

Rhizoming or Bildung – academic teaching at a crossroad

Autor: Dariusz Stepkowski

Abstract

Rhizoming or Bildung – academic teaching at a crossroad. – Academic science education is currently in crisis, which primarily involves the transmission of thinking skills as a priority task of the University. The author sketches the picture of this crisis by contrasting two theoretical models of teaching and learning at the university, which essentially identify the terms “rhizoming” and Bildung. The presented ways of using the models in academic practice are used to consider the possibility of overcoming a crisis situation and determining conditions.

Keywords: rhizome, Bildung, science, academic education

Klíčová slova: rhizom, Bildung, věda, akademická výuka

Introduction

Higher education has been focusing the attention of policy makers, education economists and the broad public for several decades. In modern times, the university is required not only to improve the quality of social coexistence and modelling existential biographies, but also to accelerate civilization and scientific progress.¹ Therefore, academic science education² is facing the task of effectively qualifying young experts. This is not only about future academic teachers, but also specialists for various spheres of collective life. Both groups undergo an identical educational process in which the teaching and learning content is the right scientific discipline,³ at the same time acting as the subject of pedagogical interaction and as a means to acquire theoretical and practical competences.

¹ BLEIKLIE, Ivar, ENDERS, Jürgen, LEPORI, Benedetto (eds.). *Managing Universities. Policy and Organizational Change from a Western European Comparative Perspective*. London: Palgrave Macmillan, 2017; KWIEK, Marek. *Uniwersytet w dobie przemian. Instytucje i kadra akademicka w warunkach rosnącej konkurencji*. Warszawa: Wydawnictwo Naukowe PWN, 2016.

² I deliberately do not use the term *didactics*, as in English it refers to elementary and secondary education. It is also believed that the term (*didactics*) is primarily of a reproductive nature rather than creative, which plays a key role in the context of the considerations. In ULJENS, Michael. *School Didactics and Learning. A School Didactic Model Framing an Analysis of Pedagogical Implications of Learning Theory*. Hove: Psychology Press, 2005; ULJENS, Michael, YLIMAKI, Rose M. Non-affirmative Theory of Education as a Foundation for Curriculum Studies, Didaktik and Educational Leadership. In ULJENS, Michael, YLIMAKI, Rose M. (eds.). *Bridging Educational Leadership, Curriculum Theory and Didaktik. Non-affirmative Theory of Education*. Cham: Springer, 2017, pp. 3–145.

³ In my further considerations, I neglect the difference between positive sciences and social sciences (humanities). In the 20th century, phenomenology and philosophical hermeneutics contributed to the unmasking of positive sciences, including the rejection of their claim referring to epistemological objectivity. The difference between the scientific (objectifying) approach, which dominates modern detailed sciences, and the philosophically (phenomenologically) interpreted Idea of education has been recently highlighted by David Rybák. According to him, “Plato’s discovery of education (*paideia*) as specifically human possibility is not only

Most often, the effectiveness of the educational process at the university is evaluated due to the expectations of the parties involved directly and indirectly, with employers playing an increasingly important role. With this attitude, it is easy to lose sight of a problem that is by no means new and should be considered fundamental for academic science education. It is about education through science, which seems to make only a meaningful university as an institution dedicated to teaching and learning knowledge considered scientific. I will use two terms to clarify the issue. The first of these is neologism created from the word “rhizome” – rhizoming. The second one is the word *Bildung*, which comes from German, but is wrongly considered to be only a possible wording of the action that is the backbone of the educational process.⁴

Both the proposed terms – “rhizoming” and *Bildung* – have their own history, of course of varying length and intensity, but have not been confronted with each other so far. I hope that confronting them will provide hints as to which direction should be taken at the crossroads of modern academic science education.

This text consists of three sections. In the first one, the metaphor of “rhizome” will be explained, and then the inspirations resulting from it for reading studies and researches as “rhizoming” will be discussed. The second section contains similar characteristics of the concept of *Bildung* and academic education based on it. Finally, in the third section, the author presents two examples of the use of the discussed models in the academic education practice and he considers the possibility of overcoming the main crisis of modern academic didactics on the basis of that, consisting in a break in teaching and learning thinking that have been thoroughly characterized by Bill Readings.⁵

Science education through rhizome

The rhizome metaphor was established in social sciences (humanities), especially those dealing with modern art and broadly understood social communication, Gilles Deleuze and Felix Guattari in the work entitled *A Thousand Plateaus*. Originally, this work was printed in French in 1980. As *The Deleuze and Guattari Dictionary* explains, the authors have already tried the rhizome figurative in a joint text on the story by Franz Kafka *The Burrow*. With the help of it, they claimed, “that like the underground labyrinth in that story, his work lacks the usual linear narrative structure and can be ‘entered’ into at any point to map out connections with the other points”.⁶

to think from some set of assumptions, from the shadowy picture of the world but also to go beyond these assumptions to the understanding of them. (...) To the Idea of education belongs the care for the ability to go beyond the fixed frame of our concepts and beliefs”. RYBÁK, David. The Idea of Education, or What is Not Visible for the Approach of Objectifying Science? In KUDLÁČOVÁ, Blanka, RAJSKÝ, Andrej (eds.). *Education and “Pädagogik” – Philosophical and Historical Reflection (Central, Southern and South-Eastern Europe)*. Berlin: Peter Lang, 2019, p. 122.

