Four social psychological lenses for developmental psychology

Tania Zittoun
Anne-Nelly Perret-Clermont
Université de Neuchâtel, Switzerland

How can the advances of social and developmental psychology be integrated? This conceptual paper proposes to examine four basic theoretical models of social situations through which learning and development have been observed in the post-piagetian tradition: the psychosocial triangle, the frame, models of transfer and transitions, and models integrating the notion of cultural instrument. We show different dynamics highlighted by series of studies using these models. We finally discuss the notions of development and of the person emerging through such social developmental approaches.

The wide field of social developmental psychology

How can social psychologists account for changes that people undergo through their interaction with others and their world? And how can developmental psychologists, interested in the genesis of new forms of understanding, take account of the social world in which people live?

Over the past decades, important contributions have integrated social and developmental perspectives in psychology (among which Baltes & Staudinger, 1996; Carpendale & Müller, 2004; Durkin, 1995; Duveen, 1997; Mercer, 1995; Perret-Clermont, Carugati, & Oates, 2004; Resnick, Levine, & Teasley, 1991; Rogoff, 1998; Wegerif, Mercer, & Dawes, 1999) and retraced the historical and theoretical evolution of this integration (see Valsiner, 1998; Valsiner & Van der Veer, 2000). In this paper, as a contribution, we propose to identify four basic theoretical models of social situations through which development has been observed in post-piagetian studies. Our analysis is conceptual rather than historical. The four models we identify have been structuring series of studies, addressing specific questions. Today these models coexist; as they offer contrasting "lenses" on the socially shared reality, they are chosen by researchers to guide different empirical studies. Like lenses, these models enable to see different phenomena: a virus cannot be examined with the same lens than a conflict in the workplace, nor can individual memory be studied in the same way than collective remembering. None of these lenses is better than the other; only each enables a specific

perspective on the object, and a different grain of analysis. Yet, the use of these lenses can overlap, partly because they can be applied on the same object. Hence the lens analysing the virus and the lens that reveals the work conflict might both contribute to the understanding of why a person feels unable to work.

We thus propose four basic models as lenses to analyse research in social psychology of development. We will show how each of these four lenses works, what it renders visible, and apply them to empirical examples. Each renders visible some dynamics of learning and change, and can thus highlight processes of development. But the notion of "development" itself is value-laden, because it carries the idea of unfolding toward a "better" (Valsiner, 1989; Valsiner & Connolly, 2003). In the last part of this paper, we attempt a definition of development that is compatible with the dynamics highlighted by our lenses, and we specify a particular understanding of the person.

Four lenses

Psychological models which are social and developmental attempt to avoid binary understandings of learning and thinking – that represent only the relationship between the person (or her cognition) and the object (or task) – and propose ternary models that always include the person, the object, and the social world[1]. How should we include the social world in development – its people, its languages, its tools, and so on and so forth? To start with, one can consider a component of the social world as mediating the relation between the person and an object of knowledge. For example, when a mother and her baby share their attention on an object, the mother can be seen as the social element mediating the child's relationship to the object (Rijsman, 2008; Schaffer, 1977). Our first lens is given by a psychosocial *triangle* which enables to examine social interactions in which development might occur. However, two persons interacting on an object are usually themselves located in certain social situations. With the second lens we propose to identify how, in a given setting, people draw on rules that constitute the institutional or socio-cultural *frame* enabling their interaction. Then, we realise that the same person usually moves from frame to frame, and that development requires the ability to mobilise or reinvent knowledge in new situations. The third lens is offered by the notion of *transition*. And finally, as we reflect on the role of semiotic mediations and other cultural instruments in such situations, we propose a fourth lens, that of a *prism*.

The psychosocial triangle

Many authors have proposed triangular models of development (Houssaye, 1988; Mead, 1934; Vygotsky, 1930; see Zittoun, Gillespie, Cornish, & Psaltis, 2007, for a historical and conceptual analysis). In social developmental psychology, and especially in the post-piagetian tradition, one recurrent triangle is a psychosocial one, expressing the interrelations between, *person*, *other* and *object* (Moscovici, 1984) (Figure 1). A psychosocial triangle promotes a specific understanding of development. Rather than seeing it as the unfolding of inner latent competencies, or the construction of cognitive structures via auto-equilibration, it suggests that development is always intricated in psycho-social dynamics of learning. But what is then "learning"? A psychosocial triangle excludes a binary understanding of learning, as a simple influence of a person on another, or a transmission from an expert to a novice. It rather sees learning as requiring two participants (*person* and *other*) and a common *object* of discourse, and dynamic relationships through which the object can be constructed and roles and positions negotiated (Bachmann & Grossen, 2007; Gilly, 1980; Gilly, Roux, & Trognon, 1999; Houssaye, 1988; Schubauer-Leoni & Perret-Clermont, 1997; Schubauer-Leoni, Perret-Clermont, & Grossen 1992; Sensévy, Mercier, & Schubauer-Leoni, 2000; Wells, 1993).
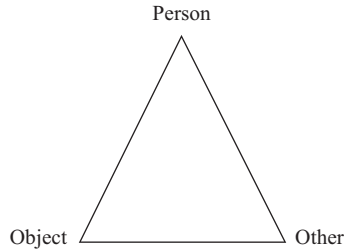
Figure 1. Psychosocial triangle

A psychosocial model also excludes linear causalities. A binary model could say that the social class of a child is correlated with (or causes) her poor school performances. Instead, a triadic model highlights how a child (*person*) facing a school task (*object*) has necessarily a different perspective on the task because of her previous experiences (*habitus*, expectations, etc.), and thus as different relationship to it, than the teacher (*other*) who asks her to solve it. The teacher's relationship to the child (her mistrust, her expectancies, the mere presence of an audience) might also prevent or help the child to solve the task (Gilly, 1980; Monteil & Huguet, 1993).

Using such a model, important investigations of the role of the social in thinking have been enabled. Experimental studies based on the initial hypothesis that "two can think better than one" have been conducted (Ames & Murray, 1982; Azmitia, 1988; Daavenport, Howe, & Noble, 2000; Doise & Mugny, 1981; Gilly & Roux, 1984; Howe, Tolmie, & Rodgers, 1992; Nicolet, 1995; Perret-Clermont, 1980; Schwarz, Neuman, & Biezuner, 2000; Sorsana, 2003; Tudge & Winterhoff, 1993). This was done through studies based on a classical empirical paradigm: an individual pre-test, an interactive test, and an individual post-test. Used in research on the social psychology of development, this paradigm relies on the idea that, under certain circumstances, a social interaction can promote a restructuring of the persons' understanding, and as a consequence, can result in a cognitive development. In such studies, various social dynamics have been examined: the presence of an other, social marking, social asymmetry between interacting people (age, gender, social class, supposed competence, popularity), the duration of the relationships, or their competitive or cooperative nature (Chapman, 1991; Doise & Hanselmann, 1991; Hinde, Perret-Clermont, & Stenson-Hinde, 1985; Leman & Duveen, 2003; Psaltis & Duveen, 2006).

