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Double stimulation “in the wild”: Services for families with children at risk

Abstract

The concept of double stimulation provides a framework for understanding the promotion of volitional action. In this article the concept is applied “in the wild”, to analyse professional practice in parenting services for parents with young children at risk. We answer questions about (i) how concepts of double stimulation account for features of professional–parent interactions and what new insights are offered by this, and (ii) how double stimulation in the wild relates to the processes specified in a recently articulated model of double stimulation, and wider concepts of expansive learning. Examples of interactions between a professional (nurse) and a new mother illustrate how an absence of auxiliary stimuli may trap parents in conflicted situations. We found that in promoting double stimulation, professionals work simultaneously in two dialectically related fields: getting the parent to act using new auxiliary stimuli and getting them to think differently about the object. Such work may unfold in non-linear and discontinuous fashion and places complex demands on professionals.

Keywords

Double stimulation; cultural-historical theory; early intervention; parenting; agency; volition

1. Introduction

The concept of double stimulation has a continuing presence in contemporary cultural-historical theory (Sannino 2015b). Contexts where there is no research intervention or experimental set-up have been referred to as “everyday work” or “wild” (Engeström & Sannino, 2012; Hutchins, 1995). The potential of double simulation in professional practices “in the wild” is promising (see Portes, Smith, Zady, & Del Castillo, 1997; Engeström, Kajamaa, & Nummijoki, 2015; Thorne, 2015), but yet to be fully explored.

The term ‘double stimulation’ refers to a range of phenomena. While these share a common conceptual basis, they manifest in different practical and theoretical arenas, and so some clarification is useful here at the outset. Double stimulation can refer to everyday practices used by people in everyday life to undertake difficult actions (Vygotsky, 1960/1997a-d). For example a knot in a handkerchief can resolve the conflict between remembering and forgetting. Counting to oneself can help spur people into action when jumping into cold water is conflicted with the motive to stay warm, and alarm clocks can assist the tired person to get out of bed. Here, knots, counting and clocks are culturally available artefacts used to gain control i.e. to accomplish volitional action. Sannino (2015c) refers in such situations to the ‘principle’ of double stimulation: the way in which human behaviour is regulated, with specific connection to volition as a characteristic of higher mental function.

Double stimulation has also been used as an experimental *method* to trace the structure of higher mental processes (van der Veer, 2008). A well-known example of this usage involves the ‘waiting experiment’ in which subjects are brought to a room and asked to wait until someone comes to fetch them. The conflict between staying (conforming to the request to wait) and leaving (putting an end to a seemingly useless activity) arises. A clock on the wall can enable subjects to break out of this dilemma, by deciding to leave at a particular time. This example forms the basis of Sannino’s (2015a; Sannino & Laitinen, 2015) recent work, and further details are given below (see Table 1). The aim in this kind of work is to elucidate psychological function by observing how subjects use tools to resolve conflicted situations.

Different again, though resting on the same conceptual foundation, is the use of double stimulation as a basis for formative intervention. Prominent in this guise is work based on the Change Laboratory (Engeström, 2007; Penuel, 2014; Sannino, Engeström & Lemos, 2016). The Change Laboratory is a process through which tools are provided by researchers (including concepts and representations of activity systems) to change the way people work on a problem. Here double stimulation is used as the basis for efforts that resolve ongoing contradictions at a systemic level, linking to the activity theoretical concept of expansive learning (see also Haapsaari & Kerusuo, 2015).

In this paper our focus is on a further, distinctive notion of double stimulation. We argue double stimulation can function *as the means to promote volitional action* in services where professionals support parents with young children at risk. In other words, we are interested in how double

stimulation is used by professionals to help parents gain control in situations where this control is lacking. This does not deviate from the notion of *principle* associated with everyday practices discussed above, which is indeed upheld in our analysis. We use the term ‘means’ simply to emphasise that this is not purely a principle in the ideal (abstract) sense, but is very much concrete, material and embodied in its accomplishment.

This paper draws on observation data from services for parents with young children at risk. The focus is on a home visiting service in Sydney, Australia, to which parents are referred through a general practitioner, community nurse, or other health professional. Home visiting services (also referred to as health visiting or outreach) are a common form of contact between professionals and families with young children. Universal home visiting services involve one or more visits to all (known) mothers close to the time of birth. These assist in identifying families needing additional support due to the presence of one or more risk factors (NSW Health, 2011). The home visiting services studied provided help of this additional kind and involved three or more visits by a nurse to a family’s home. Visits usually lasted one to two hours, and might be one or more weeks apart.

Prior studies of parenting intervention services have shown how questions of motive and conflict are highly pertinent (Hopwood, 2016a, 2016b; Hopwood & Clerke, 2016; Hopwood, Day, & Edwards, 2016; Clerke, Hopwood, Chavasse, et al., in press). Parents are referred for specialist help for a number of reasons, including infants’ sleep behaviours, feeding and nutrition, and aggression in toddlers. These can constitute risk factors in themselves, and connect with others pertaining to parental and child mental health, and wider family wellbeing. Many parents presenting to such services describe situations in which they feel helpless, trapped or stuck. This signals the relevance of concepts that specify how to resolve moments where one is unable to take control and pursue new actions. Double stimulation provides precisely such a framework.

