

Relationships between revisited genetic psychology and the theory of social representations. A critical analysis.¹

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ABSTRACT

While many social psychologists have postulated the “disciplinary double-sidedness” of the relationship between developmental psychology and the theory of social representations, here I advance a different position. I suggest an explicit collaboration between the two research programmes, which correspond to two different disciplines, with their own methodologies and theories. Such research programmes evolve as time passes, by facing new problems or explaining the conditions that produce those problems. Hence, I first analyse the epistemological difficulties and problems of this collaboration, starting by exposing a history of the relationships around the study of social knowledge. I then analyse the links between developmental psychology and genetic social psychology, the latter a newer field. I go on to argue in favour of the compatibility between both research programmes, using a relational and dialectical epistemological framework that lies behind critical constructivism studies and the theory of social representations. Next, I identify some of the contributions of social representations to the study of the development of social knowledge among children and adolescents. I also emphasise the cognitive mechanisms analysed by genetic psychology in order to understand the ontogenesis of social representations, especially in the dialectical processes of

¹ The ideas presented here are a tribute to Gerard Duveen; he was the main driver of intellectual exchange between the theory of social representations and genetic psychology, by assuming a genetic perspective to study the appropriation of SR.

indifferentiation, differentiation and integration, or relativisation, which originated in the posthumous work of Piaget. Finally, I examine the possibilities for collaboration between the two research programmes, including integrating personal knowledge to the concept of cognitive polyphasia, and reassessing the difficulties for said collaboration.

Moscovici (1990) first contributed to the analysis of social representations (SR), by postulating that developmental psychology and the theory of SRs are two sides of the same discipline. On the one hand, he established that SRs derive from social interaction and explained why it is impossible to shed light on them from the standpoint of individual psychology; on the other hand, he linked social beliefs to individual experience, going against the line of thought that dissociates individual from society. However, he did not specifically address the process of SRs appropriation, probably due to the emphasis placed on differentiating them from individual representations that have been the object of study of cognitive psychology. Perhaps this emphasis has influenced the lack of empirical research on the study of SR' ontogenesis. However, for Moscovici, such analysis lies beyond the scope of social psychology, being the object of study of developmental psychology.

Duveen noted that "If the problem for developmentalists is, then, to understand how children develop as social actors, many times social psychologists also forget, and to their own detriment, that every social actor has a developmental history whose influence cannot be denied" (Duveen, 1994, p. 262; author's translation) The challenge for social psychologists is to assume a genetic approach for the study of SR, and for developmental psychologists the challenge is to explain how children become social actors. In other words, both disciplines study the same phenomena, but the first does so from a positional or collective analysis stance, while the latter adopts a perspective centered on intraindividual psychological processes (Doise, 1986).

In summary, my aim is to justify from an empirical and metatheoretical point of view, the multidisciplinary collaboration between social representations theory (hereinafter SRT) and genetic psychology (hereinafter GP), in its "revisited" or critical version, which modifies some core theories of the Piagetian's programme, developed by my research team (Castorina, 2010).

Unlike those who maintain the "double side of a single discipline", we prefer an explicit collaboration of two research programmes corresponding to two different disciplines, with their own methodologies and theories. These programmes are transformed throughout their historical

unfolding, when encountering new problems or explaining the context in which they are produced. Therefore, it is important to analyse, firstly, the difficulties and challenges entailed by epistemically relating the SRT and the GP, starting with a history of relations arising in connection with researches on social knowledge. Secondly, I will argue in favour of epistemic compatibility between the two research programmes, appealing to a common epistemic framework; thirdly, I put forward some of the SRT contributions for the study of cognitive development. Subsequently, we put a special emphasis on the contribution of cognitive mechanisms analysed by genetic psychology to understand the ontogenesis of SR. Finally, we examine the prospect of collaboration between the programmes (Barreiro and Castorina, 2012).

TSR AND GP IN LIGHT OF THE DEVELOPMENT OF SOCIAL IDEAS

During the last decade of the previous century, SRT psychologists discussed its epistemic relation with developmental psychology, particularly the Piagetian version, which we are going to address here. Developmental psychology, to which Duveen and Rose (1992), Emler (1993) and Wagner (1992) referred, was the traditional version of the genetic psychology, engaged in a primarily descriptive reconstruction of the shaping of children's ideas about society, developed by individuals without the intervention of neither culture nor social practices (Castorina, 2005).