⁴ In my opinion, the misconception about the uniqueness of *Bildung* is partly due to the fact that it lacks an exact (accurate) equivalent in English. Nevertheless, many Central and Eastern European languages, including Croatian, Czech, Polish, Slovak or Russian, have created their own names denoting approximately the same state of affairs as the German term *Bildung* or reaching further into the past – the ancient Greek word *paideia*.

⁵ READINGS, Bill. *The University in Ruins*. Cambridge, London: Harvard University Press, 1997, pp. 150–166.

⁶ YOUNG, Eugene, GENOSKO, Gary, WATSON, Janell. *The Deleuze and Guattari Dictionary*. London, New Delhi, New York and Sydney: Bloomsbury, 2013, p. 262.

The concept of rhizome was illuminated theoretically in the introduction to the above-mentioned *A Thousand Plateaus*, which is now entitled *Rhizome*.⁷ However, the considerations presented there do not lead to a clear answer to the question, what exactly rhizome is and how it should be interpreted in relation to science. It is certain, however, that Deleuze and Guattari oppose the concept of learning according to a hierarchical tree pattern (Latin: *arbor scienciarum*). In their view, the arboristic system has been in crisis since the French Revolution and must eventually be replaced by a new one.

The knowledge tree symbolizes the order of thinking in which the hierarchy of types of knowledge and scientific disciplines is respected. Its tradition dates back to Greek antiquity. Taxonomies, classifications, classical encyclopedias and libraries are ordered according to this mental model. As an ersatz, Deleuze and Guattari suggest directing attention to rhizomatic plant structures and the use of equivalent network systems present in them. “A system of this kind could be called a rhizome. A rhizome as a subterranean stem is absolutely different from roots and radicles. Bulbs and tubers are rhizomes. Plants with roots and radicles may be rhizomorphic in other respects altogether (...). Rats are rhizomes. Burrows are too, in all of their functions of shelter, supply, movement, evasion, and breakout. The rhizome itself assumes very diverse form...”⁸

If the Deleuze-Guattarian image of the rhizome was related to science, then it would be created by explorations constantly branching in all directions which do not converge at any midpoint or subordinate to any guiding thought. In order to construct science understood in this way, six principles formulated in *A Thousand Plateaus* help.⁹ The authors recapitulated them synthetically *The Deleuze and Guattari Dictionary*: “1) **connection** (vs. order or model), 2) heterogeneity of **coding**, where semiotic chains connect to other **assemblages**, 3) **multiplicity** in determination, magnitude, or dimension (vs. unity in subject or object), 4) a-signifying ruptures of **segmentation**, **stratification**, and **territory**, 5) cartographic production (vs. *tracing*), and 6) ‘decalomania’, in that any tracing (as with a decal that is transferred onto another medium) would in fact ‘be put back to the map’ because apparent reproduction gives way to asymmetry or **difference**.”¹⁰

It is worth emphasizing that Deleuze and Guattari were not interested in exhaustive and precise hulling meanings inherently contained in the metaphor of rhizome. They rather wrote their book as a revolutionary manifesto that demonstrates the usefulness of rhizomatic thinking to analyze a variety of states that often have nothing in common with each other. Their interpretations are distinguished by the free play of associations and ideas both within and outside science. As they state: “Nowhere do we claim for our concepts the title of a science. We are no more familiar with scientificity than we are with ideology; all we know are assemblages. (...) An assemblage, in its multiplicity, necessarily acts on semiotic flows, material flows, and social flows simultaneously (...). For science would go completely mad if left to its own devices.”¹¹

⁷ DELEUZE, Gilles, GUATTARI, Félix. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press, 1987, pp. 3–25.

⁸ *Ibid.*, pp. 6–7.

⁹ *Ibid.*, pp. 7–13.

¹⁰ YOUNG, Eugene, GENOSKO, Gary, WATSON, Janell. *The Deleuze and Guattari Dictionary*, p. 262 (author’s bolding).

¹¹ DELEUZE, Gilles, GUATTARI, Félix. *A Thousand Plateaus: Capitalism and Schizophrenia*, pp. 22–24.

The experiment conducted by the authors encountered such a large response that nowadays it is difficult to imagine scientific reflection without the rhizomatic, especially regarding electronic media, culture and modern art, as well as education. The metaphorical rhizome has gone beyond the framework of poststructuralism in which it was born, and functions as a widespread idea of a modern style of learning. Jason J. Wallin was skeptical about ‘rhizomania’ at the beginning of the current decade, which in his opinion mastered the minds of scientists.¹²

After the primary explanations, I would like to draw attention to the word ‘rhizome’, which I suggest using to mark the rhizome-building activities, in other words, acts of rhizomatic thinking. The idea of creating this neologism was suggested to me by the article *Rhizome Yourself*¹³ by two researchers, Rachel C. Douglas-Jones and Salli Sarioli, in which they described how they first became accustomed to the real rhizome, and then how the relationship modified their scientific thinking. The title phrase *Rhizome Yourself* indicates, in my opinion, a learning product that the authors experimentally carried out on themselves. The reflexive pronoun *yourself* is particularly noteworthy in this phrase, I read it as a deconstruction of the performative acts of rhizome.

