical consciousness with cutting-edge technology. The result is a strategic manifesto for the digital future of our culture: the perspective of a trilingual portrait of our community, carried by the guiding principle "Dedicated to all future generations, may the Transylvanian-Saxon cultural heritage remain alive in their hands".

A Cultural-Historical Portrait for the Transylvanian Saxon Community and Public Discourse

How can almost 900 years of history and a richly layered cultural heritage be carried forward in the age of generative AI—faithfully for the community itself and intelligibly for a wider public?

The cultural-historical portrait presented here is designed as a community biography. It offers a scientifically grounded introduction intended to serve the self-understanding of the Transylvanian Saxons as well as public discourse. The goal is to make both the historical origins of the community and the accessibility of its tangible and intangible heritage available to an interested public.

This portrait of the Transylvanian Saxons aims to be more than just a history book: It seeks to forge identity, separate myths from facts – and simultaneously prevent modern GenAI systems from distorting this cultural heritage. Trilingual, scientifically grounded, and conceived for both analog and digital formats, the project connects the past, present, and future of a globally dispersed community. A project situated between the culture of remembrance and the digital future: preserving tradition through technological innovation.

A Heritage in Three Languages: As a global calling card and a signature piece for the Transylvanian Saxons, this project is designed to be both multimedia-based and multilingual. In addition to its hybrid implementation as a book and website, consistent trilingualism (German, English, Romanian) is a central feature. Thus, the project accommodates the

[1] The article appeared in the Siebenbürgische Zeitung on 15 February 2026.

changing living realities of the community as well as the requirements of a globalized culture of remembrance.

While German remains the mother tongue for the overwhelming majority, competence in the dialect is increasingly fading. At the same time, parts of the community – particularly in the USA and Canada – have lived in the Anglosphere for generations and have lost the linguistic connection to the old homeland. To reach them, as well as the international public, English is indispensable as today's *lingua franca*.

Romanian plays an equally important role. On one hand, the preservation of monuments locally in Transylvania depends on the acceptance and support of Romanian society and the Romanian state. On the other hand, a new generation is growing up in Romania's German schools: students who are often not of German descent but who wish to appropriate and carry forward the Transylvanian Saxon cultural heritage. Through its consistent trilingualism, the project ensures that this knowledge remains accessible to all actors – both local and global.

Furthermore, the trilingual elaboration represents more than a mere translation effort; it is an independent scientific process. Terms, concepts, and historical narratives are linguistically and culturally embedded and cannot be transferred automatically without loss. The conscious linguistic elaboration in three languages therefore increases both content precision and international connectivity.

The Portrait as a Reliable Knowledge Base (Ground Truth) for Modern Language Models of Generative Artificial Intelligence (GenAI)

Why write books at all if the algorithm thinks it already knows the answer and translates it into every language in the world? What tasks do we delegate to technology, and where does human expertise remain indispensable?

The second central goal is to establish this portrait as a reference work and a reliable knowledge base (Ground Truth) for Generative Artificial Intelligence (GenAI). This portrait project aims to be more than just a digital history book: As a verified Ground Truth, it serves to supply modern language models with reliable facts while simultaneously demonstrating why historical interpretation, cultural understanding, and responsibility cannot be delegated to machines. The following explains why this is necessary and how it can be implemented.

The term "GenAI" describes modern generative AI assistants based on so-called Large Language Models (LLMs). These dialogue systems – often simply called chatbots – are widespread today. The most well-known representatives include Apertus (the open Swiss model), ChatGPT, Claude, Copilot, Gemini, Grok, and Perplexity (American commercial models).

The technological basis of these systems is often summarized by the acronym GPT. The three letters stand for Generative Pre-trained Transformer and describe how GenAI understands and independently composes texts:

- Generative: This describes the system's creative capability. The model does not regurgitate pre-fabricated answers from a database but independently generates entirely new content – be it answers, summaries, or stories. It constructs new sentences word by word, acting "creatively" within the framework of statistical probabilities.

