THE B21 EXPERIENCE

ANALYTICAL REPORT ON THE BUILDING 21 PROGRAM

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1. Introduction

Building 21 (B21) draws symbolic inspiration from Building 20 at the Massachusetts Institute of Technology (MIT), a temporary structure erected during the Second World War that remained in use for more than fifty years. Owing to its marginal status and unconventional physical conditions, the building became home to a remarkable diversity of experimental projects, many situated at the boundaries of established disciplines. Over time, it gained a reputation for fostering innovative initiatives and unconventional intellectual trajectories, leading Professor Jerome Y. Lettvin to describe it as a place that was "disorganized, yet extraordinarily productive."

By invoking this reference, B21 seeks to extend the central intuition embodied by Building 20: that an environment intentionally left open, imperfect, and only partially prescribed can support the emergence of new forms of learning. The choice of the number "21" simultaneously signals continuity with this legacy and a shift toward the contemporary context of higher education and the evolving nature of knowledge in the twenty-first century.

Building 21 (B21) presents itself as an atypical learning environment within the landscape of contemporary higher education. It is neither a program organized around disciplinary content nor a pedagogical model based on predetermined learning pathways. Instead, B21 offers a framework within which participants develop personally meaningful projects while engaging continuously with a diverse relational environment. This distinctive character raises an important challenge: how

can the learning that occurs within such an environment be described and understood?

Traditional models of learning description, often centred on objectives, content, and instructional sequences, struggle to account for this type of environment. Such models generally assume a relatively linear progression in which learning is planned, organized, and assessed according to stable reference points. At B21, however, learning trajectories are neither prescribed nor homogeneous. Participants move forward through evolving questions, explore multiple avenues, encounter dead ends, reformulate ideas, and gradually construct provisional forms of understanding and stability. They are not formally assessed and therefore receive no grades.

In this context, it becomes necessary to shift the analytical lens. Rather than attempting to identify what is learned in the traditional sense, this report focuses on the learning process as experienced by participants and on the conditions that make this process possible.

The purpose of this report is therefore to provide an analytical representation of the learning experience at B21. It does not seek to model an ideal pathway or formulate pedagogical prescriptions. Rather, it aims to make intelligible a set of observed dynamics by articulating three complementary levels of analysis:

- **Structural dimensions**, which define the conditions within which participants evolve (inquiry, temporality, relationship to knowledge, relational environment, and physical space);
- **The learning process**, understood as a series of movements undertaken by participants (engagement, exploration, disequilibrium, reconfiguration, and stabilization), supported by facilitative structures such as Lightning, Dawn, Project Checking, Showcase, and other interventions;
- **Learning trajectories**, which correspond to the unique pathways actually followed by participants.

This analysis draws upon three complementary sources of data: (1) the study of participants who have completed the B21 experience as well as participants currently engaged in it; (2) the analysis of documents and interviews concerning the program's vision, particularly that of its founder; and (3) observations conducted on site during the Winter 2026 term, including discussions with members of the B21 staff.

The underlying assumption of this work is that the learning observed at B21 cannot be understood independently of the conditions from which it emerges. Far from being neutral, these conditions shape forms of engagement, influence modes of exploration, make certain forms of disequilibrium possible, and support, or constrain, processes of reconfiguration. Learning is therefore not conceived as the completion of a predetermined pathway but rather as the outcome of dynamic interactions between a structured environment and the activity of participants.

This document seeks to provide a framework for understanding this type of learning environment. It also offers a basis for future discussions concerning the design, analysis, and facilitation of open and evolving educational environments.

2. B21 as a Learning Environment

B21 can be understood as a structured learning environment in the sense that it does not prescribe trajectories but instead organizes a set of conditions that make particular forms of activity, interaction, and transformation possible. The environment does not determine learning outcomes; rather, it shapes the conditions under which learning emerges.

A particularly useful way of describing B21 is through the metaphor of territory.

B21 does not provide a route to follow; it offers a space to explore. Participants do not progress through a predetermined sequence of stages. Instead, they engage within

an environment in which they must define directions for themselves, investigate possibilities, adjust their approaches, and navigate various constraints.

From this perspective, three levels of analysis can be distinguished: the landscape, the movements, and the trajectories.

2.1 Structural Dimensions: The Landscape

The first level concerns the structural dimensions of the environment. These dimensions constitute the "landscape" within which participants operate. Rather than prescribing specific actions, they define the conditions under which particular actions become possible, meaningful, or conversely, difficult.

These dimensions include the nature of inquiry, forms of temporality, the relationship to knowledge, characteristics of the relational environment, and the organization of physical space. Each contributes to shaping the learning environment by influencing forms of engagement and patterns of interaction.

Importantly, these dimensions are not independent of one another. They interact and reinforce one another, producing an environment that is simultaneously coherent and potentially unstable.

2.2 The Learning Process: Movements

The second level concerns the learning process itself. In an environment such as B21, learning cannot be reduced to a linear progression. Rather, it appears as a succession of movements marked by phases of advancement, stagnation, questioning, and transformation.

Analysis of the collected data suggests five principal movements: engagement, exploration, disequilibrium, reconfiguration, and stabilization. These movements should not be understood as fixed, sequential stages but as dynamics that may overlap, recur, or evolve over time.

Learning thus appears fundamentally non-linear, characterized by ongoing alternations between openness and focus, uncertainty and clarification, destabilization and structure.

Participants' movements are supported by a range of interventions facilitated by B21 staff. These interventions function as leverage points that shape participant activity at specific moments in their journeys. Some support engagement and exploration, while others foster reconfiguration and stabilization.

2.3 Learning Trajectories: Pathways

The third level concerns learning trajectories, that is, the actual pathways followed by participants within the environment.

If the structural dimensions define a space of possibilities and the learning process describes general learning dynamics, trajectories capture the ways in which these dynamics become embodied in individual experiences.

These trajectories may take many forms. Some appear relatively structured and goal-directed, whereas others are more exploratory, characterized by detours, branching pathways, and returns to earlier questions. Such variability is an intrinsic feature of the environment.

It reflects the fact that, within a setting such as B21, learning does not result from the application of a single model but from the interaction between shared conditions and diverse forms of individual engagement.

2.4 Articulating the Three Levels

These three levels, structural dimensions, process, and trajectories, form an interconnected system in which each sheds light on the others.

Structural dimensions shape the forms that the learning process can take. The learning process, in turn, becomes visible through individual trajectories. Conversely, examining trajectories provides insight into the dynamics of the process and reveals the effects of structural conditions.

This articulation constitutes a central element of the analytical framework proposed in this report. It advances an integrated understanding of learning that attends simultaneously to conditions, dynamics, and pathways.

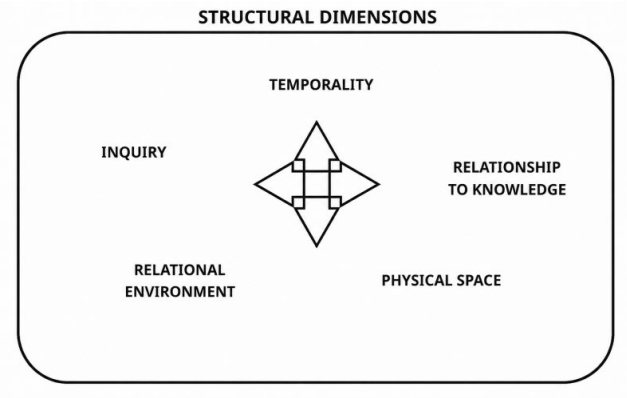
The following sections will describe in detail the learning environment of B21

3. Structural Dimensions

While the learning process describes the dynamics experienced by participants and trajectories capture the singularity of individual pathways, neither can be fully understood independently of the conditions within which they take shape.

These conditions correspond to what may be described as the **structural dimensions** of the B21 environment. They do not prescribe specific actions; rather, they configure a space of possibilities by making certain forms of engagement, exploration, and transformation more or less likely to occur.