Assuming rhizomatic thinking, R. C. Douglas-Jones and S. Sariola come to the conclusion that rhizome-forming as a construction of the Deleuze-Guattarian rhizome is actually done in themselves, and more precisely, it results from a subject taking a specific position in relation to one’s own acts of thinking. In the actions, the subject enters into a relationship with the object by subjectivization which paradoxically consists in becoming subject to the object. The novelty of this idea is based on the subject’s way of thinking from the position occupied by the object, or rather from the relationship generated between them.

The directives of rhizoming can be derived analogously from the above six principles constituting science as a rhizome, namely: 1) connect any point with any other point (connections do not have to be between the same and the same, or similar and similar), 2) do not reduce the constructed rhizome to one or to multiple, because it consists of dimensions, i.e. directions in motion, and not units, therefore no point in the rhizome can be changed without changing the whole, 3) spread the rhizome through variation, expansion, conquest, capture and offshoots, not reproduction, 4) generate an infinitely modifiable mind map with multiple entrances and exits, 5) remember that the rhizome is acentered and nonsignifying and it is acephalous and finally 6) do not attempt to subordinate the rhizome to any structural or generative models.¹⁴

The directives should of course not be used as thoughtlessly as a dough recipe which usually leads to the intended purpose, but gives no guarantee for achieving it. On the basis of their experience of working with PhD students, Bryan Clarke and Jim Parsons admit that teaching and learning rhizomes is not so easy, because they require learners to develop the “correct” habits and skills necessary to conduct rhizome research in themselves. What are the habits and skills?

¹² WALLIN, Jason J. Rhizomania: Five Provocations on a Concept. *Complicity: An International Journal of Complexity and Education*, 2010, 7 (2), pp. 83–89.

¹³ DOUGLAS-JONES, Rachel, SARIOLA, Salla. Rhizome Yourself: Experiencing Deleuze and Guattari from Theory to Practice. *Rhizomes*, 2009, 19.

¹⁴ BUCHANAN, Ian. Deleuze and the Internet. *Australian Humanities Review*, 2007, 43.

In the indicated text, the authors enumerate six parameters by which one can recognize becoming rhizome researchers. They are: “Rhizome researchers start where they are (*nomadic*) (...). 2) Rhizome researchers listen to the voices/things connected to them (*assemblages*) (...). 3) Rhizome researchers embed themselves in the lives of their research/students (*plane of immanence*) (...). 4) Rhizome researchers develop sensitivities to elements/people that are not part of the status quo (*deterritorialization*) (...). 5) Rhizome researchers search for research aspects that are sometimes ignored (*different affects*) (...). 6) Rhizome researchers desire a life of becoming rather than copying what is seen (*haecceity and multiplicity*).”¹⁵

When purchasing the art of rhizome, it is not about meticulous realization of each of the parameters. What plays a crucial role in becoming a rhizome researcher is breaking the binary opposition (binaries), e.g. immanent vs. transcendent, internal vs. external, qualitative vs quantitative etc. This is a *sine qua non* condition for a rhizome researcher to find himself in the undetermined space marked by Deleuze and Guattari by the term *intermezzo*. This term defines the state of mind of the subject creating the rhizome with the help of the activities of deterritorialization and re-territorialisation of its own thoughts and experiences. In *The Deleuze and Guattari Dictionary* it is explained that: “For Deleuze and Guattari, the human being is located at the border between the animal and the machine, between the earth and the cosmos.”¹⁶ Thanks to this “media” location, a person can think in flights (flows, sometimes fluxes), during which they draw lines. The act of mapping lines is the essence of rhizomatic thinking, and its product is the association, dazzle, play of thoughts or flickering meanings that arise.

In this context, it seems interesting to look at rhizome through the prism of the already paradoxical concept of subjectivization, reconstructed by Simone Brott basing on the writings of Deleuze and Guattari.¹⁷ In order to explain what subjectivization is, I would like to refer to the binary human-world relationship. In this system, subjectivization means subjecting man to the world. Of course, this can only be done by a man and in a man who, thanks to thinking, unites himself with the world to such an extent that he identifies himself with it. Unexpectedly, however, in the concept of Deleuze and Guattari, the fusion of man with the world causes alarming effects in relation to the former, and in at least two areas: first, man loses his independence of being from the world and degrades himself to the rank of one of the objects, and secondly, by alleged identification with the object, instead of learning about it in its individuality, they design their own thoughts and feelings, raising to the status of the subject.

Adopting the assumptions opens up the space for the development of free subjectivity. S. Brott notes that in the context of contemporary architecture, this means giving a free hand to projects that compete in extravagance. This proves that thinking is focused on a frantic search for peculiarity, often at the price of giving up personality formation.¹⁸

¹⁵ CLARKE, Bryan, PARSONS, Jim. *Becoming Rhizome Researchers. Reconceptualizing Educational Research Methodology*, 2013, 4 (1), pp. 39–42.

¹⁶ YOUNG, Eugene, GENOSKO, Gary, WATSON, Janell. *The Deleuze and Guattari Dictionary*, p. 306.

¹⁷ BROTT, Simone. *Architecture for a Free Subjectivity: Deleuze and Guattari at the Horizon of the Real*. Londong: Ashgate Publishing Limited, 2011.

¹⁸ *Ibid.*, pp. 138–149.