Social representations differ in significant aspects from strictly conceptual knowledge and from representations studied by genetic psychologists, as they are devised through communication; therefore, they exist within a structure of meaning-making associative links. Above all, SR are inherently evaluative and shaped through social discourse, not limited by the argumentative logic of concepts. In short, its focus lies in the world of values alongside with to the world of facts, which introduces a difficulty in the interpretation of intellectual development: values cannot be organised in the logical sequence that could be given, precisely, by the structure of a research conducted within developmental psychology. Hence, assessments of these behaviours in children cannot be simply located in a linear sequence that goes from a "pre-logical" thought to a "logical" thought, or centring on partial aspects of the object towards its subsequent systematic thinking.

There are significant differences from traditional GP, which focuses on the process of individual construction regarding notions of authority, democracy or economic life, expressing an orderly sequence ranging from the personal to the impersonal, from self-centeredness to

conceptual systematicity. Social psychology studies have a clearly different orientation from the linear development perspective, which considers stages and prioritizes a certain teleology (Barreiro and Castorina, 2012).

Classic comparisons between research programmes led either to the epistemological thesis of some convergence between both, in Duveen's works (1997); or to Wagner's incommensurability hypothesis (1992), analogous to Kuhn's theory; or to incompatibility (Emler et. al, 1993). While it has been held that the hypothesis of one comparison is contradictory to those of the other, they are all responses to problems at a meta-theoretical level since they analyse those programmes' structures and look for reasons that justify any of the abovementioned positions.

Now, research over the past decade in the two research programmes, and more specifically a change of direction within the GP itself, leads us to question ourselves about the relationship between GP and TSR. As many times before in science history, in order to understand the construction process of social notions within the GP, we undertake the challenge posed by the social conditions of knowledge or the conceptual, and not merely structural, character of children's reasoning (Castorina & Lenzi , 2000). As I have shown elsewhere, we have modified the GP programme's core, mainly affirming children's engagement in social practices, with their associated meanings. Thus, the institutions and representations of a culture exert the double function of enabling and, at the same time, hindering knowledge processes. By stressing the intervention of social restrictions on the formation of knowledge we modify Piagetian premises about the relationship between individual knowledge and society (Castorina, 2010).

Considering this revised GP perspective, it is possible to reject incompatibility and incommensurability, related to the most classic discussions between both research programmes, characterised by a philosophical vision that sharply separates the study of individuals' conceptual knowledge from the study of their social involvement. In this way, I argue in favour of the compatibility between the two research programmes. To justify this thesis, I point to a relational or dialectical epistemological framework that underlies the investigations (Leman & Duveen, 1999; Castorina, 2008); a theory of unity in the differences that presides over, both the conceptual constructions research and the constitution of SRs (Castorina, 2005). In proposing compatibility between the SRT and GP, in its "critical" Piagetian version, similarities and differences are established in regard to the Genetic Social Psychology proposal (Psaltis & Zapiti, 2014)

GENETIC SOCIAL PSYCHOLOGY

This discipline aims to establish a convergence between Piagetian (and Vygotskian) theory and what Duveen denominated social psychology, having Doise's social psychology of cognitive development as a precursor, and being thought in a dialogue with Piaget and Moscovici. Fundamentally, it is based on these authors' reasoning similarities, considering it as a particular form of developmental social psychology. According to Psaltis and Zapiti (2014), Moscovici used this term to emphasize the influential processes that arise when people communicate, where SR are modified and structured through communicative exchanges. Therefore, genetic social psychology modifies the unit of analysis in the study of cognitive development: it goes from the epistemic subject to the social subject, because it moves from the abstract study of the subject's structural knowledge to a subject that builds knowledge in a context of asymmetric interactions. Particularly, Duveen (1997) has shown that the child's epistemic life involves a world of social representations, which circumscribes the development of knowledge. Moscovici proposes that the subject of knowledge is not only epistemic (2013), and that both the psychological subject and the social subject must be acknowledged. In Genetic Social Psychology the epistemic subject does not disappear: for example, gender social representations do not exhaust boys and girls categorizations. To get to know an object, we must acknowledge that such object is already known and has been given significance by a socio cultural context, where the SR structures the knowable and thinkable within a historic time. To know society, we must recognise the valorisation and the SR mediation between the psychological subject and the epistemic subject. Thus, for example, SR of gender are built in the interactions between the epistemic subject and the cultural system of values (Duveen, 1993), hence Duveen's *social psychological subject*, resulting from social identities, beyond the psychological subject and the epistemic subject.