These dimensions are neither independent nor fully controllable. Together, they contribute to structuring the learning experience by shaping both the dynamics of the learning process and the forms taken by individual trajectories.



3.1 Relationship to the Problem: Inquiry

The relationship to the problem constitutes a central dimension of the learning environment. It refers to the ways in which a problem is defined, perceived, and transformed throughout the learning process.

Several configurations can be distinguished. In some cases, the problem appears relatively closed and clearly defined, directing participants toward its resolution, often within a logic of hypothesis confirmation or expected production. In other situations, the problem remains open-ended and evolving, with boundaries that are uncertain, negotiable, and subject to redefinition through interaction and experience.

Observations suggest, however, that these configurations are not static. Some participants enter the process with a highly structured problem inherited from more traditional academic frameworks, only to encounter its limitations in the form of declining interest, a sense of repetition, or feelings of stagnation. These experiences

may lead them to reopen and reconfigure their inquiry. Conversely, others begin with a more open approach in which the problem does not initially exist in a stabilized form but emerges gradually through attempts at definition, experimentation, and successive adjustments.

From this perspective, the problem shifts from being an object to be solved to becoming a space to be explored. It may become multiple, provisional, and partially indeterminate, while remaining the subject of ongoing efforts toward clarification and temporary stabilization. This work of definition is not carried out solely at the individual level; it unfolds through a network of interactions, informal conversations, collective sessions, and feedback processes that contribute to transforming participants' relationship to the problem.

These different forms of engagement with the problem directly influence the nature of exploration and the likelihood of encountering phases of disequilibrium. An open-ended problem tends to foster exploration and increase opportunities for reconfiguration, but it may also generate greater uncertainty, dispersion, or cognitive overload. By contrast, a more well-defined problem structures activity and provides clearer direction, while potentially limiting shifts in inquiry and the emergence of new possibilities.

The relationship to the problem should therefore not be understood as a fixed condition. It evolves throughout the learning process as a result of experiences, interactions, and tensions encountered along the way, oscillating between phases of openness (divergence) and phases of focus (convergence), without necessarily reaching a definitive state of stabilization.

3.2 Temporality

Temporality refers to the ways in which time is organized and experienced within the learning environment. It encompasses multiple dimensions, including the amount of time available, its continuity or fragmentation, and the degree to which it is constrained or open.

These forms of temporality strongly influence the dynamics of the learning process. Longer and relatively continuous periods of time may support sustained exploration and allow productive tensions to develop. More constrained or fragmented forms of time, by contrast, may encourage quicker forms of stabilization and decision-making.

At the level of lived experience, temporality also shapes participants' perceptions of their own progression. Open-ended time may be experienced as an opportunity, but

also as a source of uncertainty or dispersion. More structured temporal frameworks may provide reassurance while simultaneously limiting certain forms of exploration.

A recurring tension emerges between time that is theoretically available and time that can actually be mobilized in meaningful ways. Participants frequently describe moving through alternating phases of opening possibilities, narrowing directions, revisiting assumptions, and consolidating emerging understandings. Rather than following a linear sequence, their trajectories unfold through rhythms of expansion and contraction, exploration and focus.

In this sense, temporality should not be viewed merely as an external framework for learning. It actively shapes the forms that inquiry, exploration, reconfiguration, and stabilization may take. Time functions not simply as a resource, but as a constitutive dimension of the learning experience itself.

3.3 Relationship to Knowledge

The relationship to knowledge refers to the ways in which participants conceive of and mobilize knowledge throughout their inquiry. It constitutes a structuring dimension of the learning process insofar as it influences how participants formulate questions, draw upon resources, and recognize the value of their own work. Within the B21 environment, this relationship to knowledge appears as an evolving reality, capable of transforming over the course of the process.

Interview data reveal a gradual shift in participants' relationship to knowledge. Many participants initially express a certain distancing from prescribed or disciplinary forms of knowledge. These are often perceived as insufficient for addressing the complexity of the questions they wish to explore, particularly when they rely on explanatory frameworks viewed as overly normative or reductive. This stance reflects a questioning of the forms through which knowledge is typically presented.

This shift is accompanied by the emergence of a more exploratory relationship to knowledge, one in which the question takes precedence over the answer, and disciplinary knowledge becomes a resource to be mobilized rather than a constraining framework. Participants adopt a stance that leads them to move across perspectives, connect heterogeneous conceptual domains, and formulate questions that extend beyond traditional disciplinary boundaries.

This relationship to knowledge is also characterized by an increased attention to lived experience. In some cases, participants seek less to explain a phenomenon than to deepen their understanding of it through their own engagement with it. This orientation gives the process a phenomenological dimension, in which knowledge is

constructed through the exploration of situations and the meanings associated with them.

Thus, the relationship to knowledge constitutes a dynamic element of the learning process itself, one that remains in continuous transformation and is closely linked to the movements of engagement, exploration, and reconfiguration.

3.4 The Relational Environment

The relational environment plays a central role in shaping the B21 learning environment. It refers to the quality of the interactions that are possible and to the conditions under which those interactions unfold.

Several characteristics can be identified. The accessibility of the relational environment, that is, the ease with which participants can connect with others, plays an important role in the circulation of ideas. The quality of exchanges, particularly their relevance and depth, contributes to sustaining reflection and supporting processes of reconfiguration. Finally, the diversity of available perspectives broadens the space of possibilities and fosters cognitive shifts.

The relational environment can therefore act as a significant lever within the learning process. It may support exploration, help participants move beyond certain moments of disequilibrium, and contribute to the transformation of problems. Its influence, however, depends largely on the ways participants engage with it and on the nature of the interactions that develop within it.

From the perspective of lived experience, the relational environment may be perceived as a source of support, but also, at certain moments, as a source of destabilization, particularly when viewpoints diverge sharply.

3.5 Physical Space

Physical space constitutes an often implicit yet decisive dimension of the learning environment. It contributes to organizing both possibilities for action and forms of interaction.

Space can enable or constrain particular practices by making mobility, informal exchanges, visibility of ongoing work, and access to other participants more or less possible. It also helps structure encounters by influencing the frequency and nature of interactions.

Beyond these functional aspects, physical space contributes to the materialization of a particular conception of learning. Through its organization and the uses it makes

possible, it implicitly conveys a vision of knowledge and of relationships among participants, characterized in this case by accessibility and flexibility.

The use of various material elements, including a large whiteboard, a projection screen, movable tables, chairs arranged in circles, and floor cushions, makes possible a variety of configurations for work and interaction. These arrangements facilitate the circulation of ideas, the sharing of productions, and the adaptation of forms of exchange to participants' evolving needs.

Space should therefore not be viewed merely as a backdrop to the learning process. Rather, it functions as an active component that shapes and influences the forms that learning may take.

3.6 Articulation of the Structural Dimensions

These different dimensions interact and combine to configure the learning environment as a whole. Their articulation contributes to making certain dynamics more likely to emerge. For example, an open-ended problem situated within an extended temporality and supported by an accessible and diverse relational environment increases the likelihood of sustained exploration and successive reconfigurations. Conversely, other configurations may foster more linear trajectories and more rapid forms of stabilization.

The structural dimensions do not determine a particular type of trajectory; rather, they modify its conditions of possibility. This perspective makes it possible to view learning not as the direct outcome of an educational design, but as the emergence of situated dynamics that depend upon the conditions within which they develop.