Science education through *Bildung*

The German word *Bildung* used to be treated as a unique name, not transferable to other languages of the world.¹⁹ The name would mean the term only present in German. However, more and more theoreticians dealing with the history of education consider this to be a stereotype and indicate the need for a revision of it.²⁰ Despite the fact that the word *Bildung* – as the historian of the idea R. Koselleck claims – can be fully understood only in German, it does not limit the possibility for other languages to have their own term for expressing an identical problem of pedagogical acting.²¹ Recently, the reconstruction of such a term in Polish was presented by Dariusz Stępkowski. In his opinion, the word ‘kształcenie’, although it was created in a similar historical period, it is not a German language *Bildung* and reflects a pedagogical problem from the Polish perspective that needs to be clarified before attempting to determine the specifics of academic science education through *Bildung*.²²

Looking superficially, it would seem that we are dealing here with a degradation of the *Bildung* idea that has played an invaluable role in German culture. This is by no means the author’s intention. However, he undoubtedly believes, like the other education theorists mentioned above, that it is a mistake to recognize the pedagogical problem marked in German using the word *Bildung* as “a national construct”, as Rebekka Horlacher suggests.²³

In order to properly understand the pedagogical sense of the *Bildung* concept, one must, according to Dietrich Benner and Friedhelm Brüggen, reach for a related term, which is in German in many ways connected to *Bildung* and strictly determines it. This term is *Bildsamkeit*.²⁴ In German, *Bildsamkeit* is derived from the same root as *Bildung*, namely *Bild*, and more specifically its adjective form *bildsam* which can be translated into English as “malleable”, “plastic”, “pliable”.

Bildsamkeit was created in German as a translation from the French word *perfectibilité* introduced to the latter by Jean-Jacques Rousseau in the mid-eighteenth century to mark man in his open and indeterminate nature. Of course, this is not about somatic, psychological or social nature, which are largely predetermined (defined), but about the one created thanks to

¹⁹ HORLACHER, Rebekka. *The Educated Subject and the German Concept of Bildung: A Comparative Cultural History*. New York and London: Routledge, 2016; KOSELLECK, Reinhart. On the Anthropological and Semiotic Structure of *Bildung*. In KOSELLECK, Reinhart. *The Practice of Conceptual History. Timing History, Spacing Concepts*. Stanford: Stanford University Press, 2002, pp. 170–207; WIERSING, Erhard. *Theorie der Bildung. Eine humanwissenschaftliche Grundlegung*. Paderborn: Verlag Schöningh, 2015.

²⁰ BENNER, Dietrich, BRÜGGEN, Friedhelm. *Bildsamkeit/Bildung*. In BENNER, Dietrich, OLKERS, Jürgen (eds.). *Historisches Wörterbuch der Pädagogik*. Weinheim, Basel: Beltz, 2004, pp. 174–215; BENNER, Dietrich. John Dewey, a Modern Thinker: On Education (as *Bildung* and *Erziehung*) and Democracy (as a Political System and a Mode of Associated Living). In WAKS, Leonard J., ENGLISH, Andrea R. (eds.). *John Dewey's Democracy and Education. A Centennial Handbook*. Cambridge: University Press, 2017; RUCKER, Thomas. Teaching and the Claim of *Bildung*: The View from General Didactics. *Studies in Philosophy and Education*, 2019, 39, pp. 51–69.

²¹ KOSELLECK, Reinhart. On the Anthropological and Semiotic Structure of *Bildung*, p. 173.

²² STĘPKOWSKI, Dariusz. (Wy)kształcenie w polskiej pedagogice ogólnej. Prolegomena do historii pojęcia. In MALISZEWSKI, Krzysztof, STĘPKOWSKI, Dariusz, ŚLIWERSKI, Bogusław. *Istota, sens i uwarunkowania (wy)kształcenia*. Kraków: Oficyna Wydawnicza „Impuls”, 2019, pp. 13–72.

²³ HORLACHER, Rebekka. *The Educated Subject and the German Concept of Bildung: A Comparative Cultural History*, p. 52.

²⁴ BENNER, Dietrich, BRÜGGEN, Friedhelm. *Bildsamkeit/Bildung*, p. 174.

the ability to learn. It forms the foundation of man's development throughout his life. According to Benner and Brüggem, enlightenment protectors in Germany reached for *perfectibilité* and joined it with *Bildung* in order to be able to programmatically program and control "the development of human forces focused into (...) man as a citizen".²⁵

This socio-political reading of *Bildung* is still considered to be "just right" in German²⁶, although it is a clear denial of the Rousseau's sense of *perfectibilité* as the ability to improve by learning. Noticing this dissonance determines the thought penetration into the basic pedagogical problem, which is in German expressed by the word *Bildung* in a similar meaning as in Polish 'kształcenie', 'vzdělávání' in the Czech language or 'vzdelavanie' in the Slovak language. In English, the same problem appears through the use of the term education in various meanings, which causes its ambiguity and even internal contradiction.²⁷ What is the problem that we are talking about?

Intuitively, this problem has already been clarified in the previous paragraph, where we talked about the specific extent of becoming a man who does not identify with the somatic, psychological or finally social sphere. Only people can develop in this respect thanks to their ability to learn. Andrea R. English notes, however, that it is now "forgotten learning".²⁸ In this way, it means Plato's transformational process presented in the metaphor of the cave, in which learning is not about transferring knowledge and correcting possible errors during it, but "*transformation of self and world*".²⁹

What is this transformation about, the author explains by referring to the aforementioned cave metaphor: "In the allegory, the reader is asked to imagine what it would be like for the prisoner, who has now grown accustomed to the light, to suddenly be taken out of the light and returned to the darkness of the cave. Upon his return, the prisoner can no longer relate to the other prisoners, who have never left the cave. Whereas the other prisoners still believe on the wall are the truth, the liberated prisoner now sees these shadows differently. The liberated prisoner's return to the cave demonstrates that, in learning, one forgets the frustration and pain of first leaving the cave – one forgets the path of learning and its constitutive negativity. This points to the fact that, in learning, what was once familiar becomes strange, and what was once new and strange becomes familiar."³⁰

²⁵ *Ibid.*, p. 190.