The Vygotskian researcher is interested in the use and development of conceptual tools – ideas that change our understanding of a problem and our responses to it. (Hopwood et al., 2016, p. 113)

Following this approach, we explore how ideas introduced by professionals can shift parents’ responses to problems in the course of cooperative work. Consistent with a cultural-historical methodology, this paper studies parents’ actions and behaviours *in motion* (see Vygotsky 1960/1997a, p. 39). Rather than studying parents’ states prior to and after contact with a service, it traces what develops through interactions as a means to follow the history of changes in parents.

Vygotsky (1960/1997a) argued that all higher mental functions, including volitional action, *rely on* mediation connected with the use of signs as auxiliary devices to solve psychological problems (pp. 60-61). Vygotsky (1997) also noted that these functions may also be oriented towards others' behaviours, an important point that we return to later. Volitional action is never a direct, unmediated process (Vygotsky, 1960/1997d). Taking control of one's own behaviour is "a mediated process that is always accomplished through certain auxiliary stimuli" (Vygotsky, 1960/1997c, p. 87). Stimuli operating in this auxiliary capacity are also referred to as second stimuli. Second stimuli have a special mediating function and must be distinguished from the occurrence of more than one (first) stimuli that present a problem or conflict (see below).

Looking at how subjects appropriate auxiliary stimuli when working on a problem can reveal how they make sense of the worlds they are acting in (Sannino & Engeström, 2016). Thus we are pointed to the dialectic of mind/action that is a hallmark of Vygotskian work. Our interest in objects is in the possibility that the object might be 'expanded', meaning interpreted and acted upon in new ways, through professionals and parents working together. Such expansion involves questioning, breaking away but not totally replacing previous understandings (Engeström & Sannino, 2010; Engeström, Puonti, & Seppänen, 2003). The link between expansive learning and formative intervention based on double stimulation is established (Sannino, Engeström, & Lemos, 2016; Sannino, Engeström, & Lahikainen, 2016), but the connection in the wild is less well understood.

2. Double stimulation and volitional action

Given the varying use of the term 'double stimulation' discussed above, we will now clarify in further detail its specific connection with volitional action. In this regard, it is helpful to consider situations where volitional action is at issue. "As adults, we frequently find ourselves needing to do something that we do not want to do ... unable to find the stimulus that will allow us to move ourselves" (Vygotsky 1932/1987, p. 358). In the context of this article, this quotation points to situations in which parents find themselves challenged when responding to or caring for their children. Sannino and Engeström (2016) argue: "If the conflict of motives and the volitional aspect are disregarded, double stimulation is easily reduced to just another term for the general notion of mediation" (p. TBC). This is important in the present analysis, because it highlights the need to distinguish between mediation (a general concept referring to use of tools or signs), and the specific

characteristics of double stimulation (where conflict of motives and the issue of volitional action are in play).

As Thorne (2015) notes, “the process of double stimulation begins with a conflict of motives which is resolved through volitional action, or will” (p. 23). At issue is the ability to direct one’s own behaviour by restraining or replacing impulsive actions. The spontaneous influence of an external situation is replaced with attempts to control behaviour on other terms by transforming the situation into one that makes (new) sense.

There are various means through which people control their own behaviour, including tying knots in handkerchiefs to aid memory, and flipping coins to aid decisions (Vygotsky, 1960/1997b,d). In such instances, the stimulus of the knot (etc.) is used to determine one’s own behaviour. The way out of conflicted situations is through an auxiliary or second stimulus used to direct or take control of one’s actions, something Vygotsky (1932/1987, p. 357) regarded as the essence of “true volitional process”. Volitional action involves creating a new situation by “changing the psychological field”, producing new meaning in a task at hand (p. 356). Second (auxiliary) stimuli assist this in a variety of ways, including “helping to organize behavior, to objectify and render visible relevant information, to support remembering, and to enable a participant or a group to conceptually reinterpret a situation in a new and potentially expansive way” (Thorne 2015, p. 63). Hence the links to expansion of the object we referred to earlier.

Sannino’s (2015c) model clarifies the connection between volition and double stimulation. Sannino (2015b) understands double stimulation as a principle of volitional action. The situation whence it arises is “polymotivated”, meaning divergent motives direct a person towards different actions. There can be a generative or expansive feature of double stimulation when it leads to novel solutions, actions, and concepts (Engeström 2007). Sannino (2015b) draws on Virkkunen’s (2006) work, to make links to transformative agency, referring to clusters of volitional actions that break away from established constraints. Not all volitional action would constitute transformative agency, but it is difficult to conceive the latter in the absence of the former. Referring to Sannino’s (2015c) model, Waermö (2016) explicitly links double stimulation and transformative agency in regard to children’s play. We limit our attention to establishing how volitional action is accomplished in parenting interventions, an important step towards an expanded understanding of how agency can be built through such services; we do not conceive double stimulation directly as a means to promote agency. Promoting agency can be a contradictory endeavour (Rajala, Martin, &

Kumpulainen, 2016), balancing between motives and demands that are in tension. So, focusing in detail on volitional action in relation to conflicting motives is highly relevant to this broader theoretical project.

Sannino’s (2015a,b,c; Sannino & Laitinen, 2015) model is based on close reference to Vygotsky’s work and fresh analyses of his discussion of the waiting experiment (Vygotsky, 1960/1997d). Sannino’s work uses double stimulation as an experimental *method* to then develop a framework that describes it as a *principle* of volitional action. It is the latter that we then test ‘in the wild’ in analysing interactions between professionals and parents in early intervention services.