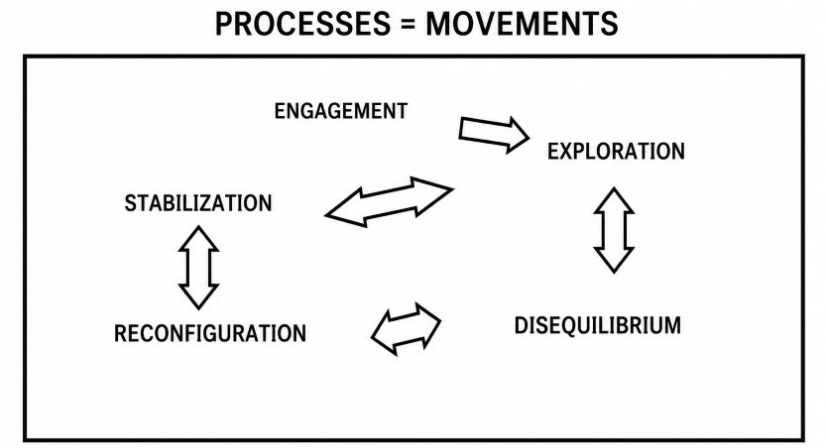
4. The Learning Process

Within an environment such as B21, the learning process manifests itself as an evolving dynamic characterized by phases of openness, destabilization, and transformation. It unfolds within and through the structural dimensions described previously.

Analysis of the data collected identifies five principal movements: **engagement, exploration, disequilibrium, reconfiguration, and stabilization**. These movements are forms of activity that may occur sequentially, overlap, recur, or be interrupted.

The learning process thus appears fundamentally non-linear, marked, for example, by alternating phases of openness and focus, uncertainty and clarification, destabilization and structuring. These alternations are not incidental; they constitute a defining dynamic of learning within an open environment.

It is important to emphasize that these movements should not be understood as sequential stages. Rather, they represent recurring patterns of activity that may overlap, reappear, or evolve throughout a participant's learning trajectory.



4.1 Engagement

The movement of engagement constitutes the point of entry into the learning process. It is characterized by the manner in which a participant enters into a relationship with an idea, a question, or an intention for action.

This engagement may take different forms. It may begin as an intuition that is still only partially articulated but experienced as meaningful. It may also take the form of a more structured question that provides clearer direction for the inquiry. Finally, it may be embodied in a relatively stabilized project whose objectives and contours are already partially defined.

These forms should not be understood hierarchically. Rather, they represent different ways of entering into activity. An initially vague engagement may gradually become more precise, just as an apparently well-defined project may later be called into question.

These forms of engagement are accompanied by a range of emotions, from apprehension to excitement. Curiosity, however, appears to be a disposition widely shared among participants and is often at the very origin of their engagement.

Engagement plays a determining role insofar as it shapes the initial direction of exploration. Within an environment such as B21, however, engagement always remains open to revision.

4.2 Exploration

Exploration is a movement within the learning process through which participants actively search for possibilities emerging from an idea, a theme, or an initial question. It involves putting the problem itself to the test, as its boundaries may be expanded, displaced, or redefined. During this movement, participants explore different ways of framing, understanding, and transforming the question that guides their inquiry.

Exploration may take several complementary forms: readings that broaden or structure understanding; trials and experiments that test emerging ideas; and discussions that introduce alternative perspectives or critical questioning.

This phase is often characterized by a certain degree of dispersion. Participants may pursue several directions simultaneously without immediately perceiving their coherence. Such dispersion should not necessarily be viewed as an obstacle. On the contrary, it may constitute a condition for the emergence of new perspectives.

From an emotional standpoint, exploration is frequently accompanied by a mixture of enthusiasm and uncertainty. Interest in new ideas may coexist with feelings of disorientation or doubt regarding the relevance of particular directions. This ambivalence is not accidental; it is inherent to situations in which points of reference are still under construction.

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Exploration therefore plays a central role in enriching the initial problem. It contributes to transforming its contours and revealing its complexity, while simultaneously exposing participants to forms of cognitive and emotional instability.

4.3 Disequilibrium

The movement of disequilibrium corresponds to a phase during which previously productive approaches cease to generate the expected outcomes, confronting participants with limitations, contradictions, or a loss of orientation in their work.

Disequilibrium may take several forms. It may appear as a blockage, when participants can no longer move forward. It may emerge as saturation resulting from an excess of information or an overabundance of exploratory directions. It may also take the form of an impasse, when previously promising avenues appear no longer viable.

Participants explicitly describe such forms of disequilibrium. One participant, for example, recalled a period during which, despite sustained effort, she felt that she was "not making progress" and that her project was "almost dead." Other moments were described as periods of suspension during which it became necessary to remain within the space of questions without being able to stabilize a direction immediately. In such situations, uncertainty often deepens, leading some participants to question the very nature or relevance of their project.

Beyond individual difficulties, these phases appear to constitute structurally significant moments within the learning process.

From an emotional perspective, disequilibrium is frequently associated with more intense affects, including frustration, discouragement, and even a loss of meaning. Participants may feel that they "no longer know where they are going" or begin to question the value of their efforts altogether.

Contrary to a linear conception of learning, moments of disequilibrium should not be interpreted solely as difficulties to be overcome. They constitute critical moments in the process because they reveal the limits of participants' initial frames of reference and make further transformation possible.

4.4 Reconfiguration

Reconfiguration corresponds to a moment in the learning process during which participants significantly modify the way they understand or formulate the focus of their work. More than a gradual adjustment, it often involves a qualitative transformation of the problem itself.

Interviews reveal different forms of reconfiguration. In some cases, it takes the form of a shift in the analytical framework, when participants abandon an initial formulation of their project in favor of a perspective that is broader, more

encompassing, or more fundamental. This type of transformation may emerge following an impasse, when available answers appear unsatisfactory or when previously explored directions no longer allow further progress.

In other situations, reconfiguration manifests itself through the enrichment of a concept under development. Participants integrate new dimensions into their reflection, often as a result of experimentation or interactions with the collective. This process of enrichment contributes to increasing the complexity of the problem without necessarily altering its original nature.

These different forms of reconfiguration share a common characteristic: they are closely linked to moments of disequilibrium within the process. Situations of blockage, saturation, or impasse act as triggers, compelling participants to reconsider their assumptions, frames of reference, or modes of inquiry.

Reconfiguration can therefore be understood as the central transformative movement within the learning process. It not only enables the process to regain momentum when it begins to lose direction, but also transforms the nature of the questions being asked. In this sense, it contributes directly to the evolution of learning trajectories by introducing bifurcations that redefine the direction of the work.

It is important to emphasize that these transformations do not follow a linear logic. Participants may return to earlier formulations, reactivate previously abandoned directions, or combine multiple approaches. Reconfiguration is therefore embedded within an iterative movement characterized by back-and-forth shifts and successive adjustments.

From an emotional perspective, reconfiguration is often accompanied by a sense of clarification, sometimes described as a “breakthrough” or a sudden achievement of coherence. It may also generate renewed energy and confidence, associated with the experience of recovering a meaningful direction.

4.5 Temporary Stabilization

Temporary stabilization refers to moments in the learning process when participants succeed in giving their work a form that is sufficiently coherent and shareable. Unlike traditional conceptions of learning that focus primarily on the production of final outcomes, these stabilizations do not represent definitive endpoints, but rather provisional states within an ongoing process.

Stabilization may take different forms. It can be expressed through the formulation of a concept, the production of an artifact, the clarification of a problem, the articulation of a new perspective, or the development of a project that participants consider meaningful and communicable. What these forms have in common is not their permanence, but the temporary coherence they provide.

These moments of stabilization play an important role in the learning process. They allow participants to make visible the progress achieved through exploration, disequilibrium, and reconfiguration. They also create opportunities for communication, feedback, and recognition, enabling ideas to be shared, discussed, and further developed.

At the experiential level, temporary stabilization is often associated with a sense of accomplishment, increased confidence, and a renewed capacity for action. Participants frequently describe a feeling of having reached greater clarity regarding the direction of their work, even while recognizing that important questions remain unresolved.

However, stabilization should not be interpreted as a final resolution of the problem. The forms that emerge remain open to revision and transformation. New experiences, interactions, or questions may once again destabilize what had previously appeared coherent, giving rise to further exploration and reconfiguration.

Temporary stabilization therefore constitutes neither the conclusion of the learning process nor a return to equilibrium in a definitive sense. Rather, it represents a provisional organization of understanding that enables participants to act, communicate, and continue their inquiry. In this respect, stabilization functions less as an endpoint than as a platform from which new cycles of engagement, exploration, disequilibrium, and reconfiguration may emerge.