²⁶ *Ibid.*

²⁷ BASS, Randall V., GOOD, J. W. *Educare and Educere: Is a Balance Possible in the Educational System? The Educational Forum*, 2004, 68 (2), pp. 161–168; BENNER, Dietrich. *John Dewey, a Modern Thinker: On Education (as Bildung and Erziehung) and Democracy (as a Political System and a Mode of Associated Living)*, pp. 262–278; ENGLISH, Andrea R. *Discontinuity in Learning. Dewey, Herbart, and Education as Transformation*. New York: Cambridge University Press, 2013, p. 133. The misunderstandings due to the ambiguity of the English term education are not to be overlooked. An example would be the proposal to relate to three heterogeneous, although interrelated activities: first, parent/teacher/teacher activities (in Czech: výchova, in German: Erziehung, in Slovak: výchova, in Polish: wychowanie, second, child/educatee/pupil activities (in Czech: vzdělávání, in German: Bildung, in Slovak: vzdelavanie and in Polish: kształcenie) and, third, both types at the same time (in Czech: výchova a vzdělání, in German: Erziehung und Bildung, in Slovak: výchova a vzdelanie and in Polish: wychowanie i kształcenie). In KUDLÁČOVÁ, Blanka, RAJSKÝ, Andrej (eds.). *Education and "Pädagogik" – Philosophical and Historical Reflection (Central, Southern and South-Eastern Europe)*, p. 8.

²⁸ ENGLISH, Andrea R. *Discontinuity in Learning. Dewey, Herbart, and Education as Transformation*, p. 113.

²⁹ *Ibid.*, p. 115 (author's italics).

³⁰ *Ibid.*, p. 116.

Based on the above quote, I would like to draw attention to the transformational potential of subject-oriented learning. Thanks to it, there are many changes both within the learning subject and in the way it perceives the surrounding world. To name this phenomenon, a separate term was created in many European languages – *Bildung*, “kształcenie”, “vzdělávání” or “vzdelavanie”. He combined educational activities in a new way: teaching and learning. Their mutual assignment is to support the transformational process of learning which should not be equated with passive acquisition of messages.

I hope that I was able to convince the reader above that the pedagogical problem referred to by the German word *Bildung*, as well as such terms as “kształcenie”, “vzdělávání” or “vzdelavanie”, is universal, not particular or national. The role of science in the educational process seen through the prism of *Bildung* still remains to be discussed. I will consider this when referring to the academic science education publication of Dietrich Benner from 2019. According to the author, in the past two centuries, the view that science is a proper subject of education not only at the higher level, but from the very beginning of learning, i.e. from primary school, gradually spread and was tamed.

Of course, this is not only about the content of the education itself, which requires selection adequate to the level of development of learners, but about a certain way of thinking that school education is to instill and develop. In the context of the term *Bildung* explained above, this means enabling the cognitive contact of the learner with various states of affairs in order to trigger in them a transformational process the object of which is themselves, on the one hand, and the surrounding world, or rather understanding it.

The above does not mean that primary and higher education are identical. According to Benner, some similarities and differences can be seen between them. What connects teaching and academic learning with lower levels of learning from the perspective of science is that in the case of the former one can teach (lecture) only what others already know, and thus what has been researched and learned and they transfer the relevant fields of science, treating as their results. For example, before inventing the theory of gravity, teaching on this subject was just as impossible as learning it. The condition for teaching and learning is a certain state of knowledge. For completely unexplored and yet unknown phenomena, there are no teachers who would support pupils (students) in their learning, nor school lessons or lectures during which one could explore non-existent scientific facts.

On the other hand, what distinguishes academic studies from lower-level education preparing them for them is the fact that in the context of the latter, what is new and unknown is only such for learners, while in academic education and related research there can actually be something completely new. In this meaning, academic learning is exploratory.

Gabriele Reinmann emphasizes that the ability to understand how academic education can really contribute to personality development is conditioned by taking into account the *Bildung* pedagogical problem. In her opinion, the widely proclaimed slogans “Constructive Alignment” and “Shift from Teaching to Learning” lead to effects quite opposite to those intended. In place of the learner’s independence increasing, teaching being the responsibility of a specific teacher (lecturer) is eliminated and entrusted to an anonymous school institution. As a result, learning (studying) is limited to preparation for exams that will confirm the achievement of the expected competences. Education through science takes the form of

training, during which lecturers and students treat each other objectively. Under these conditions, science ceases to function as a space for individual development and becomes an object of exchange between preachers and learners.³¹

Teaching and learning to think in academic practice – examples

I will illustrate the theoretical considerations presented in the previous two sections with examples from academic education. The first one illustrates rhizomatic thinking, the second one refers to the *Bildung* category.

The already mentioned young researchers – Rachel C. Douglas-Jones and Salla Sariola – reached for the concept of a rhizome in the hope that they would get inspiration to develop the empirical material collected during the research project in which they collaborated.³² Although the authors did not disclose in the article exactly what research ideas were provided by rhizoming, they described the process of learning rhizomatic thinking in detail.