Not only are the two interacting persons "social", but so is the object on which they interact as well (Grossen, 2000). The object – be it a mathematical problem, a school task, a game, a psychological test – has a social history, has been created by some persons, and contains symbolic traces, or cues, about modalities of relationships they demand (Chevallard & Joshua, 1998; Costall, 1998; Schubauer-Leoni & Leutenegger, 2005; Schubauer-Leoni & Perret-Clermont, 1997; Schwarz & Linchevski, 2007).

Such studies have initially analysed the outcomes of interactions in terms of differences between pre-test and post-test performances, subsequent to various conditions of social interactions. They have progressively been able to open the "black box" of the social interaction, thanks to the technical development of video recording, enabling to observe and analyse the fine grain of verbal and non-verbal dynamics (Grossen, Liengme Bessire, & Perret-Clermont, 1997; Howe, Tolmie, Duchak-Tanner, & Rattray, 2000; Marro-Clément, Trognon, & Perret-Clermont, 2000; Nicolet, 1995; Psaltis, 2005; Rijsman, 2001; Schwarz, Perret-Clermont, Trognon, & Marro, 2008).

A triangular psychosocial model highlights how much a person's display of a competence is linked to the negotiation of social positions with another person and towards a given object, itself reshaping, constraining or enabling reciprocal positions (Light, 1986; Rijsman, 2008). This is nicely illustrated by Donaldson's experiments (1978, 1982) on children's performances on piagetian tasks of conservation. In these tasks, a child is considered as "conservant" if he

recognises that an amount of water seen in a glass remains the same even after having been poured in a glass that has a different shape, and thus appears as having a lower or higher level. When asked by an adult to appreciate whether a quantity of juice had changed after such a manipulation, children usually tend to consider the question seriously, in search for possible reasons for a change that seems (wrongly) expected by the adult. However, if the experimenter "wraps up" the question in a story with a little teddy bear disrupting the scene in such a way that pouring the juice in another glass becomes the solution to the mess created, then the children tend to perform as conservants. It is thus as if their answers were deduced from the negotiated premises of the problem agreed upon between child and adult. In their researches, both Schubauer-Leoni (1986) and Grossen (1988) asked children to role-play the adult's role (as teacher or experimenter) with a younger peer. Surprisingly the subjects tried to make the task "very very difficult" or to check with the adult if it was now "the time to give (the partner) the trick"! A close analysis of the interactions reveals that the role-players felt they could secure their role as "teachers" or "experimenters" only by reinforcing the asymmetry of their respective positions of expert and novice.

Analyses of modalities of triangular interactions reveal that people are sometimes mentally engaged in other activities than the one intended by teachers or researchers, and as a consequence, do not share a common definition of the task – without even noticing it (Bausch, Perret-Clermont, & Schürch, 2007). People have various perspectives on the situation, and thus simply understand it in different manners. In order to capture such meanings constructed by participants, we need to move to the second lens.

The frame

A psychosocial triangle is not in a void, it always takes place in a certain social field. Social developmental psychologists usually observe or test interactions or persons in formal settings, such as a didactic, a guidance or a psychotherapeutic setting. These settings contain material and symbolic objects, are structured and regulated by rules, and attribute roles to the participants. In turn, people will draw on available cues as they attempt to confer meaning to the situation of interaction (Bruner, 1996; Light & Perret-Clermont, 1989; Rommetveit, 1978).

To account for these aspects of the situation and their interplay, a second social psychological lens is that of the *frame.* Metaphorically, we can say that the triangle takes place "in" the frame (Figure 2).
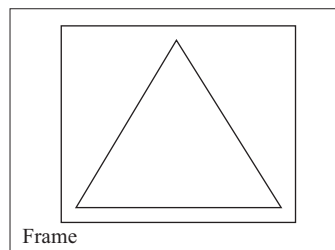

Frame

Figure 2. Frame

The triangular interactions happen in informal situations but most often within settings that are framed by an institution (school, hospital, court, guidance centre, etc.) or by the customs and rules of the family, tradition, profession, football club, music band and so forth. A *frame* is made out of implicit and explicit rules and creates duties and mutual expectations. It is a pre-constrained field of possible interactions, positions, and actions. The rules constituting the frame are often contrasting with those of the surrounding socio-cultural context. The *setting*, in contrast, is the staging (*mise en scène*) of the encounter made of

material and symbolic elements: the material place where the interaction takes place, in time and space, with its buildings, its material objects, its smells and its colours, the greeting rituals, etc. Of course, setting and frame are mutually dependent: the setting supports the frame (without an actual classroom, a primary school teacher would have difficulties to create a formal learning frame), and the setting gets its meaning from the frame (without the rules of the learning-teaching situation, the classroom would be just a room with rows of small tables). The setting exists for anybody; a frame is perceptible only to someone who has been socialised to the "rules of the game" of a given institution or society.

A frame legitimizes the encounter, and sets a (mostly implicit) "contract of communication" (Rommetveit, 1976). It should enable people to focus on a shared object of attention and discourse. In principle, respecting the rules of the frame facilitates and canalises the building of an intersubjectivity, that is, the construction of joint action and supposedly common understanding (e.g., at school, people construct a frame where the role of the teacher is to ask questions and the children's is to demonstrate that they can answer such questions). However, in some cases the frame creates misunderstandings, as in the following example: a pupil (*person*) asked by a teacher (*other*) in the classroom to answer an absurd numeric question on a sheet of paper (e.g., "In a school class, there are 12 boys and 15 girls. What is the age of the teacher?") (*object*) will often answer by a mathematical operation (e.g., "27") (Schubauer-Leoni & Ntamakiliro, 1994). Similarly, high performer adolescents were unable to achieve a simple task of stamping envelops according to the usual postage rate during a classroom exercise (Säljö & Wyndhamn, 1993). It seems that, on the basis of the typical classroom activities and communication contract (*frame*), because the teacher (*other*) had just been teaching proportions, the students (*persons*) were conferring to the stamping task (*object*), the meaning of being a mathematical task for which these notions should be used. In both examples, the notion of frame renders visible the fact that the child feels forced to give a "school-like" answer given the assumptions regulating teacher-students interaction around tasks in a school context.

The frame in which the interaction takes place is often framed within a larger meaningful setting, the *frame of the frame*. The "frame of the frame" is an institutional (or traditional) organization of relations, and as such predefines the limits within which the frame and its rules and roles can vary and be renegotiated by the interacting people, tasks and objects. In such a perspective, social reality can be analysed in its multiple layers: the psychologist-child interaction takes place in a guidance centre, which is part of a hospital, itself part of the health services of the area. However, the health service is not detached from the psychologist; it is manifested through her actions. Similarly, a school is the frame of the frame of a classroom student-teacher interaction (Perret-Clermont, 2001), and these draw on the institutional context to legitimise and give meaning to their action (Grossen, 2000). It is through the mediation of these interacting frames than society and individual actions shape and enable each other. Society exists and evolves as it is embodied through these persons acting and negotiating their roles and actions in such interdependent frames; society is thus precisely what enables individual actions to take place and develop.

There are also usually guardians to frames, who participate to the interactions taking place and negotiate its meaning with others. The role of the guardians is to keep the frame, that is, to help the interaction to unfold according to its rules and scope, and the participants to remain focused on the *object* at stake. The role of guardians is usually regulated by the frame of the frame itself.

