CHAPTER 1

IMAGINING THE PAST AND REMEMBERING THE FUTURE

How the Unreal Defines the Real

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Readers of this book are being given a multi-faceted coverage of the TEA—Trajectory Equifinality Approach—as a new way of looking at human development—first time in English. Within the TEA, the more specific TEM (Trajectory Equifinality Model) has a particular role in the arena of research methodology in developmental sciences. It is an example of systematic use of the Methodology Cycle (Branco & Valsiner, 1997) in the qualitative investigation of the processes that take place along the whole human life course (Zittoun et al., 2013). If TEA is the general way of viewing open-systemic developmental processes of human beings, then TEM is a process structure for constructing specific methods for capturing the transient moments of meaning-making in human lives.

WHAT DOES TEM ALLOW US TO DO?

TEM is a concept of boundary in the process of eternal movement towards the future. It is both a very simple idea and a very big challenge to any thinker who tries to conceptualize development. It breaks up the backbone of contemporary

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psychology in a number of ways. Most importantly, it starts from the axiom that development is possible only in the case of open systems—which are in specific exchange relations with their environments. All biological, psychological, and social systems are of that kind—qualitatively different from the material systems that do not develop by themselves.

The first crucial implication from the open-systemic starting point is that development cannot be predicted before it happens, nor can it be exhaustively explained after it has happened.[1] The second implication is that development has as outcome multiple potential pathways rather than a final expected form. This focus on equifinality (TEM=Trajectory *Equifinality* Model) is brought over to developmental science from embryology—Hans Driesch formulated the idea of "harmoniously *equipotential* systems" that is based on his experiments of embryonic regeneration into final form (Driesch, 1899). Driesch introduced the notion of *equifinality* into the biological sciences. **Equifinality entails the arrival in the same developmental end state through various possible pathways.** Yet—as is to be expected in the context of embryology—the "end state"—the final body form of a biological organism—is ontogenetically similar. All embryos of sea urchins—even if damaged at an early stage of cellular multiplication—find their ways to grow into fully functioning adult form—*but not beyond.* The phylogenetic developmental history sets up the expected form of the "end state" for the ontogenetic course of the development of the specimens of the given species.

Application of the notion of equifinality in the case of human psychological development is therefore limited—with the exception of death, all states in human life course where different trajectories converge are not equifinality "points" but temporary arenas of convergence—after passing through of which the different individuals may be faced with a new multilinearity of *potential* trajectories. Undoubtedly only one of these many can become the *actual* path, and this is precisely why the TEA approach is important. What matters here is not the presence of such convergence arenas, but the regulation of development in relation to these. TEA is a theoretical perspective of translating the multiplicity of possibilities into the reality of a developmental course.

Beyond Equifinality—To Regulation of Trajectories

Importantly, the notion of equifinality was brought into his theory in the context of *regulations* (*Äquifinale regulationen*—Driesch, 1905, p. 213). Of course the particular mechanisms in the regulation of the growth of a sea urchin embryo are very different from their analogues at the level of psychological development.

[1] James Mark Baldwin expressed it succinctly in his "positive postulate" of his developmental logic (see Valsiner, 2010): "that series of events is truly genetic which cannot be constructed before it has happened, and which cannot be exhausted backwards, after it has happened." (Baldwin, 1906, p. 21). What is left for researchers of development is to study the processes that are taking place as the development is happening—in real (irreversible) time. TEM provides a framework for such investigation to be carried out.

Yet the general principle remains the same: there exists a process of development from a previous to a new state—not yet known by the developing organism—that is being regulated by a system of guidance factors.

In the case of human psychological development, the regulatory processes are set to lead the developing person into the field of possibilities beyond the equifinal state. Development is not equifinal, but *post*-equifinal: in each developmental accomplishment is the root for further, previously not known phenomena. Psychological development entails freedom for the future—rather than arrival at the final state of psychological functioning. This is made possible by the capacity for imagination at the level of human meaning-making.

THE ORIGINS OF TEM

TEM was a by-product of re-conceptualizing the act of sampling in the social sciences (Valsiner & Sato, 2006). The tradition of "random sampling" that has been a habit in the social sciences did not (and does not) make sense. How can one claim that phenomena we study are context-bound and *then sample them so that they are taken out of their contexts* to form a "sample"? This act resembles the practices of enforced military conscriptions in the history of humankind, or at least the treatment of human beings as if these are marbles "at random" taken by the (seemingly) disinterested sampler, from an urn.

Furthermore—how can one seriously assume that two "randomly sampled" persons from the same community are "independent" of one another? The marbles in the urn—physical objects that have no intentions, no history of relations, and no reproductive capacities—are not a good model for making any selection of any human being for a conscientious study of any psychological phenomena. The latter—in the human case—can be claimed to be social—yet that feature does not get represented in the "random sampling" scheme.

Last—but not least—"random sampling" *fails to represent history* of the specimens who are thus sampled. This is relevant in case of the developmental sciences. The previously lived-through life course sets up historical conditions for the future to become present (and past). Yet the past does not determine the developmental processes—it merely orients those.