To learn the principles of rhizome formation, Douglas-Jones and Sariola decided to reach for the book by Deleuze and Guattari *A Thousand Plateaus*. As the understanding of its considerations came with some difficulty, they once dug a rhizome plant in the garden – an iris and placed it in a jar of water, which they placed on the table in the living room of their apartment. From that moment on, while reading the fragments of *A Thousand Plateaus*, they had a real rhizome in front of their eyes and could not only observe it, but also compare it with the descriptions of the conceptual rhizome of Deleuze and Guattari.

As explained in section one, subjectivization is one of the main activities of rhizomatic thinking. In the discussed article, which was developed as an autoethnographic record of the experiences of both authors, one can clearly track the evolution in this area. First, the rhizome is given the name – BLAD. It is an acronym formed from the first letters of the Deleuze-Guattarian expression *the Double Articulated Lobster Body*, reading in reverse. However, BLAD was not only a reference point while reading *A Thousand Plateaus*, it gained its own “personality”. Well, the authors founded him a blog on Facebook. They kept it up to date about what was happening at BLAD. Douglas-Jones and Sariola commented on this stage of their learning of rhizomatic thinking as follows:

“We came to engage with the rhizome as a botanical root through rhizome as Deleuze-Guattarian concept, and inversely, the rhizome as a concept became informed by the rhizome as a root. Each use of the concept metamorphoses the borrowed tool, keeping the system (definition of the rhizome) ‘open’: it cannot be pinned down. (...) True to the conceptual rhizome, we cannot separate these different levels but have done so here for the purpose of clarity, and to expose the movement inherent in the application of this concept which makes metaphor to a metamorphosis.”³³ The authors managed to achieve the *intermezzo* state, as mentioned in the first section. They discovered a point in thinking from which they could say

³¹ REINMANN, Gabi. Shift from Teaching to Learning und Constructive Alignment: Zwei hochschuldidaktische Prinzipien auf dem Prüfstand. *Impact free 14 – Februar 2018*, 2018, pp. 1–11.

³² DOUGLAS-JONES, Rachel, SARIOLA, Salla. Rhizome Yourself: Experiencing Deleuze and Guattari from Theory to Practice. *Rhizomes*, 2009, 19.

³³ *Ibid.*, p. 6.

that “everything is connected ‘in the process’”.³⁴ This statement in relation to their research meant that being part of an international research project, they had to abandon arboristic principles in thinking and be guided solely by rhizomatic.

In the meantime, BLAD was planted in the garden again. However, its Facebook blog has not ceased to exist. The authors have made from it a platform for the exchange of experiences on the practical application of the concept of Deleuze and Guattari rhizome.

The second example comes from the already mentioned book by Dietrich Benner.³⁵ The German theorist of education gives it as an illustration for the modern practice of academic science education, including *Bildung* as a category regulating the relationship between teaching and learning. This example is about the struggle of learners (students) with scientific texts, to be more precise: pedagogical, and the transformational process that takes place during this struggle.

Well, D. Benner relates his experiences with the seminar that he conducted for several years at the Humboldt University in Berlin in a rather unusual form. Instead of meeting weekly, the lecturer and students went to a small town in the province at the end of the semester and there were classes in thematic sessions from Monday to Friday. Each of the sessions consisted of two parts: first, indicated persons presented papers they prepared during the semester, and then discussion took place. It was possible because all participants had to read not only their texts, but all the materials.

D. Benner emphasizes that by giving guidelines for the preparation of papers and supervising their presentation at session meetings, he pointed out to the speakers to focus on showing problems developed in a given text and avoid mentoring, i.e. not instructing listeners what to think or note. If it did happen to the lecturer after all, the lecturer interrupted the presentation and brought them to the right track. From the *Bildung* perspective, teaching activities cannot deprive the learner of space for his own activity, which is primarily thinking. Only then can you hope that academic education will fulfill its role, i.e. it will – as A. R. English put it – *transformation of self and world*.³⁶

According to Benner, classes conducted in the manner described above contributed to the development of students’ scientific competences in three ways. Firstly, they taught them to read scientific texts focused on extracting and tracking problem threads. Secondly, they put the students in a position of teachers (lecturers) whose function is not to impose on the learners what to know or remember, but to bring problems closer in such a way that the learners understand them and are able to solve them within their current possibilities. Finally, thirdly, the participants of the seminar gained a broader understanding of the issues they had learned in the text they had studied, and only thanks to the speeches of others they could consider the issues from different perspectives. In these effects, a double transformation is expressed – of themselves and the world, to which academic teaching through *Bildung* is to lead.

³⁴ *Ibid.*, p. 7.

³⁵ BENNER, Dietrich. *Umriss einer Allgemeinen Wissenschaftsdidaktik. Grundlagen und Orientierungen für Lehrerbildung, Unterricht und Forschung*. Weinheim: Beltz Verlag, 2019, pp. 307–311.

³⁶ ENGLISH, Andrea R. *Discontinuity in Learning. Dewey, Herbart, and Education as Transformation*, p. 115 (author’s italics).