Working with frames model, researchers render visible the fact that two persons (*person* and *other*) supposed to be solving a task (*object*) are in fact also very often engaged in larger activities, negotiating their respective positions, their roles and identities, what they can do, and the meaning of the whole situation (Grossen, 1988; Grossen, Liengme Bessire, & Perret-Clermont, 1997). For example, while they interact, a person and a psychologist (*person* and *other*) in a therapeutic setting co-construct the meaning of the demand (*object*), which includes a common understanding of their reciprocal roles and of the situation; they thus co-construct intersubjectivity in a given frame (Grossen & Perret-Clermont, 1992). The

psychologist's role is backed up by the profession, its theoretical references, the training received, the deontological code, etc., that is, by the institutions that constitute the frame of the frame and guarantee her legitimacy. Also, examining the frame renders visible the dynamics through which school drop-outs can be encouraged to engage in learning: vocational training program (*frame*), a motivated teacher (*other*) can help a school drop-out (*person*) to invest some *objects* of knowledge, by refusing to consider her as a victim and creating a schedule which emphasises the sense of emergency of a "last chance" for her to start such a program (Zittoun, 2004a). Yet the success of the program might be due thanks to the frame of the frame, for example when the school has pre-established connexions with the local firms, which have agreed to offer internships to these young persons otherwise at risk of remaining marginalized for life (Zittoun, 2006b).

As we see, the notion of frame enables to analyse socially situated interactions. Changing level of analysis, one can also question the consequence of such frames for the development of the individual. Social developmental psychologies, as well as sociocultural approaches, assume that intrapsychological processes are constructed through interpersonal dynamics (Tomasello, 1999; Valsiner 2000; Vygotsky & Luria, 1994). Dynamics of framing are social dynamics which can be interiorised. The frame of a teacher-student exchange is shaping meaning and interactive modalities, and thus is constituent of the knowledge which might be acquired by the person. Clinical studies thus show how the frame of a therapeutic setting can be interiorised by a person and thus become a constituent of thinking (Green, 2002; Grossen & Perret-Clermont, 1992).

The notion of frame renders visible how much people are engaged in the work of defining the rules and meaning of a situation in which they are engaged. Reflecting on the new understanding possibly acquired in a given frame, one can then ask the next important question: how much is what develops in this or that frame, usable in another situation?

From transfers to transitions

Transfer is the ability to actualise a competence or a skill learned somewhere in an other setting: doing multiplications at the baker once these have been learned at school, debug a computer in the classroom when one knows how to do it at home, dealing with an actual machine at the workplace when one learned to work on a training machine at school (Figure 3). If we admit, however, that a person never purely just "actualises" a competence she has in mind when asked to do so in a new situation, but rather that her "expertise" is constructed within this setting, via her identification of similarities or differences with her past experience (and this is often a very difficult and abstract task), through her interactions with others, and while she is engaged in a process of adjustment and meaning making, then the notion of transfer becomes very problematic (Beach, 1999; Säljö, 2003). Often, in a new situation, the person does not transfer existing skills, but rather, she mobilises past experiences and learns to use them via trials and errors in the new setting.

An interesting question is, what are the processes through which a person might identify a new situation as calling for the same type of skills or knowledge she used to actualise elsewhere – "same type" being likely to be related to the task, the interpersonal relationship, or any aspect of the frame? The question becomes, how do people learn from their experiences, how can they interpret the demands of a new situation, and how do they know how to mobilise their past experiences as resources that will be relevant for that situation, and to accommodate them to it?

Examples of people's change of frame can be found in the literature, and Figure 3 presents our third set of lenses in order to highlight what facilitates the use of past experience in a new setting.

Adolescents' transition from marginalised situations or from extra-curricular activities (youth-based activities, sports groups, etc.) to vocational training can be facilitated by a setting that supports identity adjustments and the process of social repositioning required by the change of frame (Heath, 2004) a facilitating setting does not only enables adolescents to

acquire knowledge that might be useful for the new professional life, but also promotes heuristics to use it, as well as forms of language, techniques of self-presentation and specific know-how which will facilitate the negotiation of their identity and reinforce their sense of self-continuity in the new context (Cesari Lusso, 2001; Grob, 2001; Heath, 1996; Perret-Clermont & Zittoun, 2002; Zittoun 2004a).
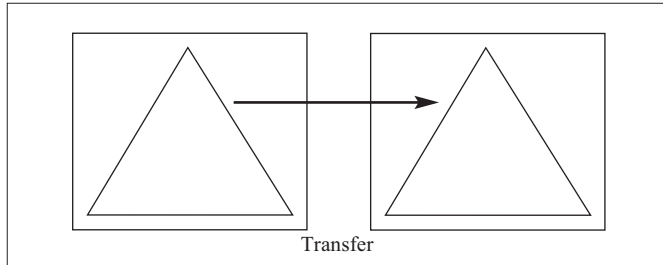

Figure 3. Transfer

How can we account for this use of former knowledge in a new setting? Thinking back to various situations in which transfer might occur, we realise that they all share one common feature: they put the person in front of new objects, new others, or in another frame. The process of adjusting to that new situation can thus, rather than transfer, be called *transition* (see Beach, 1999, for a discussion of various modalities of *consequential transitions*, transitions which are consciously reflected on).

Processes of transition enabling a person to act, think and interact in a new situation, are of three interrelated types (Hundeide, 2004; Perret-Clermont & Zittoun, 2002), which can be seen as corresponding to the transformation of the triangle and the frame. Each of these three types of transition correspond to the displacement of interpersonal relationships and objects of interactions (the poles of the triangle) and of their setting (the frame). These three transformations are mutually dependent.

Firstly, the relationship between *person* and *other* will be modified. The transition thus requires processes of *social repositioning*. Through them, the person will try to comprehend or re-negotiate her position toward others or in a given relational network, in a given frame. This will question the identity of each person, for others and for self. Additionally, she will also *learn* about other people (social cognition). Secondly, the relationship between the *person* and the *object* will be redefined. That calls for further *processes of learning* as well, including the mobilisation of knowledge and skills as resources in a new situation, and the acquisition of new ones. This might reconfigure the person's previous understanding and could lead to structural change, that is, to a redefinition of her apprehension of reality. And thirdly, the person moves from one *frame* to another. Consequently, transitions require a transformation of the current thinking zone of the person. She has to engage processes of personal sense making of such changes. This involves the emotional and embodied aspects of change, which has to be elaborated into sense using semiotic means. This might in turn regulate her emotions and provide the person with a system of orientation and a sense of continuity.

Thus, rather than transfer of knowledge, we can talk about a person's transition to a situation requiring her relations to knowledge and others to be reconstructed. Identifying three interdependent components (triangle, frame and transition) offers a model for understanding socially located situations of learning or development, or their absence. When a person cannot learn a given object, such a model of transitions suggests that we need to look at the personal sense of that object of knowledge for the person (Barth, 1993), or the social networks in which she is embedded (Rochex, 1999). Resistance to learning is often a resistance to an object which is perceived as threatening a person's sense of who she is or her belonging to a group defining her identity (Paìn, 1981, 1985).