With all these faults of the "random sampling" practices in clear view, an alternative was suggested—Historically Structured Sampling (or HSS—see Valsiner & Sato, 2006). The idea was simple—sampling needs to include past life-course evidence so that the study of future developmental events could be put into focus. But how does the process of coordinating the not-yet-known future and no-longer-experienced past happen? This is a major theoretical challenge for all developmental sciences—from epigenetics to embryology on the biological side and from developmental psychology to the sociology of societal transformation on the social end of the continuum of open-systemic phenomena. TEM was a first effort to find an answer. In its first approximation, it entailed charting out the set of possible variable developmental courses that converge at some equifinality point (and

may diverge after that point). The first decade of research with TEM has provided many examples of diligent efforts to chart out the decision tree structures for different context-bound developmental trajectories (Sato et al., 2007; Sato, Hidaka, & Fukuda, 2009).

In later depiction, TEM became more than this. Rather than a cartographic depiction of visible life trajectories, its potential value lies in the fact that it gives us an analytical tool to explain hope people's life come into being as they do. It also accounts for the fact that a life lived is not so much a history of socio-economic achievements—a job, a family, a house—than a complex web of wishes, hopes, plans, and unlived lives. TEM gives us an opportunity to put the real (lived-through) and non-real (imagined—but personally important) life-course events into the same functional scheme. Imagination becomes real—and "the real" acquires new value through imagination[2]. Imagination leads human development. But how can we know that?

Looking From Inside and Observing From Outside

One of the confusions needing to be clarified when addressing life course is that of the perspectives taken: who is describing it, and from where? We can differentiate three possible perspectives:

1. The "classic view"—that of the neutral observer, identifying tendencies of cohorts, typical life trajectories. From such a perspective, one can observe how different people deal with a same or comparable event. This is a "bird's view," highlighting the overall trajectories which can be followed by people engaged in an equivalent sequence of life (Sato et al., 2009).
2. The person's perspective. From this—"a turtle's perspective"—one examines people's actual experiences, what is habitual, and when some event is experienced as rupture. This perspective is isomorphic with the life-time of the person—no speeding up (or slowing down) is possible as the person's life proceeds day-by-day, year-by-year—until the moment the person is ready to write an autobiography, or to die.
3. In both cases the knowledge of the actual life course is limited; in the first one, because it does not consider experience (and treats people like marbles), and in the second, because it is so much with the head on the ground that it does not think life course as a whole. We thus need a third, analytical perspective. Only an analytical perspective can allow integrating both what the person sees and how she or he relates to one's life

[2] This transformation is important. The constructive nature of memory—demonstrated amply by the research programs of Frederic Bartlett (Bartlett, 1995) and Brady Wagoner (Wagoner, 2009)—indicate that in any act of reproduction the person produces novelty—in the form of adding imaginary details to remembered core, or forgetting some aspects of the past. Forgetting can be seen as a creative process.

events, together with knowledge about what she cannot see, such as social or political forces that operated in the past, or are in the background of the present living. Of course, as researcher we can only *imagine* what the person experiences through her externalization; yet we also have access to elements that she cannot see, or that she does not consider as relevant, and that might not be covered in any self-report of the person, or simply, psychological dynamics. We adopt such analytical perspective: accounting for the unity of people's choices and sense making, in a cultural world itself dynamic and changing, as these two define each other. This, we can do using theoretical tools and different types of data, according some principles that we start to know (see for instance Zittoun & Gillespie, 2015).

TEM is typical of the third perspective incorporating relevant features from the first two. First, it makes use of the person's own subjective perspective—in interviews, autobiographies, or diaries. Second, it entails drawing of the "maps" of life course—at any possible (micro-, meso-, or ontogenetic) levels. Yet it is richer—it represents these parts of the lifecourse that could have (or could) happened, yet did not. It posits the centrality of tensions between different lifecourse trajectory options, and considers imagination as the tool for coordinating the tensions between future and past (Figure 1.1.)