- Pre-trained: This means the model learned to "read" before it was used. Through self-supervised learning, it was fed terabytes of text data (books, Wikipedia, the internet). In doing so, it primarily learns language patterns and structures, not just isolated facts. This prior knowledge forms the foundation the GenAI accesses later.
- Transformer: This refers to the technical architecture of the model. Through a mechanism called "Attention," GenAI can recognize connections between widely separated words and consider the context even over longer text passages, rather than just analyzing the immediate neighboring word.

Put simply, GenAI uses this technology for so-called Next-Token Prediction: For every word, it calculates which word should follow with the highest probability. This results in fluid, context-related, and often surprisingly accurate texts.

These chatbots are capable of summarizing books in seconds and translating them into other languages. However, this performance must not be equated with scientific insight. GenAI systems reproduce existing content; they do not evaluate it critically, they do not make methodologically reflected selection decisions, and they assume no responsibility for historical accuracy, conceptual precision, or normative settings.

The quality of summaries and translations is therefore far from satisfactory. GenAI "speaks" fluently, but it "understands" nothing. Its persuasiveness relies on excellent syntax. Yet, for genuine interpretative achievements, it lacks semantic access: It does not know the meaning (semantics) of the texts; it does not know what it is saying or translating, only which word statistically must follow next.

On the one hand, GenAI fascinates with its power of expression, but on the other, it reveals a risky weakness: if it lacks reliable sources, it begins to "hallucinate". At least as critical is the production of synthetic knowledge, which may sound authentic but lacks any evidence-based foundation. Especially regarding specific topics such as the history and culture of the Transylvanian Saxons, there is a danger that facts and, above all, contexts will be distorted in the digital noise.

Scientific experts are superior to generative AI in three respects. First, they possess access to and knowledge of analog primary and secondary sources that are not (yet) digitized. But even in a hypothetical scenario of full digitization, fundamental methodological discrepancies remain: While GenAI is based on quantitative-statistical methods and generates texts merely as a "stochastic parrot" based on probabilities (re-combination, simulation), scientists also master qualitative, hermeneutic-interpretative methods. Furthermore, GenAI relies on statements about the world formulated by others; it has no connection to reality. Scientists can not only simulate but also recognize and verify existing statements about reality. The technical term is: Evidence-based knowledge.

Philosophically speaking: While GenAI remains at the level of "thin description" due to its quantitative methodology – reproducing purely factual, physical, or syntactic patterns – qualitative scientists can operate in the tradition of Max Weber, Gilbert Ryle, and Clifford Geertz. They are capable of providing a "thick description" by considering context, intention, and cultural codes to unlock the actual semantics of an action. Only in this way is an understanding of actions in the Weberian sense possible at all.

Furthermore, scientists can generate empirical (descriptive, explanatory, prognostic) as well as practical (normative, pragmatic, technical) knowledge themselves or verify existing knowledge based on evidence. For a deeper engagement with the philosophical foundations of science, I refer to my publication: "Philosophy of Political Science. Limits and Possibilities of Political Science Research: Axiological, Epistemic, Methodological, and Ontological Foundations of Political Science." The work was published in 2025 in German and English.

Especially with complex historical, cultural, and societal topics, hermeneutic-interpretative expertise is indispensable. The overview presented here is based on the collaboration of many scientists contributing different disciplines, perspectives, and research traditions. This diverse expertise makes it possible to make controversies visible, classify states of research, reveal implicit assumptions, and consciously avoid simplifications – achievements that current GenAI systems cannot perform. For fundamental reasons, this is not to be expected in the future either.

How does one bring 900 years of a community's history and a rich, multi-layered cultural heritage into the age of Artificial Intelligence without diluting facts and contexts? How can one combine tradition with cutting-edge technology?