These observations lead us to ask: if, on one hand, it is the case that a person in transition does not simply actualise a knowledge or a competence she has "in her head", and on the other hand, if we have to admit that a person has some continuity and does not reinvent everything each time, then what happens? What are the things or processes that permit continuity within a transition, what are the things *with which* a new performance gets constructed or re-constructed?

The fourth pole of the triad: Cultural instruments

So far, we have explored psychosocial triangles in which a person mediates another person's relation to an object. However, the relation from person to person, or person to object, is itself always mediated by what people can use to help them to make sense of the task or of the situation. Three sorts of instrument can be distinguished: tools that are useful to do things and act upon the world (e.g., a calculator to solve a mathematical task); artefacts that are useful to guide the former (e.g., the rules for using calculators) (or *secondary artefacts*, in Cole, 1996); and cultural element which mostly carry meaning encapsulated in semiotic codes (painting, music, poem, shared beliefs, etc.) (Zittoun, 2006a). Vygotsky called *tool* cultural elements used to act upon the material world, and signs, or semiotic mediators, what is used to affect a mind – that of the person who uses it, or another person's, like in communication (Vygotsky, 1997, p. 62). For example, a knot in a handkerchief is a sign for memory (Vygotsky, 1930; Vyogtsky & Luria, 1994); texts or concepts can be internalised, that is, find some form of translation in the mind, and thus become semiotic mediators guiding thinking (Valsiner, 1998). They can then be mobilised as semiotic resources in a new situation – a future parent (*person*) can mobilise her memory of an historical novel (semiotic *mediator*) and use it to choose a name (*object*) for her child (Zittoun, 2004b, 2005). Tools and signs can both be generally considered as instruments when they are used (Blandin, 2002; Rabardel, 1999). Consequently, our fourth lens in an extension of the psychosocial triangle so as to account to these forms of mediations: it is a prism constituted by four poles: a *person*, an *other*, an *object*, and an *instrument* (tool or sign) (Figure 4).
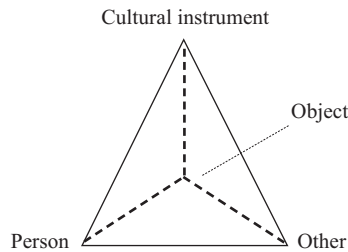

Figure 4. Prism

Such a prism is, as much as our previous triangles, located in specific frames. In such a prism, the instrument can have constraining role on the meaning of the object or the task, the identities of the people and their reciprocal position, and the whole activities of the person.

Such prism renders mediations in interactions visible. A boy and a girl (*person* and *other*) who are not used to work in mixed gendered pairs in their relatively conservative society, solve a task together (*object*) by mobilising their social representation of gender and forms of discourse (*instrument*), which attribute positions and authorisations to solve the task or not (Psaltis 2005; Psaltis & Duveen, 2006). Cultivators in Madagascar (*persons*) can refuse to use a method of collective diagnostic (*instrument*) to identify their needs in training (*object*), because they judge that the cast of the animator (social status of *other*) does not legitimate him to preside their assembly (Muller Mirza, 2005). A specific sort of mediation is given by people's uses of cultural elements enabling an imaginary experience, such as novels, poetry, art pieces or pieces of music

that people can use as symbolic resource (Zittoun, 2006a). In that case, the cultural experience that people have as they interact with such novel or poetry opens an imaginary space, in which they can explore alternative realities, experience emotions that have no space in the socially shared reality, or feel alternative identities. Consequently, these uses of symbolic resources can also change a person's relationship to another or to an object in social interaction. Hence, a young man and his fiancée (*person* and *other*) can read *Anna Karenina* (*instrument*) to better understand their own relationship (*object*) (Zittoun, 2006a,c).

As suggested earlier, aspects of these poles can also be internalised. A young woman (*person*) can thus mobilise her memories of the lyrics of pop songs (*sign*), which she likes partly because she admires very much the singers (interiorised *others*), to think about social injustices she discovers around her (*object*) (Zittoun, 2007). We might then formulate this situation in terms of transitions: once this person is at university, and confronts new *others*, e.g., professors of sociology questioning her about social inequities (*object*), will her previous resources (songs learned by heart as *instrument*) be invalidated? And if it is so, what are the consequences of that invalidation for the *person* (Bourgeois, 1996)?

Four lenses, development and the person

Social psychology of development is a psychology of the developing person in changing worlds, populated by objects and people. Here, we have proposed four lenses for examining the dynamics involved. The first emphasises dynamics of interaction; the second highlights rules and frames that regulate these, and the frames in which people give sense to these interactions and strive for their goals; the third questions dynamics of transition in the re-use of previous competence or knowledge; and the last one renders visible the role played by instruments in the three other dynamics.

A model of development

What is the model of development we promote when we are using such lenses? As it appears, dynamics of triangulation, negotiation of roles and construction of meaning in frames, and use of instruments, are all processes located in time. They imply necessarily forms of change. Yet change can be for the better or the worse; how then to define a "better" development? We will attempt to make explicit our understanding of development. We will avoid any *a priori*, normative criteria. Rather, we deduce our definition from our understanding of learning and change as dynamic processes. Basically, we think that development should preserve dynamics of interaction, frame and transition as explored here, that is, the developmental movement itself. But this can have various implications. For example, one might say that development is the acquisition or the display of a competence required by a given frame: if the setting frames the interaction as "acquiring additions", then the person who displays them is developing. But this definition is relativistic: a child becoming a child-soldier might be developing according to the frame in which he is taken (Hundeide, 2004). Yet we have the intuition that such a change is alienating.

We would thus rather say that a change is developmental, first, if it leads the person to a situation in which she still has a certain number of possibilities for further transitions and changes. A change which destroys the person and blocks her, or a change that radically alienates a person from social others, is thus problematic (Zittoun, 2006a). Such a definition is minimal, yet it includes both internal processes and social dynamics; it emphasises the transactions between the person and the world (Sokol & Chandler, 2004; Zittoun, 2006a).

Approaching the person: Toward a fifth lens

The development of a person appears as her psycho-social history, through which she has cumulated experience, reflected upon that experience, and turned that reflected experience into a resource for apprehending new experiences (Perret-Clermont, 2004; Perret-Clermont & Nicolet,

2001). At which conditions is this possible? To answer this question we need to question the person's needs. Concretely, we have to use a fifth lens. If our four first lenses have located the person in her sociocultural environment, this fifth lens questions intrapsychological processes.

This person, as we have seen, is constantly exposing herself and being exposed to changing situations, requiring her to change or invent new meanings and actions. How can she remain who she is while changing? In order to answer to this question, we have to examine what is put at stake when the person *is not* remaining who she is: her sense of *integrity*, and the feeling that her thoughts belong to her only, which we can call *interiority*. Personal *integrity* is a complex physical, psychic and moral issue. It is the sense that one person is one and unique, even if everyday situation trigger various aspects of self, or beyond the multifaceted nature of identity. Integrity needs to be maintained through time and through space, and across a multiplicity of situations (Carugati, 2004; Erikson 1975; Winnicott, 1971). Integrity is what is threatened in the dialectics change-continuity required by development. Ruptures of integrity are, in turn, threatening thinking, learning and development. A second, and related characteristic of that person, is that she needs to confer sense to her experience. To account for this, we need a model of the person who is both positioned within social networks, but also, who is doted of *interiority* (Bruner, 1990; Winnicott, 1971; Zittoun, 2004b, 2006a). Interiority is this inalienable "inner" thinking space, perceived by the person as one's own, and where all her interactions in the world meet her memories, wishes, dreams, and mental prolongations of her embodied experiences.