From this perspective, learning appears not as a progression toward a final state of mastery, but as a continuous process of transformation characterized by successive cycles of stabilization and renewal. Temporary stabilization provides the continuity necessary for development while preserving the openness required for further transformation.

5. Facilitation Tools as Process Operators

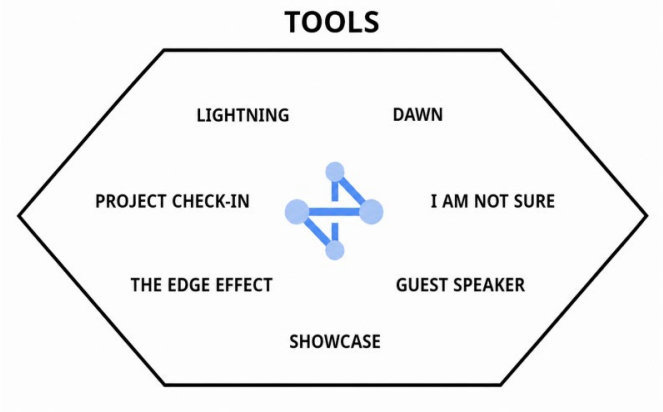
5.1 The Function of Facilitation Tools within the B21 Environment

Within the B21 environment, the learning process does not unfold solely through participants' engagement and the structural conditions that frame it. It is also

supported by a set of facilitation tools that intervene at different moments throughout participants' learning trajectories.

These tools operate within a logic of co-construction, in which participants and staff jointly contribute to their implementation and regulation. They provide specific frameworks for interaction that allow participants to present ideas, test hypotheses, confront differing perspectives, clarify difficulties, and share more stabilized forms of their work.

They therefore function as operators of the learning process. Their role is not to direct learning trajectories but to support particular dynamics by making certain forms of activity possible or by facilitating their emergence. Their use is neither linear nor uniform. A single tool may intervene at different moments in the process and may be mobilized in different ways depending on participants' needs.



5.2 Lightning Sessions

Lightning Sessions consist of brief presentations of an idea, question, or project to a small group, followed by exchanges intended to clarify and enrich the proposal.

Lightning Sessions are embedded within a broader set of activities that combine reading, discussion, and collective exchange. In the trajectories examined, they play an important role in connecting ideas. One participant, for example, described how these sessions, combined with reading activities, enabled her to "put the pieces together" during a critical phase of her project. They provide substantial feedback while also contributing to intermediate forms of process structuring.

Observations conducted during these sessions suggest that their impact extends beyond the mere presentation of an idea. In several cases, the discussions that followed led participants to reformulate the initial problem, identify blind spots, or

uncover unexpected directions for further inquiry. These brief moments thus function as turning points within certain learning trajectories.

They may also reveal areas of uncertainty or inconsistency, thereby contributing to the emergence of situations of disequilibrium that sustain the continuation of the work.

Their mandatory nature makes them an important anchoring point within the process, supporting ongoing monitoring of trajectories and enabling responsive intervention by B21 staff.

5.3 Dawn Sessions

Dawn Sessions provide a more in-depth form of exploration based on the active involvement of a small group working around a participant's project. They mobilize a variety of resources, including objects, ideas, and experiences, in order to test or enrich particular hypotheses.

These sessions primarily support the movement of exploration by fostering more engaged and experiential interactions with the project. By putting ideas to the test within a collective setting, they enrich participants' understanding of the problem and help explore its implications. They may also contribute to more substantial shifts in the initial frame of reference, thereby opening the possibility of reconfiguration.

In many situations, Dawn Sessions unfold without direct facilitation by staff, reflecting participants' growing ownership of the process and the increasing autonomy of collective learning dynamics.

5.4 Project Check-ins

Project Check-ins take the form of focused meetings between a participant and one or more members of the staff, centred on the current state of the project.

They are particularly valuable during periods when the process is marked by difficulties, blockages, or uncertainty. By providing opportunities to express these situations and by offering a space for listening and feedback, they help make elements of disequilibrium visible.

They also contribute to a shift away from traditional academic expectations by supporting forms of work that are less oriented toward the production of a finalized outcome.

Project Check-ins therefore play an important role in helping participants navigate these phases. They facilitate the clarification of problems while supporting opportunities for redirection and reconfiguration.

5.5 Showcase

The Showcase is a more formal presentation event during which participants share a project, production, or line of inquiry with an audience.

It primarily supports the movement of temporary stabilization by inviting participants to organize and make visible their work in a coherent form. This process of formalization contributes to clarifying the inquiry and making its outcomes explicit, even if only provisionally.

The discussions that follow these presentations may nevertheless reintroduce questions or suggest adjustments, thereby re-engaging the process in new cycles of exploration and reconfiguration.

5.6 Guest Speakers

Guest Speaker sessions introduce external contributions grounded in professional experience or specialized expertise within a format that encourages interaction with participants.

These interventions primarily enrich exploration by providing new reference points, novel perspectives, and additional forms of structure. Such contributions may broaden the space of possibilities while also challenging some participants' initial assumptions or directions.

In this sense, they contribute both to the opening and to the structuring of the learning process, depending on how participants mobilize and integrate these contributions into their own inquiries.

5.7 "I Am Not Sure" Sessions

"I Am Not Sure" sessions place uncertainty and inquiry at the centre of discussion by inviting participants to express diverse, and sometimes conflicting, points of view.

These sessions contribute to legitimizing uncertainty as an integral component of the learning process. By creating a space in which ideas can be explored without the immediate need for consensus or convergence, they support exploration and encourage the emergence of more complex forms of inquiry.

They may also intensify certain forms of disequilibrium by exposing participants to contradictory or destabilizing perspectives.

5.8 Edge Effect Sessions

Edge Effect Sessions seek to make connections among different themes by drawing upon collective contributions to progressively construct a shared representation.

They support both exploration and reconfiguration by encouraging relationships among ideas that may initially appear unrelated. Working with these interconnections allows broader concepts and new perspectives to emerge.

By making such relationships visible, Edge Effect Sessions contribute to transforming the way problems are understood, thereby creating opportunities for significant shifts in participants' inquiries.

5.9 The Cross-Cutting Logic of the Tools

Taken together, these tools are characterized by low linearity, a distributed approach to facilitation, and a strong valuing of cognitive diversity.

They do not structure learning trajectories directly. Rather, they organize situations of interaction that make particular transformations within the learning process possible.

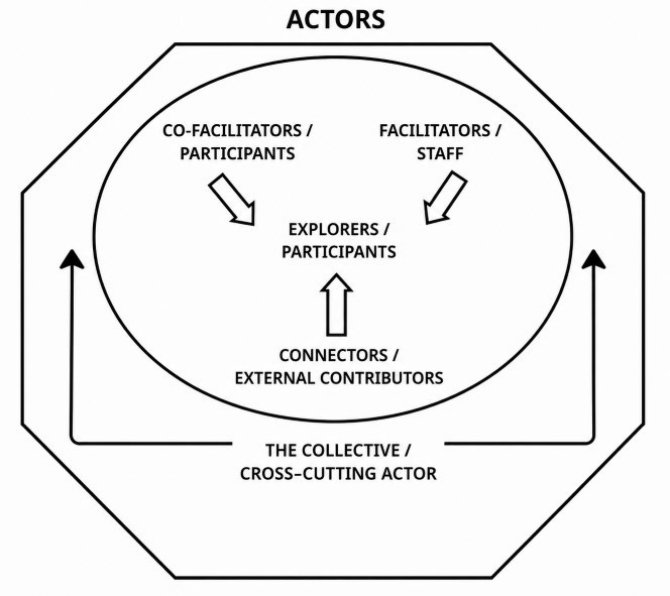
From this perspective, facilitation tools should not be understood as external supports added to an otherwise autonomous process. They constitute an integral component of the learning environment itself. By creating opportunities for engagement, exploration, disequilibrium, reconfiguration, and temporary stabilization, they actively contribute to shaping the dynamics through which learning unfolds.