Central is how people interpret circumstances, reframe a problem, make decisions, and act on those decisions. The model is divided into two apparatuses: decision forming and decision implementing. The first comprises four phases, which are summarised in Table 1 with examples from the waiting experiment. The decision-implementing apparatus follows decision formation (i.e. Phase 4b). This model recognises features that arise both within and beyond the intervention itself, namely “channel experiment” and “channel life”. In the present analysis these translate into features arising respectively from the professional intervention (called here “channel intervention”) and those arising otherwise (“channel wider life”).

Table 1 *Sannino’s Vygotskian* model of double stimulation*

Phase	Detail	Example from waiting experiment
Apparatus 1: Decision forming	Comprises phases outlined below; at issue is choice of closure path	
1 – Conflict of stimuli	Demands or expectations that pull in opposite directions	Being asked to stay vs. having no purpose in empty room
2 – Conflict of motives	Activated by conflict of stimuli, subject at mercy of motives	Conforming to instruction to wait vs. wanting to leave
3 – Auxiliary motive	Conversion of stimulus to auxiliary motive, subject begins to control her behaviour	Deciding to use clock to make decision

4a – ‘Real’ conflict of stimuli	Occurrence of neutral stimulus confronting subject with signal and meaningful connection	Clock reaches particular time
4b – Closure of conditioned connection	Decision to act in particular way, subject makes decision based on occurrence of external stimulus	Participant decides to leave the experiment
Apparatus 2: Decision implementing	Activation of the conditioned connection	Participant leaves the experiment

* Sannino interprets connections between aspects of Vygotsky’s texts that are not always explicit, proposing a “Vygotskian” rather than “Vygotsky’s” model.

(Adapted from Sannino, 2015c)

3. Studies of double stimulation in work activity

Recent work on double stimulation indicates the broad application and value of the concept. We note the long history of the Change Laboratory (discussed above) that connect double stimulation and work activity through formative intervention at a systemic level (see Engeström, 2007; Haapsaari & Kerusuo, 2015; Sannino, Engeström, & Lemos, 2016). Others have examined how teachers resolve conflicts of motives associated with curriculum reform (Barma, Lacasse, & Massé-Morneau, 2015), or tensions between mandated curricula and following pupils’ interests (van Oers, 2015). In these cases, research collaborations with professional practitioners provided the context in which auxiliary stimuli were developed. As with the Change Laboratory, double stimulation is used as a framework for intervention with the intention of changing practices. Less well understood is the role of double stimulation in ‘naturalistic’ work activity (i.e. with no researcher intervention). Here, both the principle of double stimulation, and its potential as a means to promote volitional action, are at issue.

Thompson (2013, 2015) describes the function of double stimulation in the ‘field’ of the classroom, relating it to conflicts of motives for students in collaborating and complying with teachers. Thompson’s work documents double stimulation in pedagogic work activity, but predates the expanded articulation of Sannino’s model, but are consistent with the notion of double stimulation as a principle. Waermö (2016) analysed conflicts of motives and the use of secondary stimuli

during children's play activity. Her focus on double stimulation concerns how conditions for participation are transformed through a collective broadening of the interpretation of rules. Although this takes the principle of Sannino's model into the wilds of play, it does not refer to specific features of the model. Our interest is closer to that of Engeström et al's (2015) study of home care work with elderly clients. Their conclusion that these visits are fruitful breeding grounds for double stimulation in work activities provides a strong justification for the present analysis. Engeström et al. (2015) noted the longitudinal, multi-phased and iterative nature of double stimulation in work activities, and distinguished between expansive and restrictive, and spontaneous and planned, artefact use, ideas that we explore further in Sections 5 and 6.

Sundet (2010) focused on a family therapy unit supporting families experiencing challenges relating to conduct disorder and developmental or emotional problems. Two rating scales were used to solicit feedback from clients, therapists and families, who were then interviewed. Sundet concluded such rating scales can be used as tools that open up avenues for conversations that are otherwise hard to establish. The questions from the therapist acted as first stimuli, and the scales as an auxiliary, creating "an opportunity for asking questions that can bring forth new verbalizations and new meaning which again can become a source of new action" (p. 89). This seems to indicate an expansive use of artefacts (Engeström et al., 2015), again confirming the relevance of the principle of double stimulation in professional practice settings.

While Sundet (2010) relied on interview data, we draw on observations, and instead of focusing on predetermined evaluative tools as auxiliary stimuli, we explore tools that emerged as such in the flow of practice itself. In this regard, Engeström et al's (2015) study is closer to ours, examining "micro-contexts in which artifacts are actively employed to deal with the challenge at hand" (p. 59). Although Engeström et al. refer to Sannino's (2015b,c) work, they discuss their work as a potential bridge between Sannino's model and wider questions of transformative agency in organisations. Our analysis engages more systematically with Sannino's model as it pertains to professional-client interactions in the wild.

Our purpose was to answer these questions:

- How can concepts of double stimulation account for features of professional-parent interactions in the context of intervention services for families with children at risk, and what new insights does such an account reveal about the professional's role in helping parents in such services?

- How does double stimulation in the wild relate specifically to Sannino's model and processes of expansive learning?

Sannino (2015b) notes there have been few attempts to understand the interactional dynamics involved in double stimulation (Hopwood, 2015 and Portes et al., 1997 being named as exceptions). The present analysis joins subsequent work (Engeström et al., 2015; Waermö, 2016) in pursuing this goal in the context of double stimulation in work activity.