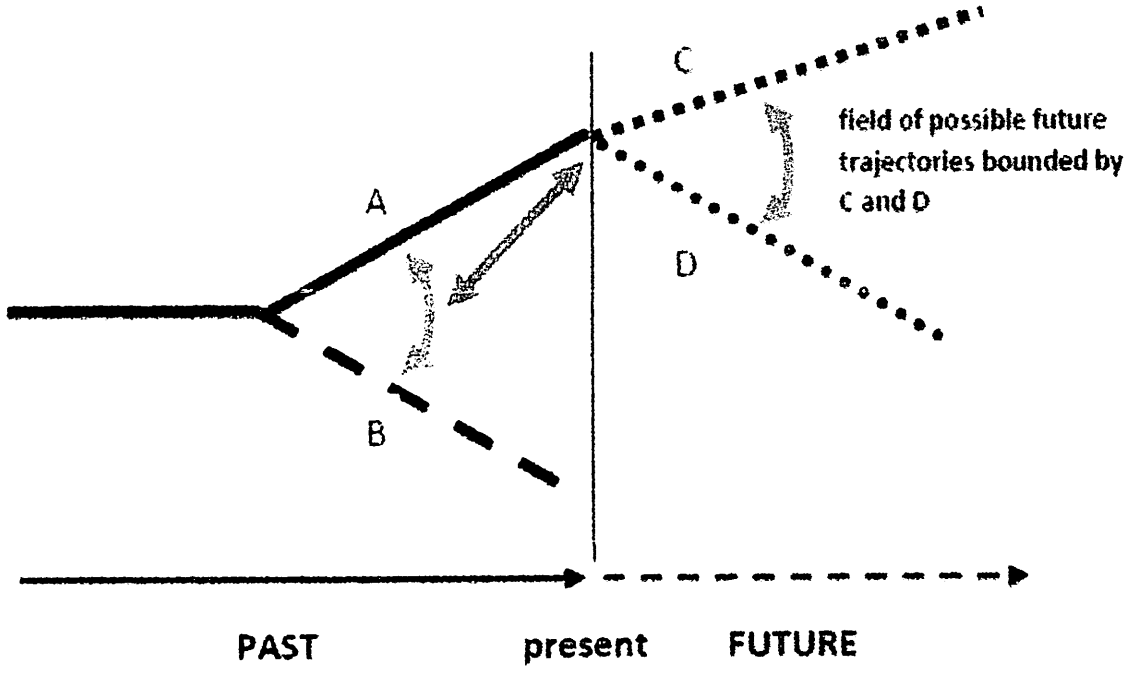

FIGURE 1.1. The basic structure of TEM: focus on trajectories of the past and the future

Figure 1.1 includes four trajectories in the basic structure—centered on the present moment. These trajectories are coordinated at two different bifurcation points (the present one, a past one). Two of them are recollections of the past—what "really happened" (trajectory A) from the previous bifurcation point to the present moment, and—in contrast—the reconstruction of "what COULD HAVE happened then, but did not" (trajectory B). The relation between A and B is reconstructed from the present moment backwards, and is re-constructive in its nature. As such, it may add non-real components to the "real trajectory" (A), bringing in—due to the reconstructive nature of memory—imaginary material. Even the "real" is quasi-imaginary in our uses of memory to face our futures. The expected trajectories in the future (C and D in Figure 1.1) are completely imaginary—since the future has not yet become the past in the present moment[3].

Imagination is central for human psychological functioning. This statement is a necessary axiomatic claim for making sense of TEM as it functions in coordinating the Future and Past trajectories. From the perspective of a given person, in Figure 1.1, three of the four components (B, C, D) are imaginary, and only one (A) can be considered "real"—the actualized life course as viewed backward (via re-constructive memory) from the present moment. This central role of imagination makes psychological development possible—development in the TEM context is the process of turning future possibilities (C<>D) into the new form of actual experience in the here-and-now context—guided by the re-constructed past (A<>B).

For instance, when young parents are explaining how they chose a first name for their child, they can retrace the options they once considered—say, Bob or Charles for a child. Parents were imagining how a Bob or Charles might become, drawing on their knowledge of other Bobs and Charles; they would daydream about famous Bobs (say, Marley) and Charles (say, the Prince of Wales); drawing on their own childhood memories, they would anticipate how other children will react to the child and its name, where they live but also if they move away; eventually, they chose Charles (A), not Bob (B). Now that the little child is Charles, what will happen to him? Will he be well accepted by others, proudly endorse his name, and develop some prince-like quality (C)? Or rather, will other children find a derogatory nickname, which will cause anger and insecurity (D)? If this were the case, then the parents might wonder, what would have happened to their child, would have they call it Bob? Would life be easier for him, would he achieve more? (See Zittoun, 2004).

[3] The Present here is conceptualized as the infinitely small time moment between the Past and the Future—as the time moment where the relationship of the trajectories A<>B and C<>D is created. It turns Future into Past, moving on to its own new position as Present. In contrast to ontological perspectives—where the Present is time-extended and gives us a stable state (X is X), the TEM model entails hyper-dynamic transitory nature of Present that has no ontological time extension.

TEM as Researcher's Methodological Device

TEM is a tool. It allows the researcher to locate the specific moment in development (the Present Point) in irreversible time, and investigate the potential (B, C, D) and real (A) life course trajectories as these are (or were) in the making in the "nearest temporal neighborhood" of the Present Point. It is a methodological tool to capture the immediate next step (zone of proximal development—Zittoun et al., 2013, Figure 7.2., p. 208)

Figure 1.1 above provided only a basic structure of the TEM. However, not so many choices in the life course are about clearly defined, pre-given options, as in the case of first names. Also, in most cases, moments of choices do not present clear alternatives, but clouds of possibilities. Hence, in most cases, we think in terms of general fields—for instance, about living "closer to nature" or in a more "urban style"—where there is no strict borders, for it may imply living in the suburb, or in a town with parks, or a village with a museum, or biking rather than taking the tube, or eating organic rather than industrial food... Hence, in order to understand the realities of our imagination, we may need to present the opposites (A-B and C-D) not as discrete vectors but rather as outer boundaries that may define the fields in-between (e.g. the field extending from A to B; another from C to D, in Figure 1.1). Furthermore, the outer borders of the specified field need not be strictly determined (Figure 1.2).