The proposition of a Genetic Social Psychology made by Psaltis and Zapiti (2014), aims to reconcile the fragmentation in the study of development, derived from the juxtaposition of Piaget's and Vygotsky's theories, trying to incorporate them into the perspective of SRT. In both classic works, the interplay between the SRs and social identities is lacking, particularly in the case of Piaget: his view on social knowledge did not allow him to think of social interaction as a formative influence in the construction of knowledge. In contrast, Genetic Social Psychology,

through the study of communication and social interactions, seeks to prove that microgenesis is the engine for the ontogenesis and sociogenesis of SR. Moreover, this new perspective goes on to state that any developmental and learning theory must be preceded by the study of the microgenesis of new knowledge as SR, in interaction and communication.

The claim that Genetic Social Psychology does not differ from developmental psychology, or that the latter always implies the former, is debatable. While introducing the SR can reformulate GP itself when studying children's social ideas, it is not acceptable to claim that "the operating Piagetian structures, as Duveen states (1997) and following Moscovici (1989/2000) could actually be understood as social representations" (Psaltis and Zapiti, 2014, p.38). Whilst the operating structures or the conceptual systems of social domains we study are a part of culture (understood as an organised whole of representations in a community [Duveen, 2007]) they are not strictly SRs. Operating structures do organise the world from perspective of the group; they are characterized by their consistency in the arguments, they are not inherently evaluative; they are transformed during their development, appealing to strictly speaking cognitive processes (reflective abstraction, conception of possible events, systems equilibration, etc.) Moreover, in "critical" GP, SRs act as context and simultaneously provide resources for the processes of equilibration and the emergence of new concepts and structures. In acknowledging this, however, I do not infer that these processes are SRs.

I agree with the convergence proposed by Duveen (1997), of Piagetian constructivism with SRT, when reworking Piaget's constructivism within social constructivism. In my view, however, this convergence implies the specificity of disciplines; and from my perspective as cognitive development psychologist, based on research, the focus is on the collaboration with the SRT. I prefer to keep the disciplines' relative autonomy and their research collaboration, which can, precisely, transform them. Based on the common epistemic framework -general and restricted- which I will address later, I will proceed to examine the relationships between the studies of Duveen and his disciples (Zittoum, Cornish, Gillespie & Psaltis, 2007) and those of our team on social knowledge, carried out from the "critical" GP perspective.

Therefore, I prefer to maintain Genetic Social Psychology, which is a TSR perspective, and Genetic Psychology as different and compatible: while the first studies how social interactions constitute the development of knowledge, the second studies how the subject-object interaction, shaper of knowledge, is mediated by the SRs and the social practices with the object.

THE DEFENCE OF COMPATIBILITY BETWEEN PROGRAMMES

The work of Moscovici (1984) and Jodelet (1996), Duveen (2001), Marková (2003) or Jovchelovitch (2006), have placed SRT within a framework of ontological and epistemological assumptions, that we call epistemic framework (EF) or relational metatheory: an interconnected set of principles underlying psychological research that describe and prescribe what is significant and what is not, what is acceptable and unacceptable, central or peripheral in a scientific discipline. In other words, the EF defines the context in which theoretical concepts and methodological precepts are constructed; it is the source of consistency and coherence of theories because it establishes the most basic categories and constructs of the field. This framework is characterised by its rejection of any ontological dualism between individual and society, as in the case of cognitive psychology or Durkheim's sociology, or the epistemological dualism between subject and object, and its legacy which dichotomised theory and experience in positivism. Clearly, it has been shown that the symbolic production of SR occurs in social interrelations; they emerge in a dialogical action and communication system.