4. Methods of data collection and analysis

Data were generated by shadowing professionals, taking hand-written notes that were typed up the same day. All participation was subject to informed consent, and pseudonyms are used. Seventy-one interactions between professionals and clients were observed, in five different kinds of services (home visiting, day stay, toddler clinic, parenting groups, and Circle of Security-Parenting courses) provided by three organisations operating in three Local Health Districts respectively (see Hopwood & Clerke, 2016; Clerke et al., in press). In this paper we focus on home visiting (32 visits were observed in total), and specifically on two visits by the same nurse to one family, enabling us to reconstruct longitudinal processes, consistent with the 'in-motion' approach of cultural-historical work.

While the model offers conceptual clarity, determining the manifestation of its features in empirical data was not straightforward. One particular concern was to ensure that we did not confuse more general processes of mediation with more specific instances of double stimulation. The first step in analysis involved identifying potential instances of double stimulation. As double stimulation cannot be accomplished without the use of tools or signs, we identified these as a first step. Then, we looked for evidence of (i) motive; and (ii) volition. This built on Sannino and Engeström's (2016) argument about the distinctive features of double stimulation versus mediation (discussed above), and was a key means used to mitigate the risk of 'seeing' double stimulation in the data merely because this was our pre-decided focus. To further address this risk, we repeatedly challenged each other by asking whether a particular instance could arguably *not* reflect the principle of double stimulation in action, requiring us to provide clear justification for its designation as such.

However, this in itself posed analytical challenges, requiring us to uncover complexities that were not immediately accessible (see Sannino & Engeström, 2016). In some instances, the pertinence of motive, and especially an understanding of conflict of motives, was not apparent from reading data proximal to the use of a (potentially auxiliary) tool. We had to infer meaning based on other parts of the same transcript, or other transcripts altogether. For example, understanding how important ‘being normal’ was to Masha (a mother, discussed in detail below), and the ways in which features of the world were scary to her, arose from a broader reading of transcripts relating to two different home visits, yet proved crucial in identifying conflicts that might otherwise have been missed, and in understanding the difficulty she experienced in controlling her own actions – hence the connection to volitional action. Thus the application of the two criteria required interpretations of the data where meaning was not contained within a particular episode, but was rather established and inferred by appraisals of all potentially relevant data, bringing information from other episodes to bear.

The second step involved mapping the identified instances of potential double stimulation onto the Sannino (2015c; Sannino & Laitinen, 2015) model. Each of the phases outlined in Table 1, both Apparatuses, and the (equivalent) channels were used to specify processes and interactional dynamics unfolding in the work activity. Outcomes of this step are presented in Tables 2 to 5 below. Again, this was not an analytically trivial undertaking. Diverging interpretations and disagreements arose as to how particular bits of data related to features of the model. These prompted further returns to other parts of the data to justify particular inferences, but also revealed initial shortcomings or differences in our understanding of the model itself. Thus an iterative process of working with data, and going back to literature (Sannino’s recent work, and translations of Vygotsky’s writing) led to simultaneous refinement and convergence in understandings of the model, the data, and how they related to one another.

Double stimulation may function in a cumulative, distributed and temporally sustained manner (Sannino & Engeström, 2016), being potentially longitudinal, multi-phased and iterative in nature (Engeström et al. 2015). So the next step involved looking for connections or disruptions between different instances of double stimulation within the same interactions, and across interactions where we had been able to observe professionals meeting the same parents more than once. The significance of our findings in this regard informs the focus on two visits by a nurse to the same family in the discussion that follows. The final step focused on the objects of activity, exploring links with expansive learning, which remain provisional in wild contexts (Engeström et al., 2015).

5. Findings and discussion

In this section we discuss five extracts relating to work between Sophie, a nurse, and Masha, mother of Morgan. Extracts 1 and 2 (Sections 5.1 and 5.2) come from the first observed visit, when Morgan was ten weeks old. Sophie had made several visits to Masha prior to this. Extracts 3 to 5 (Sections 5.3, 5.4 and 5.5) come from Sophie's next visit, three weeks later. Our purpose is not to report patterns across the data more broadly, but to dive into the interactional dynamics of double stimulation in the wild, using the model as a reference. The insights revealed do reflect features of double stimulation in the wider dataset, although this case was notable for the complexity of the processes unfolding, the acute nature of the conflicts in play, and the way the nurse responded to these challenges. In this sense it was truly 'wild', aptly serving our present purpose to address the questions stated above.

Masha was born in Kyrgyzstan, and is now married to an Australian. Prior to her referral for home visiting, Masha attended a residential unit (see Hopwood, 2016a, 2016b) provided by a different home visiting organisation (called here Banksia). She then attended a day-stay clinic in Samphire Local Health District. Masha remained in need of support but was very frightened that Morgan would get sick in the clinic, so home visiting (also provided by Samphire) was deemed more suitable. In early visits, Sophie worked to build Masha's confidence to leave the house with Morgan. Masha had not been out on foot at all due to fears of crossing the road with him. They practised doing this together, beginning with her walking with Morgan in a carrier, working towards using the pram. Masha was highly anxious that harm would come to Morgan through infection from other people, dirty surfaces, dust from building sites nearby, road traffic and so on. She repeatedly expressed concern that Morgan's behaviours or changes in his physical body were not normal, an indication that 'something is wrong'.

Part of the first observed visit involved discussion of Masha having taken Morgan to the emergency department (ED) at the local hospital. Morgan's breathing was heavy, and she saw a doctor who recommended she take him to the hospital in case he had whooping cough. This was terrifying for Masha (who saw the hospital as full of threats to Morgan because so many people were ill there), though she was relieved to learn that he had bronchiolitis not whooping cough. Masha mentioned

wanting to have blood tests done to check Morgan didn't have Laryngomalacia, which would have meant a return to the hospital.