The relevant meta-tension {(A<>B) <> (C<>D)} is thus between the field of possibilities of the future with those of the past (Figure 1.2). Various options in the C<>D field (Future) can be the "material" for constructing the real life course—in coordination with the A<>B field of the past. Hence, this figure suggest that life-choices are usually not closed points, but rather, orientations, or directions given to a field of options—they are what we are thinking "about" in general terms, or they become the "aboutness" of our actions, that which toward they tend. Consequently, not always are the tensions of the past (A<>B) constructed in strict terms, and the future may be fuzzy.

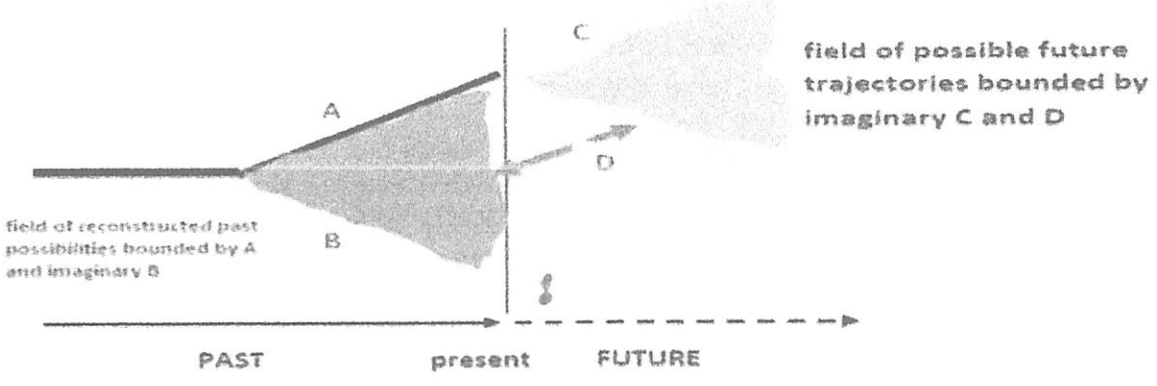

FIGURE 1.2. Field-theoretical version of TEM

For instance, interviewed about a life-changing experience, a young woman explained how a film, "After-life" helped her to define as criteria for her life choices: to be able to imagine, in the future, that she will find good memories resulting from her past choices—good enough memories for living an eternity with them (Zittoun, 2008a). In Figure 1.2, C would correspond to experiences leading to good-memories; and D to experiences leading to bad-memories. However, the range of events that lead to one or the other is as large as the possibilities for interpreting these towards one side or the other. In any cases, these extreme opposite create "vectors" that orient the field of a life, and toward which one engages action and imagination; one imagines "about" a future life that will not be regretted, or "about" the possible regrets one's actions would entail.

It is however retrospectively that choices may appear as clear-cut options. Hence, in the longitudinal analysis of a young British woman during World War II through her diary, we observed changes in daily entries. In periods of change and possible bifurcation, the diarist engaged in very long, dialogical reflections, imagining what would or could happen, what should be the best, using the imagined voices of friends and families—for example at the time of choosing her romantic partner. Only retrospectively these choices are re-narrated very briefly, as simple choices between two options (Zittoun & Gillespie, 2012).

The contrast between field-like natures of the Past and Future is particularly observable at the ontogenetic level in cases of move from externally constrained to fluid future states (such as the release of long-term prisoners into ordinary life conditions) or the move from externally fluidly limited past life conditions into new narrowly constrained life conditions (such as the experience of children of nomadic tribes brought to sedentary boarding schools).

Constructing TEM: Setting Up "Anchor Points" in TEM

TEM relies on the first decision of particular "anchor points" (APs) on the continuum of irreversible time—both oriented towards the past and towards the future. At different levels of analysis—microgenetic, mesogenetic, or ontogenetic—the selection of such APs would be located at different positions.

First, at the microgenetic (*Aktualgenese*) level, each immediate time sequence T1→T2→T3 is necessarily "TEM-genetic." Applying TEM here entails treating the state at each T2 as the Present Point, and analyzing the tension of Past experience (T1) in opposition of what did not happen (at T1)—looking at how that contrast leads to events at T3.

These types of microgenetic movement have for instance been shown by Trevarthen in his analysis of infant-parent interactions. Typically, very young infants are able to establish intersubjective cycles of dialogue—with parent vocalizing with certain rhythm, emotional quality, and movement, and child responding with comparable rhythm and emotional quality; microgenetic analysis shows that the infant soon expects—or proto-imagines—the next intervention of the adult. The experimental "blank face" test highlights such expectation. After a mother and a

child have established such protoconversation, the mother is asked, on a signal of the experimenter, to stop interacting, and simply look at the child with a blank face. The infant soon engages in a series of conduct to try to trigger the mother's answer, by vocalizing, moving, eye movements; it progressively gets more disorganized, and avoiding eye contact, shows signs of distress or what could resemble shame (Trevarthen & Aitken, 2001, p. 9). Such robust result show how very early on, infant establish a sense of recurrent event—a mother's smile at t1, followed by its response, should bring to further smile at t2; the distortion of the recurrence, which has as effect the disorganization and distress of the child, reveals the power of these expectation—not yet quite imaginations of the future—in the organization of conduct.