Of course, in the examples of learning situations explored so far, these two aspects are not always in danger. But when they are – under situations of banal neglect, lack of respect, negative attributions, stigmatisation, physical or psychological intimidation, violence, or humiliation – the person's further possibilities of change might be reduced, and her agency and her possibility to reflect upon her action might be endangered. In that sense, learning and development are at stake when the person's integrity and interiority are neglected. All in all, this calls for an attention for the perspective of the person when studying learning and development in socially situated interactions.

Openings

In this paper, we have shown how four lenses classically used in social psychology of development, and in particular, in the post-piagetian tradition, enable to identify social and cognitive dynamics in development. Psychological development can be redefined as involving socially framed, culturally mediated and interpersonally negotiated processes, and dynamic relation between the person, others, objects and instruments which are reconfigured through transitions. However, the increasing attention given to the complex nature of the social in development has often brought researchers to forget intra-psychological dynamics. Intra-psychological dynamics – cognitive, but also affective and imaginative – are fundamental components of learning and development, and should be studied together with interpersonal and social interactions.

We close this paper knowing that our next step should be to adjust a fifth lens aiming at identifying the intra-personal processes that can account for a person doted both of a creative adaptability to newness, and of a fundamental fragility dependent on her interiority and her sense of integrity. The theoretical and empirical challenge will then be to propose a full articulation of these different lenses to better understand the interdependance – and autonomy – of the social and the individual in development.

Notes

[1]   Although Piaget's constructivist approach of development acknowledges the importance of the social world in development (for example Piaget, 1932, 1950), the core of his theoretical efforts remains binary, even if in a subtle way. For Piaget, as the child is trying to adapt to some problematic object of the world, his understanding depends on his cognitive structures, not on the communicative or social context. Piaget's discourse was addressed against

that of the behaviourists promoting a S-R model. He thus demonstrated the importance of a S-(O)-R model, (O) designating the organism of the child. The child's own activity and equilibration processes (i.e., O) appear thus as central in cognitive development: it is via his senses and personal reflection that the child can test, for himself, how things work and what is true. The younger Piaget had called attention to the role of the social environment in this equation, as fostering decentration and offering the child occasions of experiencing reciprocity in cooperation tasks. But the older Piaget considered (social) cooperation and (cognitive) operations as the "two sides of the same coin", doubting that a specific exploration of such social dimensions would bring anything new to his theory (Piaget, 1976). Piaget thus concentrated his work on the child's answering his own questions about the world. Perhaps this focus and exclusion of the social are due to the fact that Piaget had then in mind the power of the asymmetric relation between adult and child, or expert and novice, that so often hinders development by feeding answers to a mind that hadn't even had an opportunity to ask a question (Perret-Clermont, 2008; Piaget, 1960).

References

Ames, G.J., & Murray, F.B. (1982). When two wrongs make a right: Promoting cognitive change by social conflict. *Developmental Psychology, 18,* 894-897.

Azmitia, M. (1988). Peer interaction and problem solving: When are two heads better than one? *Child development, 59*, 86-87.

Bachmann, K., & Grossen, M. (2007). Contextes et dynamiques des interactions entre apprenants dans une situation de mentorat. In L. Allal & L. Mottier Lopez (Eds.), *Régulation des apprentissages en situation scolaire et en formation* (pp. 129-147). Bruxelles: De Boeck.

Baltes, P.B., & Staudinger, U.M. (1996). *Interactive minds. Life span perspectives on the social foundation of cognition.* Cambridge: University Press.

Barth, B.M. (1993). *Le savoir en construction.* Paris: Retz.

Bausch, L., Perret-Clermont, A.-N., & Schürch, D. (2007). Situation d'entretien: Essayer de faire parler autrui sur ses pratiques et... découvrir sa propre pratique d'intervieweur. In I. Plazaola Giger & K. Stroumza (Eds.), *Paroles de praticiens et description de l'activité Problématisation méthodologique pour la formation et la recherche* (pp. 137-159). Bruxelles: De Boeck.

Beach, K. (1999). Consequential transitions: A sociocultural expedition beyond transfer in education. *Review of research in education*, *24*, 101-139.

Blandin, B. (2002). *La construction du social par les objets*. Paris: Presses Universitaires de France.

Bourgeois, E. (Ed.). (1996). *L'adulte en formation. Regards pluriels*. Paris: Presses Universitaires de France.

Bruner, J.S. (1990). *Acts of meaning.* Cambridge: Harvard University Press.

Bruner, J.S. (1996). Frames for thinking: Ways of making meaning. In D.-R. Olson & N. Torrance (Eds.), *Modes of thought: Exploration in culture and cognition* (pp. 93-105). New York: Cambridge University Press.

Carpendale, J.I.M., & Müller, U. (Eds.). (2004). *Social interaction and the development of knowledge*. Mahwah, NJ: Lawrence Erlbaum Associates.

Carugati, F. (2004). Learning and thinking in adolescence and youth. How to inhabit new provinces of meaning. In A.-N. Perret-Clermont, C. Pontecorvo, L. Resnick, T. Zittoun, & B. Burge (Eds.), *Joining society: Social interaction and learning in adolescence and youth* (pp. 119-140). Cambridge/New York: Cambridge University Press.

Cesari Lusso, V. (2001). *Quand le défi est appelé intégration: Parcours de socialisation et de personnalisation de jeunes issus de la migration*. Berne: Peter Lang.

Chapman, M. (1991). The epistemic triangle. Operative and communicative components of cognitive development. In M. Chandler & M. Chapman (Eds.), *Criteria for competence: Controversies in the conceptualisation and assessment of children's abilities* (pp. 209-228). Hillsdale, NJ: Lawrence Erlbaum.

Chevallard, Y., & Johusa, M.-A. (1998). *La transposition didactique: Du savoir savant au savoir enseigné; suivie d'un exemple de transposition didactique.* Grenoble: La Pensée Sauvage.

Cole, M. (1996). *Cultural psychology: A once and future discipline*. Cambridge: Harvard University Press.

Costall, A. (1998). *An ecological approach to agency.* Paper presented at the Fourth congress of the International Society for cultural Research and Activity Theory: Activity theory and cultural historical approaches to social practice, University of Aarhus, Denmark, June 7-11.

Davenport, P., Howe, C., & Noble, A. (2000). Peer interaction in the teaching of mathematics: explanation and the coordination of knowledge. *Revue Suisse des Sciences de l'Education [Schweizerische Zeitschrift für Bildungswissenschaften], 3*, 481-507.

Doise, W., & Hanselmann, C. (1991). Conflict and social marking in the acquisition of operational thinking. *Learning and Instruction, 1*, 119-127.

Doise, W., & Mugny, G. (1981). *Le développement social de l'intelligence.* Paris: InterEditions.