6. Actors as System Operators

6.1 A Functional Distribution of Roles

Within the B21 environment, roles are not defined by fixed statuses but by functions performed within the learning process. The same actor may therefore occupy different positions at different moments in a learning trajectory, depending on the situations encountered and the needs that emerge.

This functional distribution reflects a flexible organization of the system in which responsibility for the process is both shared and evolving. It supports learning dynamics without relying on a rigid hierarchy of roles.



6.2 Explorers (Participants)

Explorers constitute the centre of gravity of the system insofar as they are the ones who actualize the learning process through their unique learning trajectories.

Their role extends beyond the completion of a project. It is rooted in a more fundamental activity consisting of generating and transforming a problem. This activity unfolds through the various movements of the process, engagement, exploration, disequilibrium, reconfiguration, and temporary stabilization, which participants experience in a non-linear manner.

From the perspective of trajectories, explorers initiate directions based on intuitions or questions, investigate multiple possibilities, abandon or redefine certain orientations, temporarily stabilize emerging forms, and then re-engage the process through new dynamics. Through their actions, they shape their own pathways and advance the learning process itself.

Their role also includes an often implicit collective dimension. By sharing their ideas, uncertainties, and reformulations, participants become resources for one another, contributing to the circulation of perspectives and the enrichment of the collective.

This central position, however, does not diminish the demands associated with the role. It requires the capacity to sustain uncertainty, formulate meaningful problems, and mobilize available resources throughout the process.

6.3 Facilitators (B21 Staff)

Facilitators do not intervene as teachers in the traditional sense. Their primary function is to make the learning process possible and practicable without determining either its content or its trajectories.

Their work operates through a logic of indirect support, acting primarily on the conditions of the process rather than on its outcomes, particularly through the design and facilitation of a range of learning tools.

They intervene at several complementary levels. First, they perform a regulatory function by maintaining conditions that support the continuation of the process. This may involve reactivating a stagnant exploration, limiting excessive dispersion, or helping participants navigate periods of disequilibrium.

Second, they contribute to making issues visible by helping participants articulate implicit problems, identify obstacles, and recognize contradictions that might otherwise remain unnoticed.

Finally, they facilitate shifts in frames of reference by questioning assumptions, opening new perspectives, and encouraging participants to distance themselves from traditional academic expectations.

Although non-prescriptive, their intervention exerts a structuring influence on the process. It nevertheless requires a delicate balance. Insufficient intervention may leave participants without meaningful points of reference, whereas overly directive intervention may restrict possibilities for exploration.

6.4 Co-Facilitators (Participants in an Active Facilitative Role)

In certain situations, participants themselves assume facilitative functions and become co-facilitators of the process. They may lead sessions, structure discussions, or help sustain collective exchanges.

This role reflects a redistribution of facilitation functions, which are no longer carried exclusively by staff but circulate among actors according to the needs of particular situations.

This dynamic contributes to strengthening the collective by making interactions less dependent on a central authority. It also intensifies learning, insofar as explaining,

structuring, and questioning the ideas of others constitute cognitively demanding activities in their own right.

Moreover, it contributes to a transformation of participants' positions, as they move from a posture of reception toward one of co-construction of the process.

However, this role remains unevenly distributed. Some participants engage more spontaneously in these functions, while others adopt a more reserved position. Such asymmetries may contribute to the emergence of implicit hierarchies associated with communicative ease, confidence, or cultural capital, thereby raising questions about the conditions that enable access to this role.

6.5 Connectors (External Contributors)

Connectors introduce a dimension of openness into the system by linking the B21 environment to other spaces of knowledge and practice.

Their role consists of bringing external perspectives that are situated and often grounded in specific experiences, thereby expanding or shifting participants' frames of reference.

They go beyond the simple transmission of information and function as potential agents of reconfiguration within the process. Their contributions may enrich exploration, introduce new tensions, or support transformations of the initial problem.

Their impact, however, depends on the extent to which their contributions are meaningfully connected to participants' projects and integrated into the ongoing process. When mobilized effectively, they foster interdisciplinarity, the circulation of knowledge, and openness to new perspectives.

Conversely, when they remain peripheral or disconnected from participants' trajectories, their interventions may resemble more traditional forms of transmission, with little influence on the learning process itself.

6.6 The Collective (A Cross-Cutting Actor)

The collective functions as an actor in its own right, albeit in a distributed and non-centralized manner. It constitutes the environment within which the interactions, feedback processes, and confrontations that are central to learning take place.

The collective fulfills several essential functions. First, it acts as a cognitive amplifier by multiplying perspectives and increasing the complexity of the problems under consideration.

Second, it exerts a form of diffuse regulation through implicit mechanisms of validation, questioning, and reactivation of ideas.

Finally, it constitutes a space of emergence in which certain reconfigurations become possible only through interactions among participants.

The collective should therefore not be understood merely as the context within which learning occurs, but as an operator of the process itself.

Its role, however, should not be idealized. The collective may also generate constraining effects by limiting certain forms of participation, reinforcing implicit norms, or producing forms of dispersion.

It therefore appears simultaneously as a resource and as a condition whose effects vary according to situations, interactions, and learning trajectories.

7. Learning Trajectories

While the structural dimensions define a space of possibilities and the learning process describes its general dynamics, learning trajectories correspond to the actual pathways followed by participants within this environment. They constitute the space in which these dynamics become concrete and are transformed into unique lived experiences.

These trajectories are neither uniform nor predictable. They emerge from the interaction between shared conditions and differentiated forms of individual engagement. Each participant constructs a unique pathway marked by advances, hesitations, returns, and bifurcations. More fundamentally, trajectories reflect a progressive transformation in participants' relationship to the problem, their relationship to knowledge, and the modes of inquiry they mobilize.

The analysis of learning trajectories reveals significant transformations in the very nature of participants' projects. One participant, for example, described a trajectory that began with a technical question related to language models, later shifted toward broader philosophical issues concerning the relationship between science and traditional forms of knowledge, and ultimately evolved into an entrepreneurial project. This type of trajectory, characterized by successive shifts in the initial frame of reference, illustrates the ways in which the B21 environment makes possible significant, and sometimes unexpected, bifurcations in participants' pathways.

The analysis of multiple trajectories also reveals contrasting patterns. Some participants maintain a relatively stable direction throughout their inquiry, progressing through successive adjustments. Others experience more pronounced divergences, often following a period of disequilibrium that leads them to redefine their initial question in fundamental ways. In these cases, the trajectory no longer corresponds to a process of progressive refinement but rather to a series of successive reconfigurations of the problem.

This distinction, however, should not be interpreted as a strict opposition. Most trajectories combine both logics, alternating between periods of temporary stabilization and more open phases of exploration. A trajectory that initially appears relatively linear may become exploratory following a significant disequilibrium, just as a highly open trajectory may gradually acquire greater structure. The trajectories observed therefore display a fundamentally non-linear character, marked by continual movement among the different dynamics of the learning process.

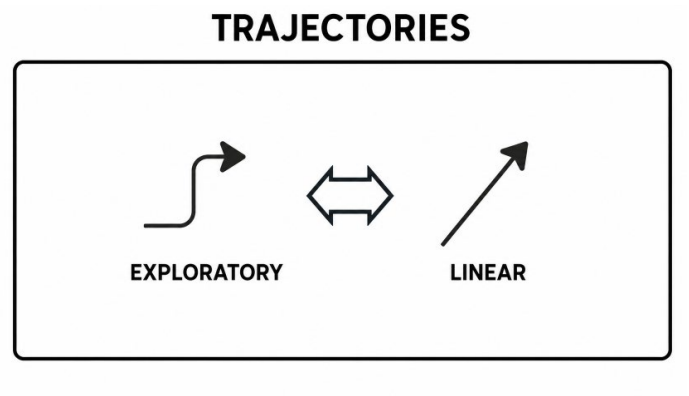
From the perspective of lived experience, these trajectories are accompanied by significant variations, particularly at the emotional level. Some appear relatively reassuring, characterized by a sense of continuous progress and growing confidence. Others are more destabilizing, marked by periods of uncertainty, doubt, or self-questioning. These variations should not be considered peripheral to learning; rather, they are integral components of the process itself, particularly within the movements of disequilibrium and reconfiguration.