In the case of social knowledge, Leman and Duveen (1996) have articulated the social and individual components that the divisive epistemic framework had dissociated: gender identities "restricted" the development of moral ideas since they provided the code to handle interactions between subjects faced with a moral issue and directed the individual arguments of the situation. Even in the ontogenesis of gender identities' appropriation there is an influence of the development of individual skills, that is, the social representation that predates babies is not simply internalised nor absorbed by them. There is an individual activity of knowledge and renegotiation of collective meanings' (Lloyd & Duveen, 1992; Duveen & Lloyd, 2003).

Having said that, GP of social knowledge finds itself within the relational EF, enabling a dialogue with the SRT by providing a place for the SR in their explanations; opposing the incompatibility or incommensurability thesis. That is, it involves an ontology where each element of the experience with the world only exists thanks to its constitutive connection with its counterpart and within a transformation dynamics: the intersubjective with the subjective, and vice versa; similarly, the organism with respect to the environment; nature to culture; or individual to

society. Paraphrasing Hegel, the "real is relational" in the sense that everything that exists in the social world, including the psychosocial world, are relationships.

The relational EF guided Piaget's work (as that of Vygotsky) (Castorina & Baquero, 2008), basing its constructivism on the constitutive interactions between subject and object, breaking with the epistemological dualism, by studying the construction of mathematical logical thinking. His units of analysis were the bipolar relationships between the scheme and the observable, or assimilation and accommodation. And such perspective led to the attribution of dynamic interrelationships to the psychological development, which will be specific to its systemic explanations. He even drew away from individualism by proposing an inseparable relationship between individual knowledge and forms of social interaction, whether by constriction or cooperation.

Incompatibilities or fundamental contradictions dissolve because such traditional dichotomies in psychology can be treated as co-equals, and if they are, then the issue of privilege disappears. In Duveen, we do not find dissociation between cognitive development (from a Piagetian perspective) and sociocultural (following Moscovici's approach) studies, as Marková has stated: "Duveen's studies on child development are mainly influenced by Piaget's epistemology whereas his sociocultural studies owe a great deal to Moscovici" (Markova, 2010, p.4.1). I agree with Psaltis and Zapita (2014) in that such lines of research depend on the relational EF without using radically different epistemologies for each of them.

All in all, to analyze Duveen's project more consistently, it becomes necessary to review the Piagetian constructivism, as in any scientific practice, to overcome its difficulties and make it converge with SRT: introducing concepts, in addition to operational structures in order to study social knowledge; giving relevance to the social practices in which subjects engage, including SR intervention. In this regard, Jovchelovich and Wagoner (2013) tell us that beyond Piaget, it is indispensable to show that knowing an object implies that it is already known and signified by a socio-cultural context. I adopt the same thesis, already acknowledged in a late work by Piaget and Garcia (1982), *Psychogenesis and the History of Science*, which is not usually read by psychologists. That is, the thesis that all objects that are to be known are pre-signified by social representations or ideologies pre-existing in subjects and conditioning their knowledge potential. Cognitive activity does not assimilate pure objects, but rather objects situated in social representations and worldviews.

Moreover, there is not only a relational EF guiding psychological research, in a broader sense, but also another related metatheory of a more restricted sense is put forward, shared by our version of GP and SRT. Moscovici (1961) has shown that symbolic production takes place in the interrelationships between the individual subject, the other and the object-world, so that a social representation emerges within an action and dialogic communication system. As is known, the object is jointly produced by the Ego and the Alter, so that this way of thinking makes of Triangularity an epistemological line underlying the psychological theory of SR itself. Thus, an object is jointly produced by the Ego and the Alter through their communicative interaction. Social representations are placed within a triangle, where Ego and Alter are treated as complementary, which determines their relationship toward the Object (Marková, 2003).

In GP, the very nature of the objects of my inquiry and showed the inadequacy of classical GP and led me to social practices and their social meanings. In GP a triadic epistemic perspective is also established for intellectual development by modifying the study of individual social knowledge. It is hypothesized that the construction of social notions such as work, justice, politics, punishment or privacy, are made possible and constrained by the identity positionings related to the social representations of a community. Accordingly, in the studies of individual construction of social ideas within individual interactions, triangularity is given between subject-object and SR. While in such cases the research focus is on the relationship between subject and object of knowledge, it is considered that their interactions are mediated by SR. Consequently, the epistemic subject of the classic Piagetian tradition is reformulated as a psychosocial subject, so that asymmetries between subject and other, expressed in collective beliefs, play a constructive role.