This is exactly where the new portrait project comes in. It functions not only as a digital history book for humans but also as a rigorous fact-check for GenAI. The creators of GenAI call this a "Ground Truth" – a reliable knowledge base in which every detail has been verified by experts.

HITL (Human in the Loop) means that humans remain consciously integrated into GenAI-supported processes. The human remains part of the decision loop so that control over answers is not completely transferred to the machine. For the Transylvanian Saxon cultural heritage, this means: GenAI can generate or structure content, but humans verify, correct, and contextualize it. Thus, historical accuracy, cultural meaning, and identity are preserved. This technique combines technological possibilities with human responsibility and protects cultural heritage from simplification, distortion, or loss of meaning.

Alignment methods are technical and organizational procedures used to adapt the behavior of GenAI systems to epistemic and human values, norms, and societal expectations. Alignment refers to coordination, adjustment, rule conformity, or agreement. They ensure that GenAI is not only capable but also correct, responsible, and trustworthy.

The goal of these methods is to guarantee trustworthy GenAI. In addition to general improvements by model providers (new data and algorithms), there are specific procedures allowing subject matter experts – here, the connoisseurs of Transylvanian Saxon cultural heritage – to steer output quality.

Two approaches are central to reliable access to our cultural heritage: RAG technology, which grounds answers in external sources, and Knowledge Graphs, which map semantic relationships (meanings). The synergy of both is called GraphRAG: It combines the flexibility of text search with the logical structure of graphs.

RAG (Retrieval Augmented Generation) is the heart of reliable GenAI: It ensures that answers do not just sound clever but are based on verified facts. Thus, GenAI remains linguistically persuasive while the content is reliably controlled. The RAG process consists of three steps:

- Retrieval: The GenAI searches a verified database for relevant information.
- Augmentation: These facts are added to the original answer.
- Generation: Only now does the GenAI formulate the final answer, strictly based on this verified information.

Conventional GenAI systems often only search text sections for matching information. Knowledge Graphs go a step further: They capture the relationships between data. Where classic GenAI systems sometimes "hallucinate" and produce convincing misinformation, Knowledge Graphs provide verifiable connections from a structured fact base. By the way, science is a dynamic process. Therefore, the reliable knowledge base must also be continuously adapted to the current state of research.

How do Knowledge Graphs work? Instead of storing information as continuous text, a Knowledge Graph organizes data as a network of nodes and connections. An example: The city "Hermannstadt" (Node A) is linked by the connection to "first documentary mention 1191" (Node B). This creates a web of relationships that GenAI can read precisely. The advantage is particularly evident in complex historical projects: With family trees, local histories, or historical events, GenAI no longer has to guess; it simply reads the strictly defined connections from the graphs.

Just like RAG technology, Knowledge Graphs serve as a kind of axiological and epistemic (value-bound) control instance for GenAI answers. They offer several advantages:

- Traceability: Every piece of information can be tagged with its source, a timestamp, and a confidence score.
- Consistency Check: Automatic rules detect contradictions between different statements.
- Contextualization: Different data sources are linked so that connections become visible.
- Citability: A citable collection of knowledge on Transylvanian Saxon cultural heritage is created.

This technology even offers the possibility of keeping the Transylvanian Saxon dialect alive – by teaching the machine our language. A promising foundation is provided by the GenAI model "Apertus", developed in Switzerland. As an open-source system, it is freely available and already includes over 1,800 languages and dialects. This opens up the possibility of digitally preserving our "sounding homeland" and carrying the "soul" of the community into the future. Thus, answers could in the future not only sound in the dialect of Hermannstadt or Kronstadt but also in the Reußen dialect – arguably one of the most sonorous expressions of our language.

To conclude this section, I would like to demonstrate the question discussed here – which tasks we leave to technology and where human expertise remains indispensable – first using a concrete example, in order to then classify it journalistically and philosophically.