At the mesogenetic level—of recurrent frames of action regulating—it is possible to set up TEM frame on the entrance points to recurrent settings. A person who is about to step over the threshold into a church is likely to face the tension (C<>D) between the futures of "being silent" versus "continuing to talk loudly." The previously experienced encounters with similar mesogenetic encounters with church settings enter into the making of the ways of acting in *this particular* new entrance into the church. The past tension may become also directly exemplified ("I recollect how I was reprimanded by others when I last time entered a church with my music box tuned up to its maximum with my preferred melody"—contrast A<>B in Figures 1.1 and 1.2)

At the ontogenetic level—that of the full life course—we can observe even more flexibility of the mapping of TEM structures onto the continuous phenomena (Figure 1.3). TEM can be mapped at the Present moment either in the "far" ages 6 and 29, or 14 and 60 (t1 and t2). Obviously many bifurcation points occur in-between these selected age points, yet by mapping of TEM to these precise ones the person (in the case of personal decision of "what age in my life course would I consider now to be comparable") or researcher ("what age periods are important to compare in the study of life course") particular assumptions (preferential selection of macro-level periods) are put to practice. For instance, in our analysis of a young woman during the war through her diary, we observed that she would easily use new year, her birthday, and the date of her move out of house, to compare her present self with a past self (Zittoun, 2008b). We thus observed

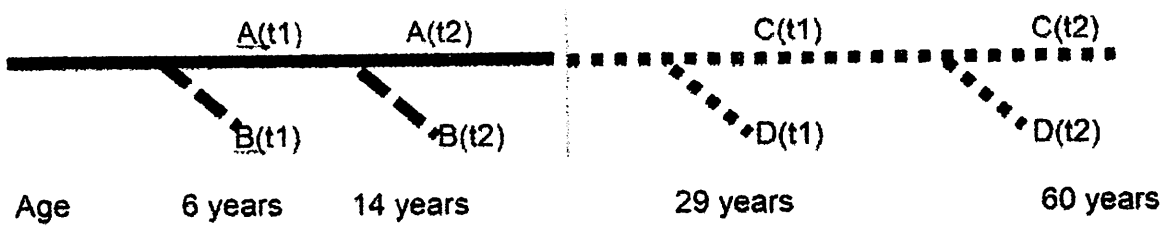

FIGURE 1.3. Field-theoretical version of TEM

these naturally occurring times markers as anchorage for our analysis of inner dialogues. See for instance her entry at New Year 1942:

> I have had many happy hours in 1941 & I do not regret any experiences. It is a good thing another war year is over. I am where I never dreamt of being this time last year. Doing what I always never imagined. I am not sorry. The time passes so much quicker with something to do all day. Goodbye & good riddance to 1941! I shall not forget the year I became a land girl. I wonder where 1942 will find me.

Here, the selected point of comparisons are me-now, and me-one-year ago; the comparison takes place between the present (she is working as a land girl) and her past options (she was hesitating between becoming a nurse or a teacher); it results in stating that her present does not correspond to her past options, and similarly, she knows that the future opens a field between general terms.

Any research effort that involves mapping TEM at any level of developmental processes (micro-, meso-, ontogenetic) is built on the theoretical assumptions of the researchers and the goals of the given research project—even if the goal is to follow self-defined anchorage points. Every TEM mapping needs to choose its level of description; hence, we could not explain a young woman's choices at war with the microgenesis of her interactions with her mother. It is indeed not possible to simply carry over TEM application from one level (e.g. ontogenetic) to another (e.g., microgenetic). These levels of analysis indeed need the use of different theoretical tools, and can be illuminated by very different type of data (Doise, 1982). This means that some of the assumed life-course events (e.g., "childhood trauma") need not be comparable in the immediate (microgenetic) process analyses.

However, it is possible, and interesting, to then articulate observations at one level of analysis to these at another one—but not in the same TEM mapping.

"Anchor Points" as Ruptures

Anchor points are of different types. Some are, as is the example above, as "beacons" that people set to themselves, or they emerge out of the phenomena at hand, as the cycles in mother-child interactions. Other are created or posed by researchers, as when we chose the periodicity of an observation, or cause a disruption of an activity. However, if any moment in time is potentially a bifurcation point—at any point one may do what is expected, or also stand up and go—there are some moments which are theoretically and empirically preferential for the study of bifurcation: that is, what we have called *ruptures.*

A rupture is any event that prevents a taken-for granted course of action. From a psychological perspective, it is relevant when this is perceived, by a living system, as demanding a suspension of conduct, because an expectation is breached (see also on *Gegestand*, e.g. Valsiner, 2014). In the lifecourse, a rupture destroys routines and demands from people a new adjustment to their environment. We called *transition* the processes of change in which people are engaged after an experienced rupture, and we found it useful to observe *identity transformations*,

learning, as well as *sense making* hence occurring (Zittoun, 2006; Zittoun & Perret-Clermont, 2009).