It is not my goal to retrieve aspects of Piaget's thinking to link it to Genetic Social Psychology, but to transform the core of his programme, to move forward in social knowledge studies. Social practices are constituent of the subjects' cognitive activity itself, for they restrict individuals' construction of social knowledge; they are not external or simply associated to them: they make their very existence possible. The objects of the social world are built throughout the practices of individuals. Hence, without them there is no social thinking, and, in turn, they restrict what's thinkable about society (Castorina, 2010). So, an essential "tension" between the constructive activity's pole and its limiting conditions is outlined, since they cannot be conceived independently.

In this sense, "critical" GP points out that social practices are regarded as inseparable from the meanings of the group to which they belong, of social representations, as the former are concurrent with pre-existing collective beliefs. Thus, the originality of this type of psychological research lies in this particular connection between social practices and beliefs with conceptual construction processes of individuals. In this way, the unit of analysis changes within GP itself, by investigating the relationships between the construction of concepts, its context of practice and SR.

Hence, critical GP studies admit the notion of cognitive polyphasia (Castorina, Barreiro & Carreño, 2010), since the concepts and modifications that identified coexist and interact with other forms of knowledge that do not present stages or levels throughout their development (in the sense of a transformation from lower to higher legitimacy), such as in the case of SR. Moreover, we dismiss the idea of a unique process of knowledge development marching towards greater consistency stages as Piaget (1975/1990) postulated in several of his works. On the contrary, I advocate a concurrent relationship between the different situations and ways of thinking, without, necessarily, the mediation of an evolutionary line among them. Since children live in everyday spaces, there is no reason to expect that within historical development a certain way of thinking, for instance the scientific one, becomes the ultimate aim to be achieved through their knowledge (Barreiro & Castorina, 2012).

THE INTERVENTION OF SOCIAL REPRESENTATIONS IN THE PSYCHOGENESIS OF STRUCTURES AND SOCIAL CONCEPTS

Firstly, it's worth noting the notion of context operability, a central metaphor of Genetic Social Psychology, also accepted by "critical" Genetic Psychology: operative structures are no longer understood as purely abstract forms, but achieving its psychological reality when the thought occurs in a particular context. Intellectual operations emerge only within a certain context, as shown by post-Piagetian, Third Generation studies, focused on locating the subject-other-object configurations within their social context (Zittoun, Gillespie, Cornish & Psaltis, 2007). These inquiries about the influence of social interactions and peer asymmetries in knowledge development have come to be known as Developmental Psychology studies (Psaltis & Duveen, 2006; Psaltis & Duveen, 2007; Psaltis et al, 2009). It becomes clear that SR are involved in the

investigation of cognitive development. At the same time, these studies have shown that individuals' constructive activities are, in turn, conditions for the intervention of SR in experiences of Piagetian order (Leman & Duveen, 1999).

Secondly, Leman and Duveen's (1999) studies have established that gender identities provide a code for subjects to handle interactions dealing with a moral issue, giving direction to the moral argument. In particular, they described the interplay between status authority, as resulting from SR of gender, and epistemic authority, resulting from the higher rationality of arguments based on reciprocity and mutual respect.

Furthermore, Zittoun and collaborators (2003) reinterpreted peer interaction studies regarding moral judgment, identifying argument styles –conceived as symbolic resources- used by children when responding to problems set-up by researchers. SR do not operate within an individual who has to undertake a course of action on his/her own, but rather in microgenetic peer interaction and asymmetry situations.

Again, we go from the GP epistemic subject to a psychosocial subject, who engages in triadic relationships, where asymmetries play a constructive role. Similarly, those triadic relations are valid for conceptual social knowledge, linked to the domain of social interactions with an object (historical, political or school authority knowledge).

Moreover, the psychogenetic research reveals a significant dissatisfaction with an explanation of knowledge exclusively in terms of individual conceptualisation: the persistent "personalisation" in the characterisation of political authority and historical phenomena is against a thesis of progressive construction thinking. Thus, children and adolescents tend to consider that the presidential authority concentrates power, that it is responsible for doing good, and that its scope has no restrictions, except for the moral ones (Lenzi & Castorina, 2000); or the belief, amply diffused in historical knowledge, that the nation has existed since the emergence of humankind, or even before.