These differences cannot be attributed solely to individual characteristics. They are also linked to the conditions within which participants evolve and to the ways in which they engage with those conditions. The same environment may therefore be experienced as stimulating or destabilizing depending on the moment in a participant's trajectory or on the nature of the problem being explored.

The variability of trajectories thus constitutes an intrinsic characteristic of the B21 environment. It should not be interpreted as a dysfunction but rather as the expression of a space that makes possible a plurality of pathways and forms of learning.

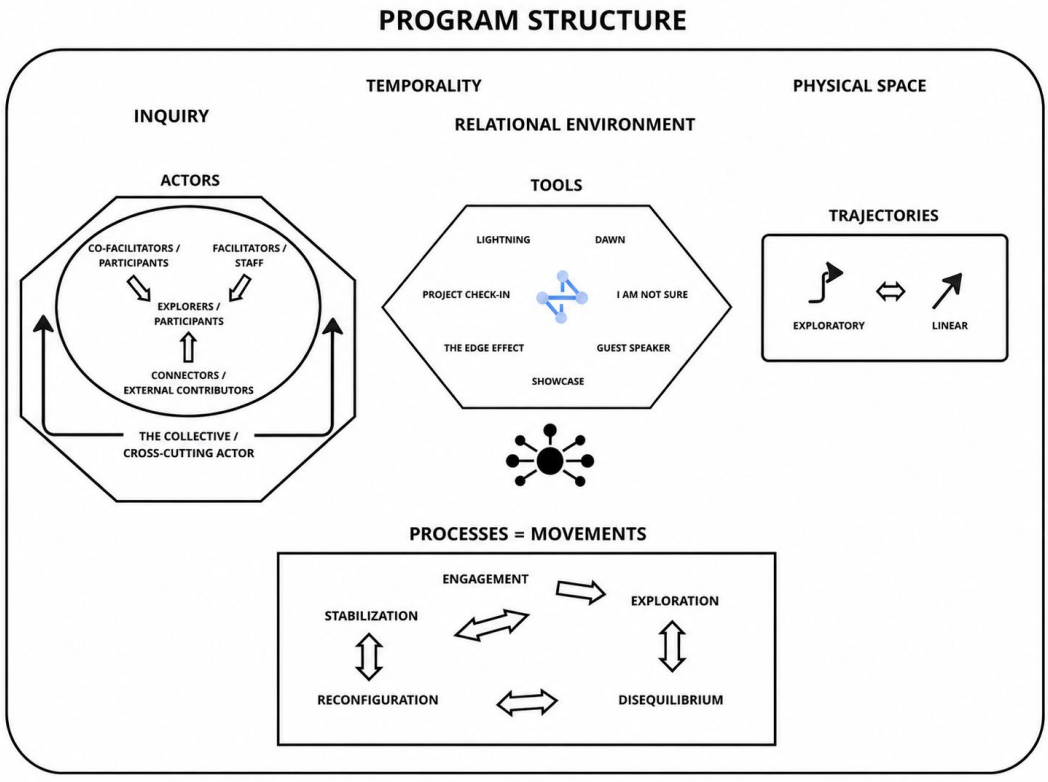
This diversity invites us to understand learning not as a uniform process but as a situated and evolving experience whose concrete forms depend both on the conditions provided and on the ways participants engage with them. It also encourages us to view learning trajectories as open processes that may extend

beyond the boundaries of the program itself and whose effects exceed the productions generated within the formal context of B21.



8. Discussion

The analysis of the B21 experience highlights a learning environment that differs significantly from more traditional pedagogical models, both in terms of its conditions and the dynamics it makes possible. Rather than relying on prescribed content and structured pathways, B21 is organized around an open space (structure) within which learning emerges through participants' activity (processes, actors, and trajectories), supported by situated facilitation tools.



This configuration reveals several polarities that help illuminate the functioning of the environment. These polarities should not be understood as oppositions to be resolved, but rather as interacting dimensions that shape the learning experience.

8.1 The Polarity Between Openness and Structure

A first polarity concerns the degree of openness of the environment. B21 is characterized by a relative absence of prescriptions, both with regard to content and to learning trajectories. This openness, like explorers moving across a territory, encourages the emergence of unique inquiries and allows participants to engage in pathways that are personally meaningful.

However, openness does not imply the absence of structure. The dimensions identified throughout this report, inquiry, temporality, relationship to knowledge, relational environment, and physical space, constitute a framework that shapes possibilities without determining them. Like the waterways, boundaries and accessible areas of a territory, these dimensions provide an implicit structure that functions less as a constraint than as a condition of possibility.

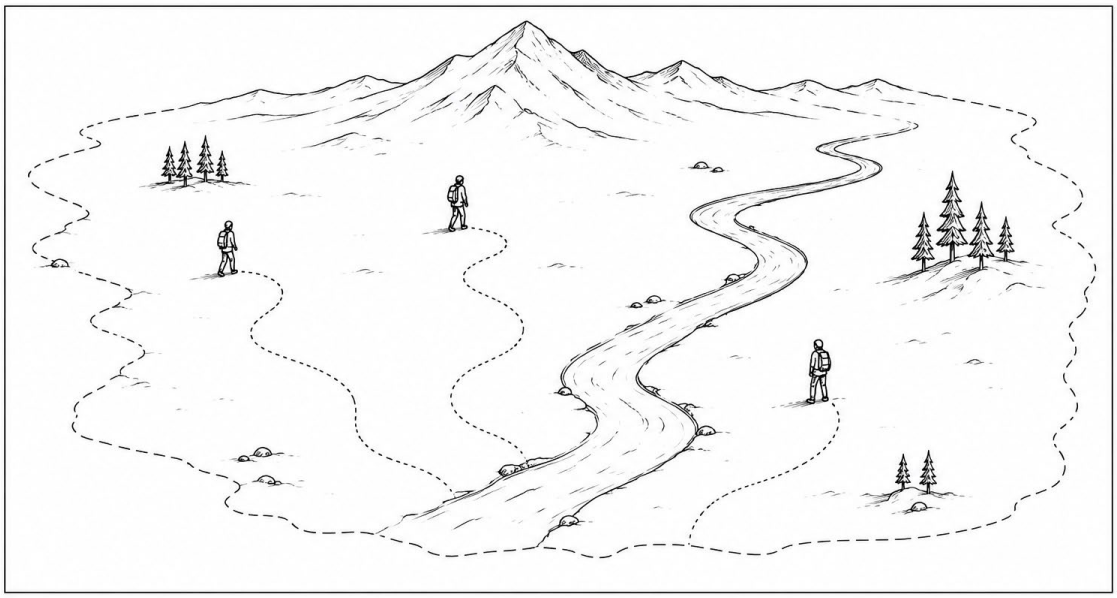
Participants' experiences suggest that this polarity is lived in different ways. Openness may support engagement when it allows participants to connect projects to their own interests, but it may also generate periods of disorientation, particularly during moments of disequilibrium or impasse. Conversely, the forms of structuring introduced by facilitation tools such as Lightning Sessions and Dawn Sessions provide temporary points of reference that help reactivate the process without fixing its direction.

This polarity appears central to the functioning of the environment. A high degree of openness may generate uncertainty or even disorientation, especially during phases in which participants' points of reference become fragile. Conversely, stronger forms of structure may limit opportunities for exploration and reconfiguration.

The balance between these two poles does not appear to result from a fixed adjustment. Rather, it emerges as a dynamic relationship that varies according to the moment within the process and the nature of participants' trajectories.