For example, for a young apprentice, the rupture might be to find himself in the workplace, where, rather than being treated like as a schoolboy, he now has to work with adults professional, provide with objects required by customers, etc. The process of transition demands to move from one position as a defiant teenager, for instance, to that of a professional that is responsible yet respects hierarchy; it requires to let the textbook knowledge and develop concrete skills: and also to redefine one's projects according to the reality of his actions. This is where the meaning-making work becomes central: being actually one the work place demands establishing a new meaning horizon, related to the present; for the young apprentice, it might be, creating one's own company, or alternatively, to quit, so as to further his education. In other terms, an event perceived as rupture opens a bifurcation point; the terms of the vectors need to be defined and slowly emerge (for instance, becoming a good professional or going back to school). The emergence of the possible choices of actions, and more generally, of the sense of the situation, is precisely there, where imagination will work in TEM. The interesting question then becomes, how does imagination work to create the coordinates of the bifurcation point, and how does it deploy within that field?

TEM Applied to the Process of Meaning-Making

Human beings make meanings, create networks of sense that transcend the Past<>Future border, and use meaningful expectations (Salvatore, 2016). Applying the TEM structure to that process entails the differentiation of future cloud-like potentials, then into the real conduct as the person moves along in one's life course. The meaning-maker moves in-between future oriented and past-oriented looks in one's meaning making (Figure 1.4)

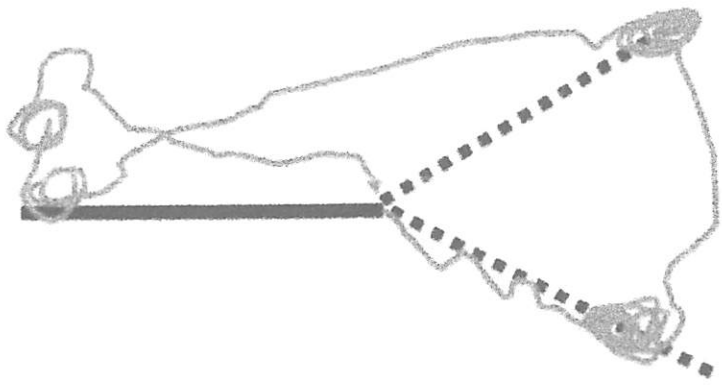

FIGURE 1.4. Microstructure of the bifurcation process

IMAGINATION IN THE CENTER

People's life is not only about what they actually do, or even not only about how they experience reality; a large part is played by people's imagination—imagining that one would be on the beach rather than at work, that life were as it was before a catastrophe, or imagining that one could become one day the owner of one's company. Imagination demands a disjunction from the actual course of actions, distancing from the constraints of irreversibility of time and causality, and engaging in a mode of experience which is temporarily "suspended" from reality. Imagining demands loops orienting people's experience toward the past (what was or could have been), alternative present (what could be or what should not be) and the future (what might be, or should become, etc.), which then enrich the present (Zittoun & Cerchia, 2013; Zittoun & Gillespie, 2015). Imagination is socially nourished (by images, social representations, cultural artefacts, shared experiences) yet absolutely individual and unique as process (Vygotsky, 1931). The subjective and the social are intricately linked in the looping relation that takes place in real time.

Imagination is connected to ruptures and the life course in a double sense. First it is sometimes because people imagine that life could be different, that they create ruptures as *models for possible future* (e.g., "what would it be like if I quit my partner"). This is the projection into the possible future, as evaluated from the standpoint of the present. Second, ruptures call for imagination: *after a rupture* of what is, a person has to engage in active explorations—of how to live in the new conditions, how to learn from the past. Hence, one could say that the pathway that will be defined with the transition processes emerges out of a cloud of many possibilities, created by imagination (Zittoun, in press; Zittoun & de Saint-Laurent, 2015). The question is then, *how do specific options emerge out of a cloud of imagined options*? There are different answers to it, all of them having to do with effects of internal and external redundancy, or resonance or recognition.

Some of these effects are internal and connected to a person's past experiences. As people go through life, they accumulate experience, which can become generalized, not in an abstract sense, but in an existential sense—as emotional climate—or "upconscious," overgeneralized feelings, (Valsiner, 1998), or as more stable motives that may become life-philosophies, or more simply, life "melodies" (Valsiner, 2007; Zittoun et al., 2013). These become overgeneralized guiding principles for a person's choice. Hence, for instance, we showed how a young woman aged 12 developed imagined futures to become one day a pilot and adventurer, journalist and traveler; between 14 and 18, she engaged in many experiences that could be identified as "adventurous," in her experiences with "bad boys," in her travels abroad, until she eventually became a librarian, which actually, allows to be a mind-traveler (Bakhti, 2010; Zittoun & de Saint-Laurent, 2015). Hence, her professional choices were not a clear choice between becoming a pilot and a librarian; according to our reading, being a librarian emerged as if guided by an overarching imagination of self as adventurous. In such case, higher-level values

simply guide the selection of one course of action in the cloud of possibilities. Along that line, generalized values can also emerge from non-realized options. Someone who may have dreamed to become a doctor but cannot, for instance because of insufficient school grades, may still become a nurse, be interested in healthy life-style, cultivate organic garden, or marry a doctor. In other sense, the un-lived life might become a general principle guiding actions that may be seen as its alternative prolongations.