5.1 *Extract 1 – Weight and breastfeeding*

When discussing changes in Morgan's bowel movements, Sophie asks Masha whether she has changed her diet at all.

Masha: I'm eating a bit more actually.

Sophie: That's good.

Masha: But I want to lose weight.

Sophie: While you are breastfeeding you need an extra thousand calories a day, so it's hard to diet at that time.

Masha: Oh. But I don't like being a size bigger than before.

Sophie: What disturbs you about that?

Masha: I don't like looking at myself in the mirror, I'm fat.

Sophie: Is that something new for you, to feel like that?

Masha: No since I was a teenager.

Sophie: Have you ever thought about things like stopping eating or use laxatives to lose weight?

Masha: No.

Sophie: Do you have any thoughts like that at the moment?

Masha: No just going to gym downstairs.

Sophie: Or you could walk maybe?

Masha: I can jog at the gym downstairs.

Sophie: Our bodies do change shape after birth. What would help you feel more comfortable? Because I see a gorgeous woman.

Masha: My thighs are fat, my stomach looks like 3 months pregnant. Not like in my wedding photos [laughs, points at wall].

Sophie: I love your sense of humour! Do you think I look the same as my wedding photos now?

Masha: No. but my mum was 48 kg before two children, and 48 kg after.

Sophie: Are you the same body shape as your mum?

Masha: No.

Sophie: So it might not be the same for you. When we breastfeed it's important we gain weight, especially around our thighs, because that's where we store the extra energy we need.

Masha: Oh. Really?

Sophie: Yes. And think about your uterus, it used to be this small thing, then there was a baby inside, and think about what happened to all those muscles around your tummy. They can't change back overnight. Your body is still beautiful, but may change too. Maybe you will be like your mother, maybe not. You have a different body shape. You're in a different country, eating different food.

Masha: She actually tried to gain weight.

Sophie: So she really does have a different body from you. In my family I'm a giant! They are all so tiny apart from me. I'm just different. I feel comfortable with that. I can tell you I see you as very beautiful, but I see that you disagree ... [pause] ... so what would your goals around your fitness be?

Masha: When I'm off the antibiotics, I want to start walking, going to the gym.

Sophie: That's good. Though remember to take it easy with running, because your breasts have milk at the moment and it might be uncomfortable.

Masha: So walking then.

Sophie: Is that something you could do?

Masha: Yes.

This is one of the more straightforward episodes. Its significance will become apparent as we explore the connections between different instances of double stimulation in Sections 5.2 to 5.5. For now, we outline the features of the model evident in this interaction (Table 2).

Table 2 *Elements of the double stimulation model that occur in Extract 1 – Conflicts relating to weight gain and breastfeeding*

Phase / channel	Detail from Extract 1
1 – Conflict of stimuli	Shape of thighs and stomach, clothes size vs. wedding picture and memories of her mother
2 – Conflict of motives	Wanting to lose weight (eat less) vs. wanting to breastfeed Morgan (eat more)
3 – Auxiliary motive	Idea of walking rather than jogging Masha commits to this as a general principle

Channel intervention	Physiological knowledge about pregnancy, breastfeeding Importance of storing extra energy for breastfeeding Running being potentially uncomfortable when breasts have high milk
Channel wider life	Masha's account of differences between her and her mother Sophie's own history of bodily changes, relations with her family

Masha's predicament here relates to her desire to regain her former physique and what is needed to continue breastfeeding her son. This is complicated by the fact that her initial idea (to run in the gym downstairs) might be problematic. Working to bring Masha into a shared space of reasons (Derry 2008), Sophie introduces the idea of walking instead of running and draws on various features of her formal expertise and personal history to try to convince her. She also elicits further information about Masha's own mother to offset the unhelpful pull that Masha's thoughts have about this. It seems that Sophie has secured commitment to walking, as Masha both restates the idea herself, and then confirms back to Sophie her intention. At this point the agreement is on walking rather than running, but no specific times and destinations are fixed upon. After this, Sophie examines a pimple on Morgan's testicle and they discuss washing and cutting his hair. This leads Masha to mention an issue relating to Morgan's mittens, the focus of Extract 2 (Section 5.2).

Before we turn to what happened next, we note several ways in which the object of managing Masha's weight was expanded through this interaction. New connections were made between her weight and breastfeeding, changing the significance of her additional body weight for Morgan's wellbeing and of running as a potential solution. This expansion is a crucial component of the work Sophie does to get Masha to accept and commit to the idea of walking.

5.2 *Extract 2 – Mittens*

- Masha: His hands get smelly. Is that normal?
- Sophie: I can see he's got mittens on now, since I came in.
- Masha: Yes he wears them, except when I'm washing him or cutting his nails.
- Sophie: Well that might be why his hands get a bit smelly. He's getting to the age when he will start putting his hands in his mouth. How will you feel?
- Masha: If they are clean it will be fine.
- Sophie: I wonder how Morgan feels having mittens all the time.
- Masha: Is it bad?

Sophie: If you had gloves on all the time, how would you feel.

Masha: It could be annoying.

Sophie: Maybe for him too. Have you seen other babies with no gloves, putting hands in their mouth?

Masha: Yes.

Sophie: He thinks his hands are the tastiest thing. The more opportunity he has to learn with his hands free, to experiment, touch things, put them in his mouth, it will help him learn about his world. But is it okay for you?

Masha: Yes maybe. But at the moment only when washing or doing his nails.