Figure 8.1 – The Polarity Between Openness and Structure

The open territory: a space structured by conditions, not by prescriptions.



The territory is open: explorers choose their own paths.
Its structure (relief, waterways, boundaries, accessible areas) shapes the possibilities without determining them.

8.2 The Polarity Between Exploration and Stabilization

A second polarity concerns the relationship between exploration and stabilization. The B21 environment places a strong emphasis on exploration. Participants are encouraged to test, discuss, reformulate, and transform their ideas. This dynamic supports the emergence of complex inquiries and facilitates conceptual shifts.

At the same time, exploration is accompanied by moments of stabilization during which participants give provisional form to their work, the cairn built by explorers along the way, through a definition, a presentation, an artifact, or another temporary crystallization of understanding.

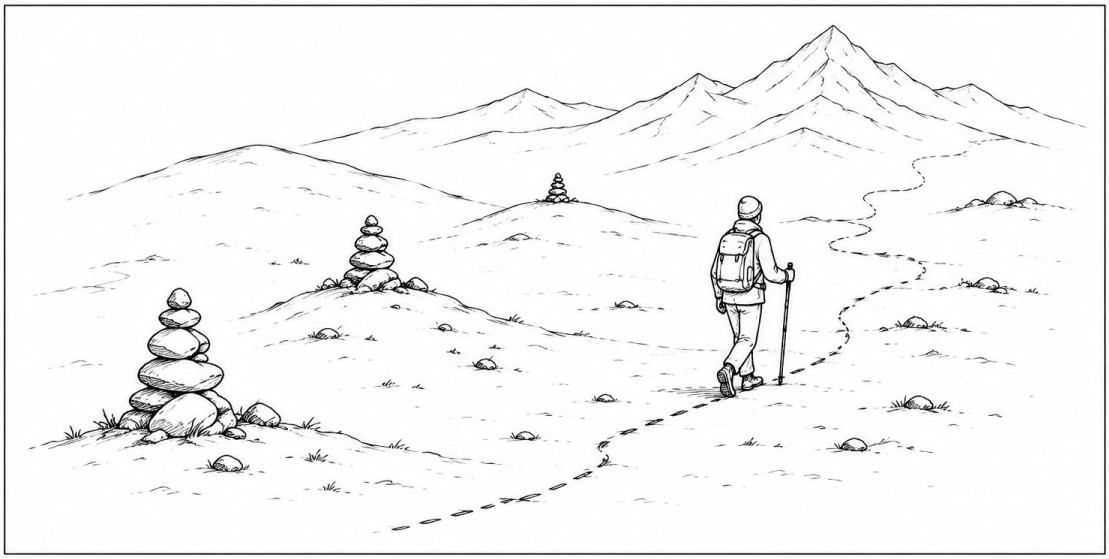
These stabilizations do not represent definitive outcomes but rather temporary points of coherence within the process.

The trajectories examined suggest that these two dynamics are not opposed but mutually sustaining. Exploration may lead to impasses that require some form of stabilization in order to be overcome, while stabilization may reveal limitations that reactivate exploration. This alternation contributes to the progression of the process, not toward a fixed endpoint, but toward successive transformations of the problem.

This polarity raises a broader question: to what extent should a learning environment prioritize the openness of the process or the formalization of its outcomes?

Figure 8.2 – The Polarity Between Exploration and Stabilization

Cairns as temporary stabilizations within the exploration process.



Cairns are not destinations.
They represent temporary stabilizations that provide orientation, enable communication, and support the continuation of exploration.

8.3 The Polarity Between Autonomy and Dependence on Conditions

A third polarity concerns the place of participant autonomy. B21 is largely founded on the idea that participants direct their own inquiries based on their interests and questions.

However, the analysis suggests that this autonomy, like that of a climber navigating a route, is closely linked to the conditions within which it is exercised, including the available points of attachment and the pathways that can be followed. The structural dimensions influence forms of engagement, possibilities for exploration, and participants' ability to navigate the different phases of the process.

The variability of trajectories further reveals that participants do not possess the same resources. Differences in availability, relationship to knowledge, and ability to mobilize the relational environment all influence the ways in which autonomy can be exercised.

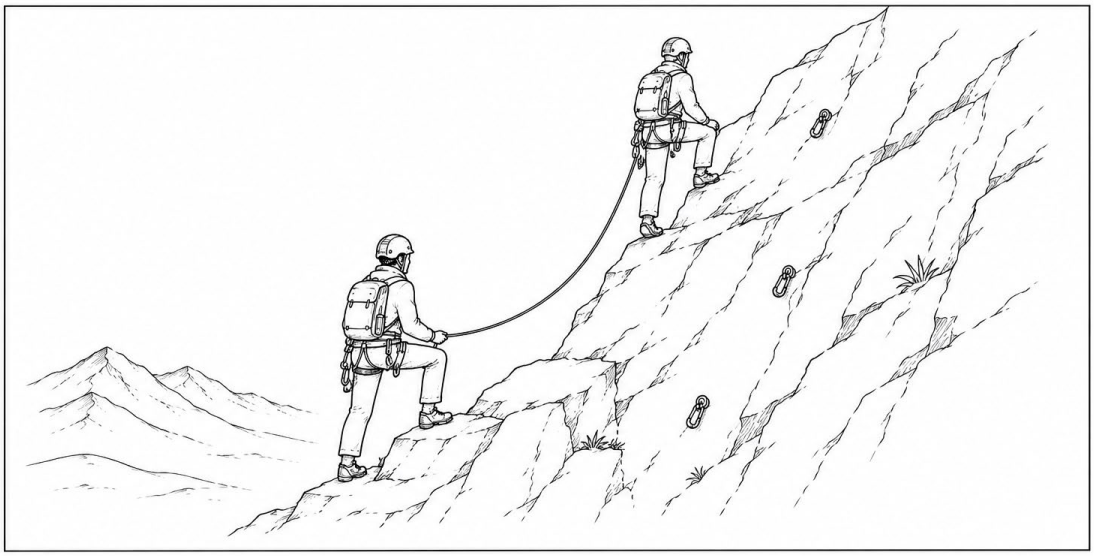
Autonomy therefore appears less as an individual attribute than as a situated relationship, dependent upon both the conditions offered by the environment and the ways participants engage with those conditions.

From this perspective, facilitation tools emerge as important mediating structures. They provide participants with points of support for orienting their inquiries, articulating difficulties, and enriching their reflections. Autonomy thus develops not in the absence of structure but through arrangements that make certain forms of action possible and accessible.

This perspective invites a more nuanced understanding of open learning environments, challenging assumptions that openness and autonomy are naturally or automatically associated.

Figure 8.3 – The Polarity Between Autonomy and Dependence on Conditions

The rope team: relational autonomy within a contingent environment.



Each participant progresses according to their own choices and rhythms.
Yet they depend on the conditions of the environment, the available supports, and the partner who accompanies them.

8.4 The Structuring Role of Disequilibrium

The analysis also highlights the central role of disequilibrium within the learning process. Situations of blockage, saturation, or uncertainty should not be understood as dysfunctions but as structuring moments that make transformation possible.