Some other guiding principles that lead to turn clouds of imagination into actual life options come from the external world, in daily encounters a well as through social events. For instance, a young person can develop the feeling of being good-for-nothing at school after receiving many negative evaluation from teachers, which itself can become a self-realizing prophecy. Such internalized negative social recognition then may become guiding principles for imaginations about self in the future.

Finally, social reality can meet one's wildest dream. Hence, Stanislav, a Czech young man, developed a passion for building telescopes and radars during Communist years, and thus, capturing German channels, taught himself German to be able to understand this imagined and unreachable world beyond the actual borders. After the fall of Communism, in 1989, his ability to speak German, developed as part this imagination of beyond the borders, met the needs of the new liberal European market, and he could actually become a professional translator (Třeštíkova, 2009; Zittoun & Gillespie, 2015). In such case, reality presents actual facts which enter in resonance with some regions of the imagined landscape, thus allowing them to become concrete lifepaths.

Why Do We Like TEM?

TEM (and TEA) have features that open new alleys in our theory building in the developmental sciences. Here we want to list its benefits.

First—TEM is **qualitative in its fullness.** Psychology's most accepted ways of looking at its phenomena are quantitative. Yet this is a socio-politically created illusion that has led psychology astray in the last century (Baldwin, 1930; Michell, 1998; Toomela & Valsiner, 2010). It is time to correct that impasse and develop new formal ways of making sense of qualitative phenomena in qualitative terms (Rudolph, 2013).

Second—psychology relies upon inductive generalization—accumulating data across a selection ("sample") of instances. In contrast, TEM makes **generalizations based on single, unique instances.** As such, it restores the *experimentum crucis* standard—rigorous in classic science—to psychology.

Thirdly—TEM cannot be "measured"—while psychology relies in its practical elaboration upon operations that are conventionally called "measurement." It replaces that practice by **careful investigation of relevant phenomena** in their uniqueness, generalizing from the single episodes to the process model of abstract kind.

Fourthly—TEM is the "minimal Gestalt" in our making sense of developing systems. It challenges our basic assumptions about phenomena as elementaristic. Since it references the unknown—but desired or anticipated—future in its links with the reimagined past, TEM is a **unit of process structure**. That process is located at the border of the past and the future—in the imagined border that is the present.

TEM brings—on deductive grounds—the **focus on time** into the center of empirical studies. In its abductive orientation it links general premises with the phenomena through various "surprises." In a way, it is the reverse of the widespread inductive generalization method of the Grounded Theory—instead of "working upwards" from the phenomena towards creating a theory, it "works downwards" from basic assumptions, linking those with phenomena as a surprising particular instance occurs.

It is important to stress repeatedly that TEM is not quantifiable. Hence it has the advantages of introducing into the science of psychology new rigor of qualitative methodology that psychology has—mostly under North-American social demands—pushed out of the focus of science. Psychological phenomena have much to share with their biological counterparts where it is the quality—the form—that guides our meaning-making actions as these proceed in irreversible time.

Altogether, looking at the lifecourse from a TEM perspective reveals that imagined lives can exist even though they are not actualized into life options: imagination allows us to turn to alternative options, almost at any time and place. They belong to the inherent freedom of being, even in the darkest prison (Cohen & Taylor, 1992). And so, dreamed places, alternatives lives, can be as real as the walls around us. Because of their durability and their own capacity to evolve, dreamed lives might one day after all find a realization.

What TEM is Not?

TEM is non normative. It is not, like a stage model, a blueprint for ideal life courses or a grid to pinpoint at bad options. Rather, it is a tool to reveal the many potential, imagined and real life paths existing in people's lives. It examines which ones, and why these become actualized, and also, the reality of the strength of imagined, as well as untaken paths upon the present; it does not decide which path is better. Eventually, it aims at explaining, in the systemic complexity of socially situated lifecourses, why some paths emerge rather than others, and the actual guiding force of the other ones.

TEM is a tree of real and imagined life options. As such it is not a decision tree. From such stance, we cannot represent life options as with Anisov's model of the "broom of time" (e.g., in Zittoun et al., 2013). This model suggests that, in irreversible time, at any point in time, many possible futures are open, but in the past, only the actual past that did lead to the present exist. Indeed, from a logical point of view, unlived past lives do not exist. However, from a psychological perspective, imagination allows to defy the irreversibility of time: we can actually

revisit the past, imagine what would have happened if we had taken other options. We can also suffer because we are reminded of what could have been if we had done things differently. In other words, unlived lives weight over the present and possible futures.

So, does TEM have limits? Of course. Every generalizing model in any science leaves out much of the phenomena in order to concentrate on those features that are important on axiomatic grounds. For example, the selection of the nearest bifurcation point in the past—from the position of the present—leaves out all the richness of the actual development from that point to the present. A similar overlook exists towards the future—the possible future trajectories are located from the present perspective, projected into the future—in ways that could be dismissive of the expected step-by-step "road" from now to these imagined future points.