The examples cited clearly demonstrate that there can be no agreement between rhizoming and *Bildung*. From the perspective of rhizomatic thinking, academic science education through *Bildung* only extends the existence of the arboristic system which should be broken as soon as possible as obscurant and inhibiting progress in individualized subjectivizing thinking. An analogous verdict must come from the academic education taking into account *Bildung*, as from this perspective, teaching and learning based on Deleuze-Guattarian rhizoming is devoid of substantive foundations in the existing scientific knowledge and can be used at most as a heuristic strategy for generating research ideas. Can this “either-or” state be resolved?

Answering the above question, I suggest referring to Bill Readings’ book *The University in Ruins*. In the face of a hopeless situation in which he thinks thinking in a contemporary posthistoric university, he postulates the use of “a certain pragmatism”.³⁷ He explains it as follows: “We have to recognize that the University is a *ruined institution*, while thinking what it means to dwell in those ruins without recourse to romantic nostalgia.”³⁸

The author encourages constructive action in relation to the condition of the University, which suggestively reflects the word “ruins”. He does not care, however, how to stop or even reverse the processes causing this state like Don Quixote, but just pragmatically looks for the opportunity to develop thinking in the conditions they are, in other words: learn to dwell in ruins.

Regarding the dilemma between rhizoming and *Bildung*, romantic nostalgia would, in my opinion, be the assumption that only one of these ways of developing thinking can lead academic education to its goal. This is confirmed by the words of B. Readings: “The question posed to the University is thus not how to turn the institution into a haven for Thought³⁹ but how to think in an institution whose development tends to make Thought more and more difficult, less and less necessary.”⁴⁰ Therefore, if one accepts the defense of thinking as the overriding task of academic science education, then the disharmony between rhizoming and *Bildung* is somewhat out of focus. However, considering this option and looking for possible contact points are beyond the scope of this study.

Conclusion

The presented analysis of two concepts of practicing academic science education – by rhizoming and by *Bildung* – showed their polar opposite. The differences relate in particular to: (1) the concept of scientific knowledge, (2) strategies for teaching and learning to think through science, and (3) the subjective effects of the educational process. In the model based on the Deleuze-Guattarian metaphor, the rhizome ignores the scientific status of knowledge and proclaims the egalitarian nature of all products of subjective thinking. Not only human beings are able to think like this, but also subjectivized objects can as well. In this context,

³⁷ READINGS, Bill. *The University in Ruins*, p. 167.

³⁸ *Ibid.*, p. 169 (author’s italics).

³⁹ B. Readings clarifies: “I say ‘name’ and I capitalize ‘Thought’ not in order to indicate a mystical transcendence, but in order to avoid the confusion of the referent with any one signification. The name of Thought precisely is a name in that it *has no intrinsic meaning*. In this sense, it is like excellence. However, Thought differs from excellence in that it does not bracket the question of value.” In READINGS, Bill. *The University in Ruins*, p. 159 (author’s italics).

⁴⁰ *Ibid.*, p. 175.

rhizoming is the construction of individual meanings by the subject in the thinking position of *intermezzo*, and not learning from someone or something. Such an educational process funds an individual with a strongly developed sense of originality. In the long run, this can lead to eccentricity and weirdness.

In contrast, academic science education through *Bildung* affirms the diversity of the products of human cognition as to their status (importance) and extracts broadly understood scientific knowledge, which is the main subject of the transformative learning process. This process consists in correlating teaching and learning activities in a way that enables a double change in the learner – himself and the world, which is expressed in the term *Bildung*. Academic education understood in this way is about discovering by the subject of science as a space for personal development.

SEZNAM LITERATURY

BASS, Randall V., GOOD, J. W. Educare and Educere: Is a Balance Possible in the Educational System? *The Educational Forum*, 2004, 68 (2), pp. 161–168.
DOI: <https://doi.org/10.1080/00131720408984623>.

BENNER, Dietrich. John Dewey, a Modern Thinker: On Education (as Bildung and Erziehung) and Democracy (as a Political System and a Mode of Associated Living). In WAKS, Leonard J., ENGLISH, Andrea R. (eds.). *John Dewey's Democracy and Education. A Centennial Handbook*. Cambridge: University Press, 2017, pp. 262–278. ISBN 978-1-107-14030-1.

BENNER, Dietrich. *Umriss einer Allgemeinen Wissenschaftsdidaktik. Grundlagen und Orientierungen für Lehrerbildung, Unterricht und Forschung*. Weinheim: Beltz Verlag, 2019. ISBN 978-3-7799-6021-8.

BENNER, Dietrich, BRÜGGEN, Friedhelm. *Bildsamkeit/Bildung*. In BENNER, Dietrich, OLKERS, Jürgen (eds.). *Historisches Wörterbuch der Pädagogik*. Weinheim, Basel: Beltz, 2004, pp. 174–215. ISBN 978-3-4078-3153-8.

BLEIKLIE, Ivar, ENDERS, Jürgen, LEPORI, Benedetto (eds.). *Managing Universities. Policy and Organizational Change from a Western European Comparative Perspective*. London: Palgrave Macmillan, 2017. ISBN 978-3-319-5-3865-5.

BROTT, Simone. *Architecture for a Free Subjectivity: Deleuze and Guattari at the Horizon of the Real*. Londong: Ashgate Publishing Limited, 2011. ISBN 978-1-4094-1995-2.

BUCHANAN, Ian. Deleuze and the Internet. *Australian Humanities Review*, 2007, 43, pp. 1–19. ISSN 1325-8338. Retrieved from: <http://australianhumanitiesreview.org/2008/12/20/deleuze-and-the-internet/>.