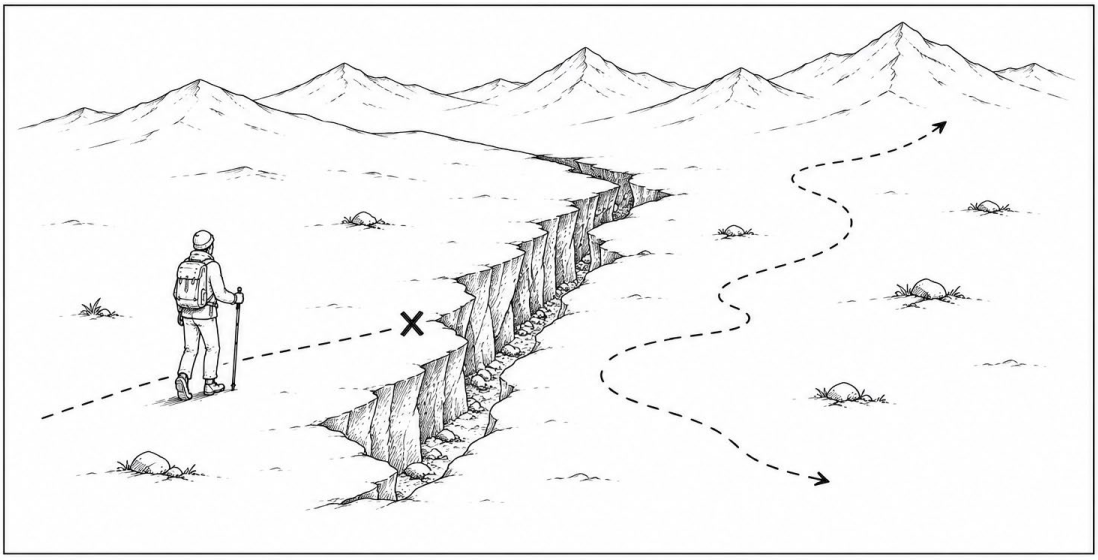
These tensions take multiple forms. They may be cognitive, as when participants encounter an impasse in their thinking; affective, as when they experience doubt or discomfort; or social, as when they expose their ideas to the scrutiny of others.

In all cases, these tensions compel participants to reconsider their existing frames of understanding and to explore alternative directions.

Disequilibrium therefore functions as an operator of transformation. It does not directly produce solutions; rather, it makes the reconfiguration of the problem necessary, thereby contributing to the evolution of learning trajectories.

Figure 8.4 – The Structuring Role of Disequilibrium

The fault as a source of bifurcation and reconfiguration.



Disequilibrium is not an accidental obstacle.
It interrupts the initial trajectory and requires re-evaluation, reorientation, and reconfiguration.
It opens up bifurcations and supports the transformation of the learning trajectory.

8.5 Facilitation Tools as Forms of Process Structuring

The integration of facilitation tools into the analysis reveals a distinctive form of structuring within the learning process.

Unlike more traditional educational designs, where structure is primarily established through the prior design of content, sequences, and assessments, B21 mobilizes tools that intervene directly within the dynamics of the process itself.

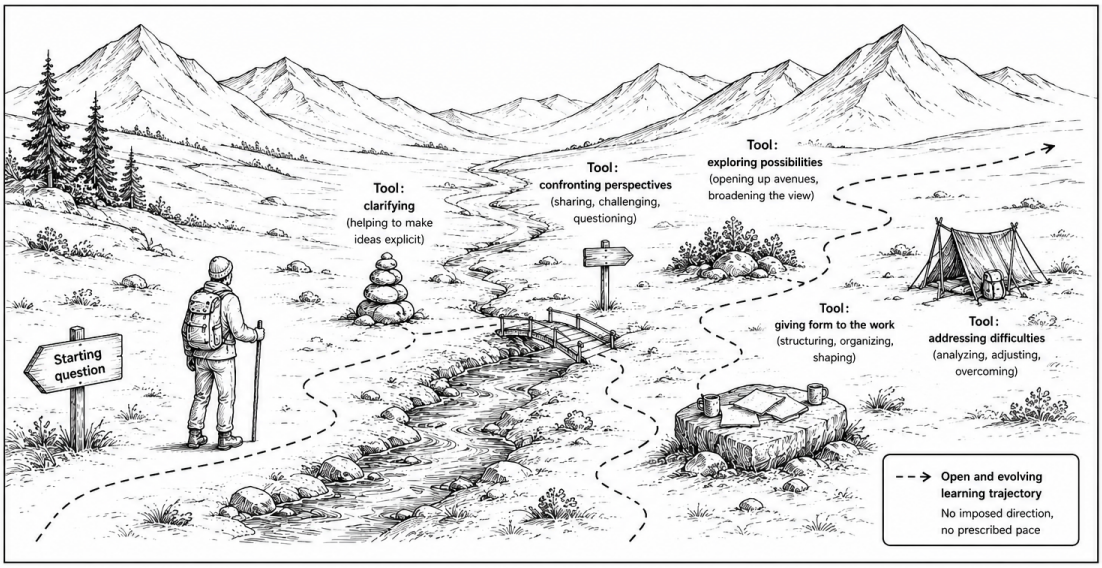
Without defining trajectories in advance, these tools create situations of interaction that support particular forms of activity: articulating an idea, confronting different perspectives, exploring possibilities, giving form to emerging work, or addressing difficulties.

In this way, they introduce situated and temporary forms of process structuring by providing participants with points of support at different moments in their trajectories.

This structuring nevertheless remains open, insofar as it constrains neither the direction nor the rhythm of learning trajectories.

Figure 8.5 – Facilitation Tools as Forms of Process Structuring

Situated supports that sustain exploration without determining the direction.



- Facilitation tools intervene at different moments along the path to support certain forms of activity.
- They provide temporary supports that help participants move forward, clarify, explore, organize, or address difficulties.
- These tools structure the *process in a situated and open way, without imposing either the direction or the pace.*

8.6 Scope and Limitations of the Analysis

The analysis presented here is based on a limited number of observed situations and on qualitative data derived from interviews and observations. Its purpose is to make a set of dynamics intelligible rather than to support generalizations beyond the context studied.

Furthermore, the framework proposed, structural dimensions, process, and trajectories, constitutes only one possible lens through which to interpret the learning experience. It highlights certain aspects while necessarily leaving others in the background.

The absence of formal assessment within B21 also constitutes an important particularity. It limits the possibility of documenting learning in the traditional sense and requires the analysis to rely primarily on observable processes and participants' reported experiences.

These limitations invite readers to view this work as an initial analytical formulation, open to enrichment and discussion through additional data or alternative perspectives.

At the same time, they provide an opportunity to question several implicit assumptions underlying dominant educational models, particularly the linear planning of learning and the centrality of stabilized outcomes within assessment practices.

9. Conclusion

The analysis of the B21 experience highlights a learning environment that differs from traditional pedagogical models through the nature of the dynamics it makes possible. By relying on an open space structured by conditions rather than prescriptions, it enables the emergence of learning processes characterized by exploration, disequilibrium, reconfiguration, and temporary stabilization.

These findings invite a reconsideration of certain implicit conceptions of learning in higher education. Rather than a linear progression oriented toward the acquisition of stabilized knowledge, learning appears here as a process of transformation through which questions, frames of reference, and relationships to knowledge evolve continuously.

From this perspective, learning does not consist solely in producing answers. It also involves transforming the ways in which problems are formulated, understood, and engaged with. The learning trajectories observed suggest that such transformations do not follow predictable pathways. Instead, they unfold through unique dynamics marked by bifurcations, returns, and periods of uncertainty.

The B21 environment also highlights the structuring role of dimensions that are often underestimated in educational designs, particularly disequilibrium, social interactions, and situated forms of process structuring. Far from being peripheral, these elements appear to constitute essential conditions for the emergence and transformation of learning.

These observations invite a shift in how learning environments are conceived. Rather than focusing primarily on the definition of content or predetermined objectives, it becomes possible to create conditions that support processes of transformation while acknowledging the variability of learning trajectories and the distinct temporalities of individual participants.

Without constituting a model to be replicated as such, B21 represents a case that allows us to think differently about the relationships among structure, process, and trajectories within learning environments. It therefore opens promising avenues for the design of educational environments capable of embracing uncertainty, valuing exploration, and recognizing the evolving nature of learning.

Finally, these findings raise important questions regarding the assessment of learning in such environments. If learning is understood as a process of transformation that is, at least in part, non-linear and open-ended, then traditional forms of assessment focused on terminal states appear insufficient to account for it. This invites the development of approaches capable of documenting trajectories, transformations, and the processes through which learning unfolds, beyond the evaluation of isolated outcomes.