Donaldson, M. (1978). *Children's minds*. New-York: W.W. Norton.

Donaldson, M. (1982). Conservation: what is the question? *British Journal of Psychology, 73*, 199-207.

Durkin, K. (1995). *Developmental social psychology. From infancy to old age.* Malden, MA & Oxford: Blackwell.

Duveen, G. (1997). Psychological development as a social process. In L. Smith, J. Dockrell, & P. Tomlinson (Eds.), *Piaget, Vygotsky and beyond. Future issues for developmental psychology and education* (pp. 67-90). London: Routledge.

Erikson, E.H. (1975). "Identity crisis" in autobiographical perspective. *Life history and the historical moment* (pp. 17-46). New York: W.W. Norton.

Gilly, M. (1980). *Maître élève, rôles institutionnels et représentations*. Paris: Presses Universitaires de France.

Gilly, M., & Roux, J.-P. (1984). Efficacité comparée du travail individuel et du travail en interaction socio-cognitive dans l'appropriation et la mise en oeuvre de règles de résolution chez les enfants de 11 à 12 ans. *Cahiers de Psychologie Cognitive, 4*(2), 171-188.

Gilly, M., Roux, J.-P., & Trognon, A. (Eds.). (1999). *Apprendre dans l'interaction: Analyses des médiations sémiotiques* (pp. 219-240). Nancy: Presses Universitaires, Publications de l'Université de Provence.

Green, A. (2002). *Idées directrices pour une psychanalyse contemporaine.* Paris: Presses Universitaires de France.

Grob, A. (2001). Transition from youth to adulthood across cultures. In N.J. Smelser & P.B. Baltes (Eds.), *International encyclopaedia of the social and behavioural sciences* (pp. 16678-16682). Oxford: Elsevier.

Grossen, M. (1988). *La construction de l'intersubjectivité en situation de test.* Cousset, Fribourg, CH: Delval.

Grossen, M. (2000). Institutional framings in learning and teaching. In H. Cowie, V.D. Aalsvort, & N. Mercer (Eds.), *Social interaction in learning and instruction: The meaning of discourse for the construction of knowledge* (pp. 21-34). Amsterdam: Pergamon.

Grossen, M., & Perret-Clermont, A.-N. (Ed.). (1992). *L'espace thérapeutique. Cadres et contextes.* Neuchâtel, Switzerland / Paris: Delachaux et Niestlé.

Grossen, M., Liengme Bessire, M.-J., & Perret-Clermont, A.-N. (1997). Construction de l'interaction et dynamiques socio-cognitives In M. Grossen & B. Py (Eds.), *Pratiques sociales et médiations symboliques* (pp. 221-247). Bern: Peter Lang.

Heath, S.B. (1996). Ruling places: Adaptation in development by inner-city youth. In R. Jessor Colby, A., & Shweder, R.A. (Eds.), *Ethnography and human development, Context and meaning in social inquiry* (pp. 225-251). Chicago: University of Chicago.

Heath, S.B. (2004). Risks, rules, and roles: Youth perspectives on the work of learning for community development. In A.-N. Perret-Clermont, C. Pontecorvo, L. Resnick, T. Zittoun, & B. Burge (Eds.), *Joining Society: Social Interaction and Learning in Adolescence and Youth* (pp. 41-70). Cambridge/New York: Cambridge University Press.

Hinde, R.A., & Perret-Clermont, A.-N., & Stevenson-Hinde, J. (Eds.). (1985). *Social relationships and cognitive development.* Oxford: Clarendon/Oxford University Press.

Houssaye, J. (1988). *Le triangle pédagogique*. Berne: Peter Lang.

Howe, C., Tolmie, A., & Rodgers, C. (1992). The acquisition of conceptual knowledge in science by primary school children: Group interaction and the understanding of motion down an incline. *British Journal of Developmental Psychology, 10*, 113-130.

Howe, C., Tolmie, A., Duchak-Tanner, V., & Rattray, C. (2000). Hypothesis testing in science: Group consensus and the acquisition of conceptual and procedural knowledge, *Learning and Instruction*, *10*(4), 361-391.

Hundeide, K. (2004). A new identity, a new life-style. In A.-N. Perret-Clermont, C. Pontecorvo, L. Resnick, T. Zittoun, & B. Burge (Eds.), *Joining society: Social interaction and learning in adolescence and youth* (pp. 86-108). Cambridge/New York: Cambridge University Press.

Leman, P.J., & Duveen, G. (2003). Gender identity, social influence and children's conversations. *Swiss Journal of Psychology, 62*(3), 223-235.

Light, P. (1986). Context, conservation and conversation. In P.L.M. Richard (Ed.), *Children of social worlds. Development in a social context*. Cambridge: Polity Press.

Light, P., & Perret-Clermont, A.-N. (1989). Social context effects in learning and testing. In J.-A. Sloboda (Ed.), *Cognition and Social Worlds* (pp. 99-112). Oxford: Oxford Science Publications, University Press.

Marro-Clément, P., Trognon, A., & Perret-Clermont, A.-N. (2000). Processus interlocutoires dans une tâche de conservation des liquides. In M. Gilly, J.-P. Roux, & A. Trognon (Eds.), *Apprendre dans l'interaction. Analyse des médiations sémiotiques* (pp. 163-180). Paris: Presses Universitaires de France.

Mead, G.H. (1934/1967). *Mind, self & society. From the standpoint of a social behaviourist.* Chicago: Chicago Press.

Mercer, N. (1995). *The guided construction of knowledge: Talk amongst teachers and learners*. Clevedon, UK: Multilingual Matters.

Monteil, J.-M., & Huguet, P. (1993). The influence of social comparison situations on individual task performance. Experimental illustrations. *International journal of Psychology, 28*, 627-643.

Moscovici, S. (1984/2003). Introduction. Le domaine de la psychologie sociale. In S. Moscovici (Ed.), *Psychologie sociale* (pp. 5-22). Paris: Presses Universitaires de France.

Muller Mirza, N. (2005). *Psychologie culturelle d'une formation d'adulte. L'île aux savoirs voyageurs*. Paris: L'Harmattan.

Nicolet, M. (1995). *Dynamiques relationnelles et processus cognitifs. Etude du marquage social chez des enfants de 5 à 9 ans.* Lausanne/Paris: Ed. Delachaux & Niestlé.

Paìn, S. (1981/1985). *Les difficultés d'apprentissage, diagnostic et traitement*. Berne: Peter Lang.

Paìn, S. (1985). *La fonction de l'ignorance*. Berne: Peter Lang.

Palmonari, A. (1993). *Psicologia dell'adolescenza*. Bologna: Il Mulino.

Perret-Clermont, A.-N. (1980). *Social interaction and cognitive development in children.* London: Academic Press.

Perret-Clermont, A.-N. (1993). What is it that develops? *Cognition and Instruction, 11*, 197-205.

Perret-Clermont, A.-N. (2001). Psychologie sociale de la construction de l'espace de pensée. In J.J. Ducret (Ed.), *Actes du colloque. Constructivisme: Usages et perspectives en éducation* (vol. I, pp. 65-82). Genève, Département de l'Instruction Publique: Service de la recherche en éducation.