GENERAL CONCLUSIONS: IMAGINING TEM

Introducing TEM as a tool—in the context of more general TEA—is a methodological step towards finding ways how to analyze the process structures of human development. It is an example of a strictly formulated unit of analysis that makes it possible to study developmental processes directly—as these unfold. This holistic look at the unit of analysis led Lev Vygotsky to formulate the dialectical systemic unit of analysis:

> Psychology, as it desires to study complex wholes… needs to change the methods of analysis into elements by the analytic method that reveals the parts of the unit [literally: breaks the whole into linked units—*metod… analiza,…**razchleniayushego** na edinitsy*]. It has to find the further undividable, surviving features that are characteristic of the given whole as a unity—units within which in mutually opposing ways these features are represented [Russian: *edinitsy, v kotorykh **v protivopolozhnom vide** predstavleny eti svoistva*][4]. (Vygotsky, 1982/1927, p. 16)

Such generalization arises through the formal operations the researchers perform on the phenomena to make sense of them. TEM is one example of what the "minimal Gestalt" unit of developmental analysis could look like. The mutually opposing features in human development cross the border of the Present and relate the Future with the Past.

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[4] It is important to note that the intricate link with the dialectical dynamicity of the units—which is present in the Russian original—is lost in English translation, which briefly stated the main point: "Psychology, which aims at a study of complex holistic systems, must replace the method of analysis into elements with the method of analysis into units" (Vygotsky, 1986, p. 5).

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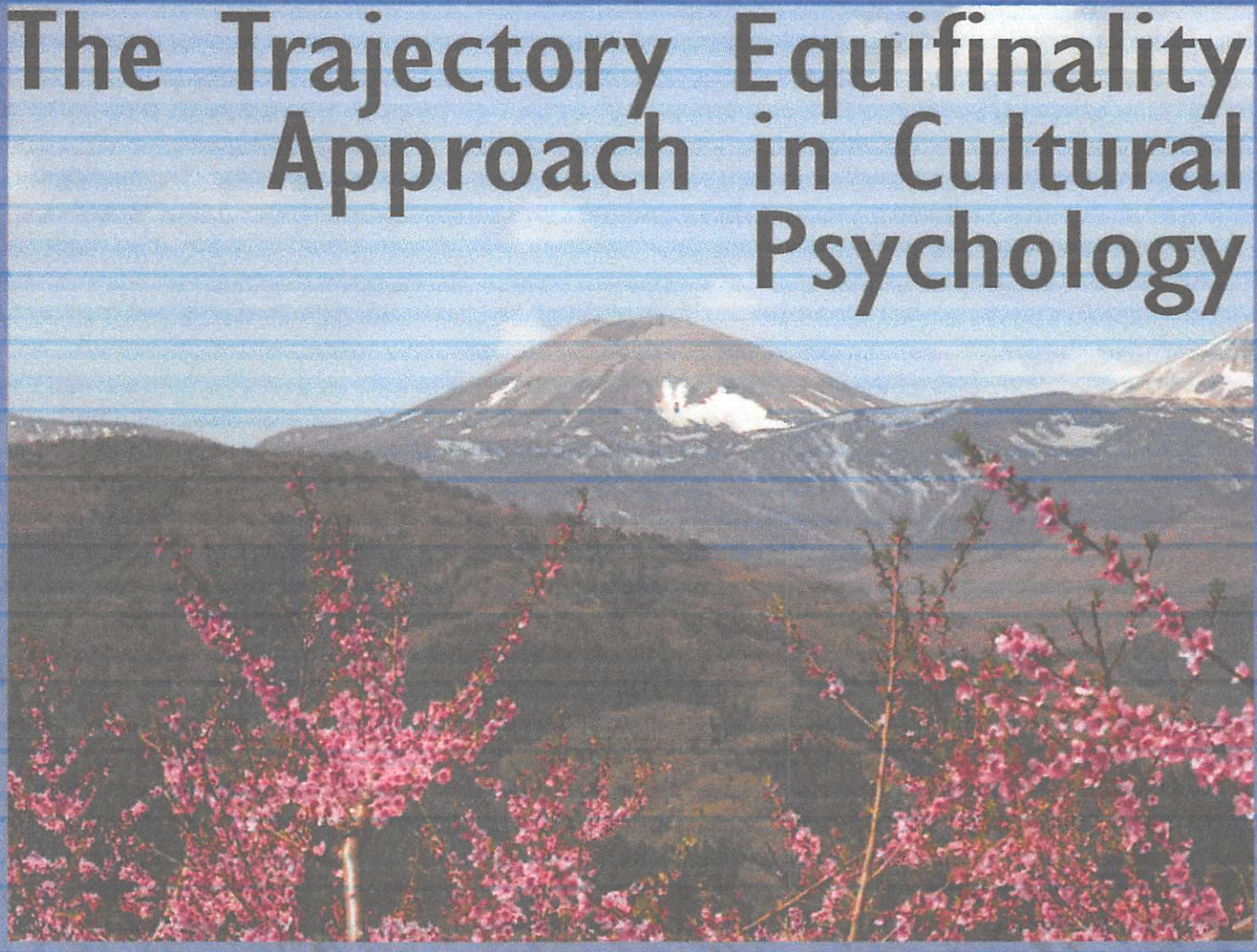

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