Such "personalisation" and the conception of the "substantialised nation" in the historical thinking of subjects, remain beyond conceptual changes, resisting argumentative modification. The characteristics of responses - throughout development itself and even in the classroom- indicate features that are irreducible to conceptual systems. There are empirical indicators of the validity of knowledge linked to family life, anchored in social memory, a set of beliefs about a naturalized society: that the president should be inherently "benevolent", with strong moral and

personalised character, which is also present in the interpretation of history. We are faced with coexistence and intertwining between individually developed concepts, and the collective beliefs that are appropriated by subjects, a cognitive polyphasia. In summary, recent investigations in GP seem to suggest that SRs' intervene in the shaping of notions (Castorina, 2008; Barreiro & Castorina, 2009). Here it is pertinent to clarify our viewpoint, related to "revised" GP: while social psychologists consider a polyphasia between science and common sense, or between scientific and religious knowledge (involving an interaction between the individual and the collective), I include properly individual constructions about the social world. Different from SRT, I consider these constructions (that take place at the level of the individual but in a context of social practices) alongside SR and subject knowledge (transpositions of scientific knowledge). The interaction between those knowledges is very important for the study of conceptual change processes (Castorina, Barreiro & Carreño, 2010).

COGNITIVE PROCESSES IN THE GENESIS OF SOCIAL REPRESENTATIONS

The ontogenesis of SR implies psychological processes traditionally studied by developmental psychology, as shown in Lloyd and Duveen's (1990) research on the ontogenesis of SR of gender, appealing to the formation of semiotic systems in children. In this sense, the process of appropriation of SR by the individuals needs to be studied in the context of multidisciplinary collaboration.

At this point, I would like to retrieve another of the few research studies specifically dedicated to the study of the ontogenesis of SR, conducted by Barreiro (2013b), which identifies personal reconstructive activity in the ontogenesis process of SR related to justice. Unlike the study carried out by Lloyd and Duveen (1990), this research is conducted at the level of analysis of individual psychological development, taking into account that this phenomenon depends on the individuals' social position, and suggesting an articulation between different levels of analysis within social psychology (Doise, 1986).

Above all, Barreiro (2013a) emphasises that the notion of justice does not have a univocal meaning, or that a particular philosophical theory is more advanced than others. Therefore, different ways of understanding justice coexist according with different ideologies and social interests (e.g., socialism, feminism and liberalism). Despite the plurality of possible meanings,

both people living in Buenos Aires and Argentina's most widely read newspaper represent justice hegemonically (Moscovici, 1988), in a retributive manner (Barreiro et al 2014). In this way, justice is mentioned in a primarily institutional sense with a negative connotation, demanding tougher sanctions to fight the rising crime rates that leave the community in a permanent situation of so-called "insecurity". Similarly, youth associate the term "justice" with laws, punishment, crime, judges and impunity (Barreiro et al, 2014).

Therefore, to further investigate the ontogenesis of such SR of justice, Barreiro (2013a) conducted an evolutionary study by interviewing boys and girls and teenagers in Buenos Aires, of different socioeconomic status. Thus, the children's narratives revealed the existence of three basic representations of justice: retributive, utilitarian and distributive. The utilitarian representation of justice is present throughout all age groups, the retributive representation increases with age and the distributive representation has a low frequency in all of the age groups vis-à-vis the other two representations. The retributive representation refers to justice in terms of punishment or compensation proportional to the actions carried out. In the utilitarian representation, justice is understood in terms of "bringing happiness to people", where "good" is a synonym for happiness. In the distributive representation justice is a form of distribution based on norms equally applied to everyone implicated in a situations related, without favouritism or preference.

In this research, dialectics is considered part of the constructive mechanism, and in this sense, it is used to analyse the ontogenesis process of SR. Although such category has led to very different interpretations in the history of philosophical thinking, it acquires a specific bias in Piaget's last work (1980), who referred to the constructive process of the emergence of novelties in the systems of logical thinking. New meanings assume that the pre-existing are included in the new ones shaped by this movement, that is to say, the latter contain meanings that did not exist previously. Thus, a spiral process of development of meanings takes place. The natural contradictions that occur when the subject is facing problems that he/she is not able to solve yet constitute a relative starting point, which expresses moments of considerable instability in the development of concepts and structures. However, such conflicts are not solved on their own, but require a mechanism that includes an inferential process among meanings and that leads to the construction of novelties.