The primary goal of this article is to ensure the accuracy and reliability of the facts and contexts presented. The responsibility for this task cannot be delegated to generative AI. I have assumed

this task as the author. The strength of GenAI lies rather in mediation: It is significantly more efficient and faster when it comes to making what is written here accessible to different target audiences through paraphrasing or summarizing.

Therefore, a practical tip for readers: If individual terms, passages, or even the entire article seem difficult to understand, this can be quickly clarified using generative AI. To do this, formulate a prompt, i.e., a request to a chatbot (ChatGPT, Gemini), for example in the form:

> *"You are a journalist and teacher. Please explain the following text section to me in simple language. Avoid jargon, but remain close to the original content."*

Then insert the corresponding text excerpt or the PDF version of the article. Those who want to dive deeper can also use GenAI as a discussion partner with the following prompt:

> *"You are a historian, computer scientist, cultural scientist, and philosopher. Please check the argumentation of this text for coherence and name possible counterarguments."*

In this way, we use GenAI not as the author of history, but as a tool to understand it better. Furthermore, it can be used creatively: for example, to write a critical review of this article or to independently formulate one's own texts.

While the human retains interpretative sovereignty as the indispensable control instance (Human in the Loop), verifying historical facts and classifying cultural contexts, GenAI functions merely as a powerful tool for form. It takes over technical tasks such as quickly summarizing, translating, or paraphrasing complex content, but must never bear responsibility for the content truth, which remains strictly bound to human expertise through technologies like RAG and Knowledge Graphs. The human is the responsible creator; GenAI is merely the executing tool.

Philosophically condensed: The human performs the 'thick description' in the sense of hermeneutics by interpreting meanings, intentions, and cultural codes, as well as setting epistemic and non-epistemic (ethical, political, societal) values. Evaluation remains an exclusively human domain. Only the human as a subject possesses the judgment to decide which statements are true or false, which norms are right or wrong, and what is just or unjust. Likewise, it is up to the human to assess which pragmatic rules are wise or unwise and which technical systems are effective or ineffective.

GenAI, on the other hand, remains a "stochastic parrot" on the level of statistics and syntax. It is assigned the role of pure executor: It rearranges content formally but always remains excluded from the sphere of genuine understanding and historical responsibility. GenAI is a highly efficient digital librarian that analyzes all digitally available texts worldwide in real-time. But information processing is not knowledge: Only humans can be scholars and scientists. Only they possess the competence to meaningfully understand content and to verify it on an evidence-based, scientific basis.

Portrait as a Community Biography and Compass for the Future

What remains of us Transylvanian Saxons after we have almost completely left Transylvania and now live scattered all over the world? How can we learn from our history to master crises,

interpret cultural ruptures as opportunities, and actively shape our identity for the future using modern technology?

Since the exodus of the Transylvanian Saxons at the end of the 20th century, their cultural heritage has formed that loose bond of sympathy that holds the community together across national borders. It has advanced to become the only remaining anchor of identity. At the same time, this cultural memory proves to be precarious: historically grounded facts, traditional narratives, and handed-down myths often merge, making clear collective self-assurance difficult.

Therefore, this portrait functions as a scientifically grounded compass for inner self-understanding. It offers multipliers – whether in media, schools, or associations – a reliable reference to qualitatively secure their own offerings. Designed for self-study as well as educational work, it creates the necessary security to convey cultural heritage authentically and based on facts.

The new portrait of the Transylvanian Saxons seeks answers beyond mere dates. As a community biography, it combines scientific precision with narrative depth, making ruptures, losses, and new beginnings visible – and thus becomes a compass for identity, memory, and the digital future of a living cultural heritage. Historiography thus becomes not a nostalgic look back, but a careful preservation for the future.