Sophie: Is that something your husband could help you with maybe?

Masha: Yes.

Sophie: I can see you're growing in self-confidence too.

Masha: Really?

Sophie: Yes. Look at all those amazing things you did when he was sick, noticing those things that were different, getting the second opinion, taking him to ED even though it was scary, and now planning the walk to the hospital. Maybe try to think about giving him some more time without the mittens on. And maybe think about your body a bit differently. If you can go for a walk, that's a good plan. You said the bad weather is something that makes you sad. So with these lovely sunny days, that could help both with your fitness goals, but also help you feel better in yourself.

Masha: Yes. Today I'll walk to the hospital with him.

Table 3 outlines the elements of the double stimulation model that occur in the sequence above.

Table 3 *Elements of the double stimulation model that occur in Extract 2 – Mittens*

Phase / channel	Detail from Extract 2
1 – Conflict of stimuli	Mittens as barriers against germs vs. smell from mittens
2 – Conflict of motives	Protecting Morgan from threats to his health vs. alleviating the smell and being 'normal' (which requires being courageous)
3 – Auxiliary motive	Offering of multiple potential second stimuli: <ul style="list-style-type: none"> - Empathy with Morgan - Previously observed 'normal' practices of others - Husband - Reinforcement of Masha's previous success

	<ul style="list-style-type: none"> - Walking to the hospital <p>Conversion to auxiliary motive around (stronger) commitment to walk Morgan to hospital and (softer) agreement to try time with mittens off</p>
Channel intervention	<p>The mittens and smell</p> <p>Previous discussion around weight management</p>
Channel wider life	<p>Masha's observation of other babies without mittens</p> <p>Her taking Morgan to the ED</p> <p>Bad/good weather</p>

Masha's paralysis in a situation of conflict is reasonably apparent here in terms of the mittens as both protection and cause of the abnormal smell. Sophie introduces a constellation of potential auxiliary stimuli, beginning with two that connect directly with the mittens. The idea of empathising with Morgan rather than attending only to outward or external cues marks the beginning of a significant object expansion that accumulates through the next visit (see below). Sophie draws on channel wider life, eliciting Masha's own account of other babies' behaviours, trying to tap into the idea of mitten free being normal. She gently tests for acceptance ("But is it okay for you?"). Here she is recognising that what might be inconsequential for many parents is in fact a major demand for Masha: removing the mittens requires, for her, an act of great courage, as she sees it as exposing her son to threats from dirt. The possibility of her husband as a second stimulus is not contested, but does not stick. Rather, Sophie pools resources from channel wider life and channel intervention to make a case that Masha is more courageous than she thinks.

Sophie has recognised how demanding such actions are for Masha and therefore works to stabilise and secure the auxiliary stimuli and their associated motives. Empathy and normalcy help bring Masha into a space of reason that promotes their acceptance, but in themselves they do not secure Masha's commitment, because she continues to doubt herself. Having recast Masha as, indeed, courageous, Sophie then presents the final auxiliary stimulus of walking to the hospital. Unlike the other stimuli, this is anchored in specific times and places (going today for the blood tests), linked not only to bodily action, but also connecting back to their previous discussion of walking as a means to manage her weight. The gentle suggestion of "some more time without the mittens on" is buttressed by this other work. While it is not specifically anchored, it *is* strengthened by connection to past courage, and is a possible first step towards Morgan having his hands uncovered nearly all the time. This latter state was indeed achieved by the next visit. The object has been expanded not

just through ideas of empathy, but by connecting it with other features of Sophie and Masha's work together, and Masha's wider life experiences. Strikingly, this is not just resourced by Sophie's expertise; instead she repeatedly elicits accounts from Masha that drive the expansion.

Extracts 1 and 2 both reach Phase 3 of the Vygotskian model, but do not, in the moment, proceed to Phase 4 where the real conflict of stimuli occurs, nor into Apparatus 2 (decision implementation). At the time, the collective accomplishment resolved around commitment to a new stimulus functioning in an auxiliary capacity. In both cases the subsequent visit confirmed that this held up in Masha's actions after Sophie had left.

5.3 *Extract 3 – The threat of harm*

This example relates to Sophie's next visit to Masha's home: Morgan is now 14 weeks old. We present a series of excerpts that relate to a common thread, although they are not continuous, reflecting the multiple and recursive nature of the interaction (see Hopwood & Edwards, under review). Right at the start, Masha says Morgan has "been crazy" and that the "Banksia ways" (a patterned, predictable set of actions around settling him for sleep) don't work any more.

Masha: Now he just cries. He hates the pram now. I think he wants to look around.

Sophie: That's a great observation. He wants to look at the world.

Masha: For two to three days, he cries a lot. No sleep in the daytime. Now he just cries. He hates the pram now. I think he wants to look around, so maybe I will change the seat to be up a bit.

Sophie: That's a great observation. He wants to look at the world.

Masha: And he's not tired. He screams when I put him in the cot ... From 7 am to 6 pm he won't sleep. Now he hates the dummy. I just couldn't handle it. It was crying for so long, 30 minutes. I closed the door and left him. I didn't care he was crying any more.

Sophie: You're both very tired ... I'm wondering if he is overtired and doesn't have the ability to go off to sleep.

Masha: He doesn't like the pram or the carrier any more. I think I've got postnatal [depression]. My husband said he thinks so. If I get stressed out, I'm not okay.

Sophie: What happens?