It is a non-deductive inference from a conceptual system to another more advanced one, which is irreducible to the first, or to a conclusion from premises where it is not included. Thus, dialectics is considered by Piaget as the inferential aspect in the equilibration of cognitive systems.

A crucial inference for the development of new meanings is the articulation of components or systems that had previously been separated or that were independent from one another. Thus, in a subtraction and addition experience among sets of game pieces, addition and subtraction are independent operations; later on, children understand that when making an addition, the latter is relative to the subtraction, one includes the other, and that $+n$ and $-n$ are simultaneous. Something along the lines of a "unity of opposites" takes place, for two conflicting operations refer to one another and are concertedly executed to obtain the result.

Furthermore, through relativisation, a characteristic previously considered by the subject as absolute or isolated from others, starts being regarded as part of a system of interdependencies. During the cognitive development process of appropriation of SR of justice SR, these basic representations are integrated, thereby consolidating an articulation-independence dialectical movement. At the same time, this movement produces four different representations: utilitarian representation in a situation of distribution; distributive representation in a situation of retribution; utilitarian representation in a situation of retribution; utilitarian representation in a situation of retributive distribution (Barreiro, 2013a). Thus, by integrating itself with the utilitarian representation, the retributive representation becomes the most frequent in the 10 to 17 years old age group. For most of the adolescents participating in this study, justice is that which allows all people to live happily and punishment is the method to achieve this.

Regarding conceptual relativisation, meanings of justice are defined by their relationships with the remaining elements of the system to which they are integrated (Barreiro & Castorina, submitted). In this case, both retributive and distributive justice become a means of utilitarian justice, that is to say, they turn into a strategy to achieve happiness for the largest amount of people. Thus, the construction of new meanings around justice as an object of representation provides a dynamics that leads people to reach a wider and more abstract understanding of SR of justice according to their social group to which they belong.

Therefore, the ontogenesis of social representations of justice described by Barreiro (2013a) entails a process of meaning construction that expresses the emergence of a new way of representing justice, including and outgrowing the three basic representations (utilitarian,

retributive and distributive). As mentioned before, the most complex representations provide not only a definition of justice (e.g. justice is for people to live happily), but also a means to achieve it (e.g. administering punishments or rewards according to personal merits).

Nevertheless, the fact that none of the representations of justice is abandoned during their development indicates a strong continuity of collective meanings throughout individual conceptualization processes. Furthermore, the construction of integrated meanings can be considered as the result of a genuine inference, which ranges, for example, from the representations of isolated utilitarian and retributive justice to a new representational unit that includes them, outgrowing them.

This dialectic in the ontogenesis of representations of justice is simultaneous to cognitive decentering, allowing subjects to incorporate different social and personal perspectives in their representations. Thus, the increasing complexity in the moral domain, as in other areas of social thinking, allows the movement from the concrete within personal experience to the more abstract inherent to reflection on aspects of a social system (Castorina & Lenzi, 2000; Barreiro, 2013a; 2013b). This cognitive process is accomplished during the ontogenesis of SR, allowing children to rebuild them through their intellectual activity.

In short, the conceptualisation process in the ontogenesis of SR of justice implies the construction of novelties within the context of collective (SR themselves) and cognitive (possibilities reached by subjects according to their own development) restrictions. These condition and restrict the construction of specific meanings about the social object and other possible meanings. However, novelties would only be so for individual actors of the ontogenesis, not for their group to which they belong, in which SR are already embedded.

In Barreiro's research, as in Duveen's study on the ontogenesis of SR, which is not considered here, GP has been able to elaborate on that psychological process. Certainly, the psychology of SR has not explicitly tackled, except for Duveen, individual psychological processes. However, the legitimate question about the individual appropriation of SR, which entails the construction of social identity from birth, suggests that SRT needs developmental psychology. In any case, a very interesting situation arises because it calls for a reflection about the conditions under which these two disciplines can work together to address, from different perspectives, a common theme.