Perret-Clermont, A.-N. (2004). Thinking spaces of the young. In A.-N. Perret-Clermont, C. Pontecorvo, L. Resnick, T. Zittoun, & B. Burge (Eds.), *Joining society: Social interaction and learning in adolescence and youth* (pp. 3-10). Cambridge/New York: Cambridge University Press.

Perret-Clermont, A.-N. (2008). Piaget: His elders and his peers. In A.-N. Perret-Clermont & J.-M. Barrelet (Eds.), *Jean Piaget and Neuchâtel. The learner and the scholar* (pp. 202-231). Hove & New-York: Psychology Press.

Perret-Clermont, A.-N., & Nicolet, M. (2001). Vers un renouvellement de la réflexion épistémologique en psychologie? In A.-N. Perret-Clermont & M. Nicolet (Eds.), *Interagir et connaître. Enjeux et régulations sociales dans le développement cognitif* (pp. 311-319). Paris: L'Harmattan.

Perret-Clermont, A.-N., & Zittoun, T. (2002) Esquisse d'une psychologie de la transition. *Education permanente. Revue Suisse pour la Formation Continue*, *1*, 12-15.

Perret-Clermont, A.-N., Carugati, F., & Oates, J. (2004). A socio-cognitive perspective on learning and development. In J. Oates & A. Geyson (Eds.), C*ognitive & language development in children* (pp. 305-332). Oxford: The Open University Press & Blackwell Publishing.

Piaget, J. (1932). *The moral judgment of the child*. London: K. Paul Trench Trubner.

Piaget, J. (1950/1995). Explanation in sociology. In L. Smith (Ed.), *Sociological studies* (pp. 30-96). New York: Routledge.

Piaget, J. (1960). Problèmes de la psycho-sociologie de l'enfance. In G. Gurvitch (Ed.), *Traité de sociologie* (vol. II, pp. 54-229). Paris: Presses Universitaires de France.

Piaget, J. (1976). Autobiographie. In G. Busino (Dir.), Les sciences sociales avec et après Jean Piaget. *Cahiers Vilfredo Pareto. Revue Européenne des Sciences Sociales, XIV*(38-39), 1-43.

Psaltis, C. (2005). *Social relations and cognitive development: The influence of conversation types and representations of gender.* Unpublished PhD thesis, University of Cambridge.

Psaltis, C., & Duveen, G. (2006). Social relations and cognitive development: The influence of conversation types and representations of gender. *European Journal of Social Psychology, 36,* 407-430.

Rabardel, P. (1999). Le langage comme instrument? Eléments pour une théorie instrumentale étendue. In Y. Clot (Ed.), *Avec Vygotsky* (pp. 241-265). Paris: La Dispute.

Resnick, L.B., Levine, J.M., & Teasley, S.D. (Eds.). (1991). *Perspectives on socially shared cognition.* Washington, DC, USA: American Psychological Association.

Rijsman, J. (2001). Partage et normes d'équité: Recherches sur le développement social de l'intelligence. In A.-N. Perret-Clermont & M. Nicolet (Eds.), *Interagir et connaître. Enjeux et régulations sociales dans le développement cognitif* (édition augmentée, pp. 123-137). Paris: L'Harmattan.

Rijsman, J.B. (2008). Social comparison as social construction. Theory and illustration. *Dossiers de Psychologie et Education, 63*.

Rochex, J.-Y. (1999). *Le sens de l'expérience scolaire.* Paris: Presses Universitaires de France.

Rogoff, B. (1998). Cognition as a collaborative process. In W. Damon (Ed.), *Handbook of child psychology* [5th ed., vol. 2, D. Kuhn & R. Siegler (Eds.), *Cognition, perception, and language*] (pp. 523-573). New-York: Wiley.

Rommetveit, R. (1976). On the architecture of intersubjectivity. In L.H. Strickland, K.J. Gergen, & F.J. Aboud (Eds.), *Social Psychology in Transition*. New York: Plenum Press.

Rommetveit, R. (1978). On piagetian cognitive operations, semantic competence, and message structure in adult-child communication. In I. Markova (Ed.), *The social context of language* (pp. 113-150). London: Wiley.

Säljö, R. (2003). Epilogue: From transfer to boundary-crossing. In T. Tuomi-Gröhn & Y. Engström (Eds.), *Between school and work: New perspectives on transfer and boundary-crossing* (pp. 311-321). Amsterdam: Pergamon.

Säljö, R., & Wyndhamn, J. (1993). Solving everyday problems in the formal setting: An empirical study of the school as context for thought. In S. Chaiklin & J. Lave (Eds.), *Understanding practice. Perspectives on activity and context* (pp. 327-342). Cambridge: Cambridge University Press.

Schaffer, H.R. (1977). *Studies in mother-infant interaction*. New York: Academic Press.

Schubauer-Leoni, M.-L. (1986). *Maître-élève-savoir: Analyse psychosociale du jeu et des enjeux de relation didactique.* Unpublished Doctoral dissertation. Faculté de Psychologie et des Sciences de l'Education, Université de Genève.

Schubauer-Leoni, M.-L., & Leutenegger, F. (2005). Une relecture des phénomènes transpositifs à la lumière de la didactique comparée. *Revue Suisse des Sciences de l'Education, 27*(3), 407-429.

Schubauer-Leoni, M.L., & Ntamakiliro, L. (1994). La construction de problèmes impossibles. *Revue des Sciences de l'Education*, *20*(1), 87-113.

Schubauer-Leoni, M.L., & Perret-Clermont, A.-N. (1997). Social interactions and mathematics learning. In T. Nunes & P. Bryant (Eds.), *Learning and teaching mathematics. An international perspective* (pp. 265-283). Hove: Psychology Press.

Schubauer-Leoni, M.L., Perret-Clermont, A.-N., & Grossen, M. (1992). The construction of adult child intersubjectivity in psychological research and school. In M. von Cranach, W. Doise, & G. Mugny (Eds.), *Social representations and the social bases of knowledge* (vol. 1, pp. 69-77). Bern: Hogrefe & Huber.

Schwarz, B.B., & Linchevski, L. (2007). The role of task design and argumentation in cognitive development during peer interaction: The case of proportional reasoning. *Learning and Instruction, 17*, 510-531.

Schwarz, B., Neuman, Y., & Biezuner, S. (2000). Two wrongs may make a right... if they argue together! *Cognition and Instruction, 18*(4), 461-494.

Schwarz, B., Perret-Clermont, A.N., Trognon, A., & Marro, P. (2008). Emergent learning in successive activities. Learning in interaction in a laboratory context. *Pragmatics and Cognition, 16*(1), 57-91.

Sensevy, G., Mercier, A., & Schubauer-Leoni, M.-L. (2000). Vers un modèle de l'action didactique du professeur à propos de la course à 20. *Recherches en Didactique des Mathématiques, 20*(3), 263-304.

Sokol, B.W., & Chandler, M.J. (2004). A bridge too far: On the relations between moral and secular reasoning. In J.I.M. Carpendale & U. Müller (Eds.), *Social interaction and the development of knowledge* (pp. 155-174). Mahwah, NJ: Lawrence Erlbaum.