Masha: I scream, go crazy, even broke a cup. This is definitely the hardest time of my life. Moving countries was easy compared to this. I'm so tired I don't know what I'm doing. I just put something down on the coffee table and the glass completely broke and my husband got really angry.

Sophie: I agree this is a really hard time for you.

Masha then directs the conversation towards conflict with her mother-in-law, and they explore further her self-diagnosis of PND. Masha comments that the negative influence of her mother-in-law makes her very stressed.

Masha: He was crying for two days. I wanted to shoot myself. I had to close the door or I would have hurt him.

Sophie: It's important that you just said that to me, and I can't ignore it. Do you have thoughts of self-harm?

Masha: I did get to the point when I thought I would jump off the balcony. Just for a second. The sleepless nights, the screams, I can't even eat. He can't even sit, he just screams.

Sophie: I wonder what he's feeling when he is screaming.

Masha: He is stressed. He wants to be on me but sometimes I can't.

Sophie: That must be hard for you ... Okay. I'm concerned about the balcony.

Masha: I wouldn't do it.

Sophie: I'll give you a number for you to use in those moments. And one for an adult mental health line.

Sophie gives Masha leaflets, cards and a piece of paper with different phone numbers on it.

Sophie: Here's that number, stick it somewhere, and especially if you're at home alone with Morgan and have those thoughts, put him in the cot, walk out and call this number.

Masha: I tried calling Banksia [a telephone support line] but there was no answer. I tried friends but they are all too busy.

Sophie: There is also Lifeline. And you can call the psychologist too.

Masha: Yes. Before I could take the pram put him in it and go for a walk, but now he's screaming.

Sophie: I wonder if he is really overtired and saying, Oh Mum it's too hard.

At this point, Masha switches focus to a mark on Morgan’s head, which Sophie examines before they discuss the blood test results. These indicated Morgan’s vitamin D was a bit low, so Masha had taken him out into the sun, as well as to the post office, shopping centre, and park, where she met another mother whom she is now planning to visit that afternoon. The focus then swings back to Morgan’s sleep.

Masha: Ok. So what about sleeping?

Sophie: Two things. Number one is you. See the doctor and contact this number, 000, anything, if you feel angry with Morgan. Put him down, close the door and walk out. Take a deep breath, talk to yourself, what can you say?

Masha: I just made noise, washing up, because he was screaming. 30 minutes. But then he couldn’t calm down.

Sophie: Maybe try to calm him quicker, before 30 minutes. Take a deep breath, in through your nose, out through your mouth, count, and talk to yourself “I can feel my feet, I’m in the lounge” bring yourself to here and now, and go back in so he knows you’re there.

Masha: I’ll try. When he screams, my heart goes crazy.

Sophie: That’s why I’m saying take a deep breath. It will slow the heart down, and help bring blood to your head and help you calm down too.

The relevant features of the double stimulation model are outlined in Table 4.

Table 4 *Elements of the double stimulation model that occur in Extract 3 – The threat of harm*

Phase / channel	Detail from Extract 3
1 – Conflict of stimuli	Morgan’s cries demanding attention vs. high stress level, racing heart, exhaustion
2 – Conflict of motives	Harming Morgan vs. escaping the situation (which can escalate to self-harm)
3 – Auxiliary motive	Offering of constellation of dialectically related stimuli <ul style="list-style-type: none"> - The door (reconfigured stimulus) - Breathing

	<ul style="list-style-type: none"> - Counting and talking to herself - New telephone numbers to be stuck on the fridge
Channel intervention	<p>Reported thoughts of self harm and getting close to harming Morgan</p> <p>Masha's insight into Morgan wanting to look around</p> <p>History of Sophie's work with Masha that has built trust</p> <p>Empathy with Morgan</p>
Channel wider life	<p>Past actions to seek help via contact with others (although these failed)</p> <p>Moving countries</p> <p>Mother-in-law</p> <p>Self-diagnosis of PND</p> <p>History of work with Banksia around sleep and settling*</p>

* While these relate to a professional intervention, they concern a different service, organisation and professional, and so are considered here as resources drawn from outside the ongoing intervention (this applies in Table 5 also).

Now, the double stimulation becomes increasingly complex as the situation becomes even more wild. Masha's conflict is a terrible bind, revealed through Sophie's careful questioning that opens up the issue of Masha's temptation to kill herself. The trust that has been built up over the history of their work together is crucial in enabling Masha to reply so directly to such a question. Masha's use of the door was, we argue, a spontaneous and restrictive artefact use. It created a physical barrier preventing her from harming Morgan, but did not break out of the conflict because it did not address her own stress and urge to escape. The actions of making noise mentioned later work in the same way. The door and noise making were *isolating*, separating Masha from Morgan, and *isolated* from stimuli that addressed the other side of the conflict.

Sophie works to reconfigure the door as one of a set of linked stimuli. The role of the door is to avoid Masha harming Morgan. Breathing, counting and talking to herself are linked with specific words and bodily actions that address Masha's urge to escape and the risk of harming herself as a means to do so. The phone numbers build on actions Masha had previously taken (calling Banksia and her friends), but are more secure because these are numbers where her call will be answered, and where more appropriate support for such crises is available.

These stimuli are interrelated in a dialectical fashion. Masha needs the door in order to find the space to breathe, count and so on. But while the door takes her away from Morgan, the point of breathing and counting is to *bring Masha back* so she can return to her son. Similarly, the numbers on the fridge are immediately available only when Masha has removed herself from the cot, and activating them requires a form of control made available through breathing; but, they are also a last resort when Masha has really lost control and is tempted again to escape. Masha accepts and offers generalised commitment to these: “Yes.”, “I’ll try.”