I would like to stress the fact that individual appropriation of SR or the process by which individuals develop their identity and the structure the social world from birth, requires turning to

developmental psychology. Mainly, because the psychology of SR has not dealt with individual psychological mechanisms, due to the way it has set out its problems. In other words, we must further inquire about which of the major schools of developmental psychology, and to which of its methodological or conceptual aspects, we can resort. Here I have made the case for it to be "critical" GP.

COLLABORATION BETWEEN DISCIPLINES

As derived from above, both research programmes are compatible. On the one hand, SR have become restrictive conditions to study the processes of individual construction of social notion, as shown by several studies and suggested by others (Castorina, 2010; Psaltis et al, 2009). On the other hand, "critical" GP is a tool to advance our understanding of the ontogenesis of SR. This is the case because they share the same relational epistemic framework, a worldview that guides the formulation of units of analysis, as a dialectics is set forth (in the Hegelian or Marxist sense) among the components of the processes under investigation, given the dialectic interaction of the terms involved. In the case of developmental psychology, between the individual and the object of knowledge mediated by SR. In the case of SRT, the individual and society; the triad of subject, subject, alter and object (Castorina, 2014).

GP has contributed towards dialectical inferences that correspond to the change in meanings in the ontogenesis of SR of justice. In Barreiro's research (2013a) it was shown that different representations are integrated in the subjects' narratives, articulating meaning fields and reaching an understanding where retribution is subsumed to utilitarianism, as a means to an end. Thus, the two meanings, previously dissociated, become relative to one another. In sum, the study of these processes allows approaching a kind of cognitive activity involved in the processes of psychological activation of SR (Duveen & Lloyd, 1990). Nonetheless, future research should further study other cognitive mechanisms potentially involved, such as abstraction, generalisation, thematisation, or thinking through analogies.

Some of the conclusions of this paper, perhaps biased due to me being a developmental psychologist, are:

It is justified to understand SR as mediators of the social knowledge interactions between subject and object. Thus, I suggest a transformation of GP by challenging the thesis of a single

linear and universal knowledge development, particularly when studying the knowledge of subjects in everyday contexts, with the restrictions set by social practices and SR. Moreover, in considering the construction of structures and concepts, developmental psychologists must assume cognitive polyphasia between conceptual knowledge and SR, following the approach previously presented here.

The assertion that revising GP allows conferring power and communication asymmetries a role in the understanding of acquisition of social notions, as maintained by researchers within Genetic Social Psychology.

It was possible to identify the intervention of dialectical inferences in the ontogenesis of SR, confirming the interplay of individual and social processes, as postulated by both SRT and critical GP.

Rejection of the thesis that the structures and concepts acquired by children are SR, although they are forms of the culture in which individuals live, "the meanings that are awaiting them", which are pre-existing, and that they are argumentation systems that do not express positions of social groups in the face of cultural fissures.

SRT should assume that cognitive polyphasia does not only include coexistence and interaction between scientific ideas and common sense SR, but also with concepts or operational structures elaborated by individuals. Sometimes SRT suggests that individual knowledge is acquired in a uniform immediate way, without too many interactions and efforts. By contrast, GP researches show an extended intellectual effort and a reorganisation of ideas, which is essential for the internationalisation of SR. In this sense, SRT would benefit from the explicit acceptance of the advances in critical GP research.

The identity of the programmes of SRT and revised GP can be kept, instead of subsuming the latter into Genetic Social Psychology, maintaining their own theoretical and methodological perspective. It is expected that multidisciplinary studies can introduce significant changes to these programmes, especially to the ontogenesis of SR and the individual construction of concepts about social phenomena.

The arguments based on updates of empirical research and on the reflection made explicit by the relational epistemic framework, derive from the hard core of GP and SRT's research programmes, generate new questions about the difficulties that arise when trying to link developmental psychology (in this case critical GP) with SRT. They call for work to overcome

two epistemological obstacles that keep arising. First, the separation between individual and society, or between representation and practice, that re-emerges in social sciences. Second, the belief that one can study novel phenomena, in this case, the subjectivation of SR or SRs' intervention on individual development, simply recycling a programme's concepts and methods, without revising it. Ultimately, it does not simply come down to a dialogue between social and developmental psychologists, but to a genuine, well-founded, partnership amongst research programmes that find themselves modified throughout their historical unfolding, in the construction of problems and hypotheses (Leman, 2011).

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