CLARKE, Bryan, PARSONS, Jim. Becoming Rhizome Researchers. *Reconceptualizing Educational Research Methodology*, 2013, 4 (1), pp. 35–43. ISSN 1892-042X.
DOI: <https://doi.org/10.7577/term.685>. Retrieved from: <https://journals.hioa.no/index.php/term/article/view/685/633>.

DELEUZE, Gilles, GUATTARI, Felix. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press, 1987. ISBN 0-8166-1401-6.

DOUGLAS-JONES, Rachel, SARIOLA, Salla. Rhizome Yourself: Experiencing Deleuze and Guattari from Theory to Practice. *Rhizomes*, 2009, 19. ISSN 1555-9998.
Retrieved from: <http://www.rhizomes.net/issue19/sariola.html>.

ENGLISH, Andrea R. *Discontinuity in Learning. Dewey, Herbart, and Education as Transformation*. New York: Cambridge University Press, 2013. ISBN 978-1-1070-2521-9.

- HORLACHER, Rebekka. *The Educated Subject and the German Concept of Bildung: A Comparative Cultural History*. New York and London: Routledge, 2016. ISBN 978-1-1380-8598-5.
- KOSELLECK, Reinhart. On the Anthropological and Sematnic Structure of *Bildung*. In KOSELLECK, Reinhart. *The Practice of Conceptual History. Timing History, Spacing Concepts*. Stanford: Stanford University Press, 2002, pp. 170–207. ISBN 0-8047-4022-4.
- KUDLÁČOVÁ, Blanka, RAJSKÝ, Andrej (eds.). *Education and “Pädagogik” – Philosophical and Historical Reflection (Central, Southern and South-Eastern Europe)*. Berlin: Peter Lang, 2019. ISBN 978-3-6317-7511-0.
- KWIEK, Marek. *Uniwersytet w dobie przemian. Instytucje i kadra akademicka w warunkach rosnącej konkurencji*. Warszawa: Wydawnictwo Naukowe PWN, 2016. ISBN 978-83-01-19645-6.
- READINGS, Bill. *The University in Ruins*. Cambridge, London: Harvard University Press, 1997. ISBN 978-0-6749-2953-1.
- REINMANN, Gabi. Shift from Teaching to Learning und Constructive Alignment: Zwei hochschuldidaktische Prinzipien auf dem Prüfstand. *Impact free 14 – Februar 2018*, 2018, pp. 1–11. Retrieved from: <<https://gabi-reinmann.de/wp-content/uploads/2018/02/Impact-Free-14.pdf>>.
- RUCKER, Thomas. Teaching and the Claim of Bildung: The View from General Didactics. *Studies in Philosophy and Education*, 2019, 39, pp. 51–69. DOI: <https://doi.org/10.1007/s11217-019-09673-0>. Retrieved from: <<https://doi.org/10.1007/s11217-019-09673-0>>.
- RYBÁK, David. The Idea of Education, or What is Not Visible for the Approach of Objectifying Science? In KUDLÁČOVÁ, Blanka, RAJSKÝ, Andrej (eds.). *Education and “Pädagogik” – Philosophical and Historical Reflection (Central, Southern and South-Eastern Europe)*. Berlin: Peter Lang, 2019, pp. 119–124. ISBN 978-3-6317-7511-0.
- STĘPKOWSKI, Dariusz. (Wy)kształcenie w polskiej pedagogice ogólnej. Prolegomena do historii pojęcia. In MALISZEWSKI, Krzysztof, STĘPKOWSKI, Dariusz, ŚLIWERSKI, Bogusław. *Istota, sens i uwarunkowania (wy)kształcenia*. Kraków: Oficyna Wydawnicza „Impuls”, 2019, pp. 13–72. ISBN 978-83-8095-715-2.
- ULJENS, Michael. *School Didactics and Learning. A School Didactic Model Framing an Analysis of Pedagogical Implications of Learning Theory*. Hove: Psychology Press, 2005. e-ISBN 0-203-30477-2.
- ULJENS, Michael, YLIMAKI, Rose M. Non-affirmative Theory of Education as a Foundation for Curriculum Studies, Didaktik and Educational Leadership. In ULJENS, Michael, YLIMAKI, Rose M. (eds.). *Bridging Educational Leadership, Curriculum Theory and Didaktik. Non-affirmative Theory of Education*. Cham: Springer, 2017, pp. 3–145. ISBN 978-3-319-58648-9. DOI: https://doi.org/10.1007/978-3-319-58650-2_1.

WALLIN, Jason J. Rhizomania: Five Provocations on a Concept. *Complicity: An International Journal of Complexity and Education*, 2010, 7 (2), pp. 83–89.
DOI: <https://doi.org/10.29173/cmplct8924>.

WIERSING, Erhard. *Theorie der Bildung. Eine humanwissenschaftliche Grundlegung*. Paderborn: Verlag Schöningh, 2015. ISBN 978-3-506-76653-3.

YOUNG, Eugene, GENOSKO, Gary, WATSON, Janell. *The Deleuze and Guattari Dictionary*. London, New Delhi, New York and Sydney: Bloomsbury, 2013. ISBN 978-1-4411-4824-7.

(*Dariusz Stepkowski, Ph.D.*, associate professor and head of the Department of the Philosophy of Education and General Pedagogy at the Faculty of Educational Sciences of the Cardinal Stefan Wyszyński University in Warsaw, Poland.)