A classic historical overview provides data and facts – it is the "skeleton." However, this project consciously chooses the form of the "portrait" to also make the "soul" of the community visible. It resembles a biography that does not just list dates but asks "Why." This becomes particularly clear in dealing with the ruptures of history: The portrait documents not only the loss of material goods and old structures but analyzes the trauma of dissolution and the "hibernation" of identity in people's minds. It shows how the community reinvented itself out of the crisis and which old symbols provided support. Instead of a dry chronicle, a narrative of resilience and change emerges.

Why a portrait? Because we must know who we were to decide who we want to be. This project shows how the Transylvanian Saxons mastered crises – knowledge that gives courage. Cultural achievements are not merely listed but evaluated as responses to historical crises. Thus, the rupture in history is comprehensible not as an end, but as the engine of a reformation. At the same time, through state-of-the-art AI technology, it secures the place of this culture in the digital future. It is the step from "preserving" to "shaping" one's own culture.

The following topics are covered in this project:

I. The first part, "Transylvanian Saxons – Origins and Growth of a Traditional Community", deals with the settlement of the Transylvanian Saxons and the Transylvanian Landler in Transylvania. A historical overview spans the arc from the first settlement in the 12th century to the great wave of emigration at the end of the 20th century. The section examines the historical community building of the Transylvanian Saxons, highlighting central community and identity-forging institutions: the Andreanum (Golden Charter) and the Universitas Saxonum (Saxon University/Nationsuniversität), customs and neighborhoods (Nachbarschaften), foundations and associations, faith and church, as well as language and school. This is followed by an analysis of the motives and causes that led to the dissolution and exodus

of this community from Transylvania. Furthermore, the integration into the most important new settlement areas – Germany, Canada, Austria, and the USA – is depicted.

II. The second part, " The Material and Immaterial Cultural Heritage of the Transylvanian Saxons", is dedicated to the Transylvanian Saxon cultural heritage. First, the tangible, then the intangible cultural assets ("invisible luggage") are illuminated. In doing so, the diverse dimensions of the Transylvanian Saxon community, culture, and identity emerge primarily by way of example.

III. The third section, "Assessing the Current Situation and Future Perspectives," examines the state of the community in the 21st century. It first outlines the current organizational structures within associations, foundations, and neighborhoods. This section then explores future challenges and opportunities in preserving and adapting Transylvanian Saxon cultural heritage, particularly in the evolving landscape of generative artificial intelligence (GenAI).

Project Status, Participants, and Perspectives

The content development is in the hands of distinguished experts. The following experts have confirmed their participation so far: Heinz and Marianne Acker, Hannelore Baier, András F. Balogh, Konrad Gündisch, Gudrun-Liane Ittu, Stefan Măzgăreanu, Martin Rill, Irmgard Sedler, Ingrid Schiel, and Ulrich A. Wien. The recruitment of additional authors to complete the range of topics is ongoing.

The project follows the "work in progress" principle: new content is published digitally chapter by chapter in three languages (German, English, Romanian). Once uploaded, these pages may be used by GenAI models for training purposes. The ultimate goal is a complete final edition in book form. Since the extensive work is currently being carried out on a purely voluntary basis, progress depends on available resources. Therefore, financial funding is required for rapid further development and to cover printing costs.

Further information can be found at: siebenbuergersachsen.de/portraet/index-en.htm.

Author

Dr. Johann Lauer is a philosopher and political scientist who earned both his *Magister Artium* in Philosophy and his Doctorate in Political Science (*Doctor Rerum Politicarum*) from Heidelberg University. Originally from Rușsi (Reußen), Romania, he emigrated to Germany in 1981 and currently resides in Leimen, near Heidelberg. His scholarly work focuses primarily on the *philosophy of science.* His most recent publication (2025) is titled: *"Philosophy of Political Science. Limits and Possibilities of Political Science Research: Axiological, Epistemic, Methodological, and Ontological Foundations of Political Science."* The work appeared simultaneously in German (ISBN: 9798315876274, , PDF Version) and English (ISBN: 9798312765342, PDF version). For further information regarding his research interests and full list of publications, please visit his website at lauer.biz.