Sorsana, C. (2003). Comment l'interaction coopérative rend-elle plus "savant"? Quelques réflexions concernant les conditions nécessaires au fonctionnement dialogique du conflit sociocognitif. *L'Orientation Scolaire et Professionnelle, 32*(3), 437-473.

Tomasello, M. (1999). *The cultural origins of human cognition*. Cambridge/London: Harvard University press.

Tudge, J., & Winterhoff, P. (1993). Can young children benefit from collaborative problem solving? Tracing the effects of partner competence and feedback. *Social Development, 2*(3), 242-259.

Valsiner, J. (1989). *Human development and culture: The social nature of personality and its study.* Massachusetts: Lexington Books.

Valsiner, J. (1998). *The guided mind: A sociogenetic approach to personality*. Cambridge, MA: Harvard University Press.

Valsiner, J. (2000). *Culture and human development.* London/Thousand Oaks: Sage.

Valsiner, J., & Connolly, K.J. (2003). The nature of development: The continuing dialogue of processes and outcomes. In J. Valsiner & K.J. Conolly (Eds.), *Handbook of developmental psychology* (pp. ix-xviii)*.* London/Thousand Oaks/New Delhi: Sage publications.

Valsiner, J., & Van der Veer, R. (2000). *The social mind: Construction of the idea*. New York: Cambridge University Press.

Vygotsky, L.S. (1930). Tool and symbol in child's development. In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), *L.S. Vygotsky, Mind in society. The development of higher psychological processes* (pp. 19-30). Cambridge, MA/London: Harvard University Press.

Vygotsky, L.S. (1997). *The collected works of L.S. Vygotsky* (vol. 4, edited by R.W. Rieber, M.J. Hall, trans.). New York: Plenum Press.

Vygotsky, L.S., & Luria, A. (1994). Tool and symbol in child development. In R. van der Veer & J. Valsiner (Eds.), *The Vygotsky reader* (pp. 99-174). Oxford: Blackwell.

Wegerif, R., Mercer, N., & Dawes, L. (1999). From social interaction to individual reasoning: An empirical investigation of a possible sociocultural model of cognitive development, *Learning and Instruction*, *9*, 493-516.

Wells, G. (1993). Intersoggettività e costruzione di conoscenze. In C. Pontecorvo (Ed.), *La condivisione della conoscenza* (pp. 353-379). Firenze: La Nuova Italia.

Winnicott, D.W. (1971/2001). *Playing and reality.* Philadelphia/Sussex: Routledge.

Zittoun, T. (2004a). Preapprenticeship as a transitional space. In A.-N. Perret-Clermont, C. Pontecorvo, L. Resnick, T. Zittoun, & B. Burge (Eds.), *Joining society: Social interaction and learning in adolescence and youth* (pp. 153-176). Cambridge/New York: Cambridge University Press.

Zittoun, T. (2004b). Symbolic competencies for developmental transitions: The case of the choice of first names. *Culture & Psychology, 10*(2), 161-171.

Zittoun, T. (2005). *Donner la vie, choisir un nom. Engendrements symboliques*. Paris: L'Harmattan.

Zittoun, T. (2006a). *Transitions. Development through symbolic resources*. Coll. Advances in Cultural Psychology: Constructing Development. Greenwich (CT): InfoAge.

Zittoun, T. (2006b). *Insertions. A quinze ans, entre échec et apprentissage*. Berne: Peter Lang.

Zittoun, T. (2006c). Difficult secularity: Talmud as symbolic resource. *Outlines. Critical Social Studies, 8*(2), 59-75.

Zittoun, T. (2007). Symbolic resources and responsibility in transitions. *Young. Nordic Journal of Youth Research, 15*(2), 193-211.

Zittoun, T., Gillespie, A., Cornish, F., & Psaltis, C. (2007). The metaphor of the triangle in theories of human development. *Human Development, 50*, 208-229.

Comment intégrer les progrès de la psychologie et de la psycho-logie du développement? Cet article théorique propose d'examiner quatre modèles utilisés dans la tradition post-piagétienne pour étudier le développement et l'apprentissage dans leur situation sociale: le triangle psychosocial, le cadre, l'idée de transfert ou de transition, et les modèles intégrant l'idée d'outil culturel. Nous montrons les dynamiques que les travaux utilisant ces modèles ont pu mettre en évidence. Nous discutons finalement les notions même de développement et de personne qui se dégagent de ces approches.

Tania Zittoun. Institut de Psychologie et Éducation, Faculté des Lettres et Sciences Humaines, Université de Neuchâtel, Louis Agassiz 1, CH-2000 Neuchâtel, Switzerland. E-mail: tania.zittoun@unine.ch

Current theme of research:

Tania Zittoun's work follows two interrelated lines: on the one hand, she examines learning and developmental processes as they can be apprehended through the study of ruptures and transitions in the life course. On the other hand, she is interested in the processes whereby people come to use the tools and artifacts offered by their social and cultural worlds as means to answer the demands of life situations. She is currently examining how adolescents can use philosophical and literary texts met through classroom interactions as symbolic resources during the transition out of secondary school.

Most relevant publications in the field of Psychology of Education:

Zittoun, T. (2006b). *Transitions. Development through symbolic resources.* Coll. Advances in Cultural Psychology: Constructing Development. Greenwich (CT): InfoAge.

Zittoun, T., Baucal, A. Cornish, F., & Gillespie, A. (2007). Collaborative research, knowledge and emergence. *Integrative Psychological and Behavioral Science, 41*(2), 208-217.

Zittoun, T., Gillespie, A., Cornish, F., & Psaltis, C. (2007). The metaphor of the triangle in theories of human development. *Human Development, 50,* 208-229.

Zittoun, T. (2008). Development through transitions. *European Journal of Psychology of Education, 23*(2), 165-181.

Anne-Nelly Perret-Clermont. Institut de Psychologie et Éducation, Faculté des Lettres et Sciences Humaines, Université de Neuchâtel, Louis Agassiz 1, CH-2000 Neuchâtel, Switzerland. E-mail: anne-nelly.perret-clermont@unine.ch

Current theme of research:

She has developed different lines of research concerning development in context. A special attention is given to the role of social interactions, artefacts and frames in dialogues that foster learning in school settings and vocational training. She revisited Piaget's biography in search of the role that social interactions and historical events played in his quest for an understanding of cognitive development.

Most relevant publications in the field of Psychology of Education:

Muller Mirza, N., & Perret-Clermont, A.-N. (Eds.). (2009). *Argumentation and Education.* Springer.

Tartas, V., & Perret-Clermont, A.-N. (2008). Socio-cognitive dynamics in dyadic interaction: How do you work together to solve Kohs cubes? *European Journal of Developmental Psychology 5*(5), 561-584.

Perret-Clermont, A.-N., & Barrelet, J.-M. (Eds.). (2008). *Jean Piaget and Neuchâtel. The learner and the scholar*. Hove and New York: Psychlogy Press.

Schwarz, B., Perret-Clermont, A.N., Trognon, A., & Marro, P. (2008). Emergent learning in successive activites. Learning interaction in laboratory context. *Pragmatics & Cognition 16*(1), 57-87.