Sophie has to work hard to achieve this commitment. It depends on Masha abandoning her interpretation that Morgan isn’t tired, an interpretation based on his outward behaviours (crying seen as resisting sleep). The glimpse of empathy – engaging with Morgan’s internal state – in relation to him wanting to look around provides the kernel of an important expansion of the object. Rather than being unable or not wanting to sleep, Morgan is understood as being overtired and needing help to fall asleep. Masha recognises Morgan’s stress and his wanting to be with her, expressing commitment but also doubt – “I’ll try” – prompting Sophie to work further to bring Masha into a shared space of reasons: she then offers a technical account of why breathing will help.

The double stimulation here addresses a particularly cruel and impossible conflict through a constellation of dialectically linked stimuli. Existing stimuli are reconfigured from spontaneous and restrictive to planned and expansive artefacts, associated with significant changes in interpretations of Morgan’s behaviour and steps that both prevent harm and are designed to enable Masha to regain the control she needs to go back to her son when he needs her.

As with Extracts 1 and 2, Phase 4 and Apparatus 2 are not directly in evidence, but this does not detract from the significant accomplishment in reaching Phase 3: the commitment to new pathways to closure and introduction of new material artefacts in Masha’s environment. Indeed, when Masha reports having previously taken the pram, she indicates that she did successfully close and implement decisions relating to walking from the previous visit. Her confidence was building; however, her use of this secondary stimulus is now compromised by Morgan’s screams and her own exhaustion.

5.4 *Extract 4 – Settling Morgan together*

At the end of Extract 3, a related agenda emerged, namely Sophie's efforts to avoid the situation escalating to the point where Morgan and Masha reach such highly stressed states. The last minutes of the visit focused on trying to settle Morgan for sleep. Here, a real conflict of stimuli is occurring, but we suggest the data do not point to closure and implementation in a secure double stimulation. The whole sequence is initiated when Morgan starts to grizzle.

Masha: What's wrong with him? I just fed him.

Sophie: Maybe he's tired.

Masha: Okay I can try.

[Masha puts Morgan in cot immediately then closes the blinds, Morgan's breathing is stressed, shallow, rapid]

Sophie: Might I suggest next time you cradle him in arms, close the blinds together, and when he's breathing nice and calm, then put him in bed; think about feed, play, sleep

[They leave the room]

Masha: He's playing.

Sophie: That's okay you can't *make* him sleep.

Masha: After Banksia it was so good.

Sophie: What did you do then?

Masha: Like this, then give him a dummy, pat his head, but now he hates the dummy.

Sophie: He's older now. What do you think you can do to help him have the opportunity to learn to sleep in his bed?

Masha: I don't know.

Sophie: I'm hearing you've lost that pattern today. Trying lots of different things, maybe now he's older and so busy, that makes him excited, something different every time.

Masha: He hates the Banksia ways.

Sophie: Hates?

Masha: He cries, wants to be picked up.

Sophie: Maybe he's learning that he's different from you.

Masha: Yes he knows me best of everyone.

Sophie: The place he feels safest is with you.

[Morgan cries a little, with quite a bit of silence between his sounds]

Masha: I'd leave him until he goes mental then let him scream 10 minutes then pick him up.
Then after two hours, breastfeed.

Sophie: Maybe he doesn't know the difference between tired and hungry.

Masha: Maybe because he sleeps so much overnight he's not tired.

Sophie: He does need some sleep in the day.

Masha: But that is impossible.

Sophie: You can give him the opportunity, without changing every time, give him a pattern.

Masha: Just leave him in his bed?

Sophie: With your support.

[Morgan cries again]

Masha: I should go [to the cot].

Sophie: Try patting the end of the cot, he liked that last time.

[Masha goes in and pats mattress; Morgan is still crying]

Sophie: Pick him up when you need to [Masha picks Morgan up; he quickly stops crying].

Sophie: He's struggling.

Masha: Because he's tired.

Sophie: Yes.

[Morgan cries more strongly again, in the cot]

Sophie: What would you do?

Masha: I'd let him scream 10 minutes so he gets tired then pick him up.

Sophie: What do you think he's feeling?

Masha: He wants to be with me, because he loves me.

Sophie: Yes, so how is learning to sleep alone for him?

Masha: Hard. [Morgan cries]. I don't know, because he's okay at night.

Sophie: What do you do at night?

Masha: Always the same just breastfeed and then to sleep.

Sophie: That’s a routine for him, a pattern, but in the day you are changing each time. It seems he likes the routine of the night, so try giving him a pattern in the day too, that’s nice and predictable for him.

[Sophie now leaves]

Connections between this extract and the double stimulation model are summarised in Table 5.

The interaction takes on a different quality at this point. This is largely associated with the immediacy of Morgan’s needs and the joint responses to his cries. The conflict of stimuli and motives are less apparent than in Extract 3. However, Masha’s entrapment in such situations is highly significant, given what Extract 3 revealed about what happens when she leaves him and he escalates to screaming.

Table 5 *Elements of the double stimulation model that occur in Extract 4 – Settling Morgan together*

Phase / channel	Detail from Extract 4
1 – Conflict of stimuli	Morgan’s tired signs vs. cues Masha interprets as meaning he is not tired or resisting sleep
2 – Conflict of motives	Wanting Morgan to sleep vs. not doing things that appear to make him unhappy (things that he “hates”)
3 – Auxiliary motive	Potential second stimuli offered <ul style="list-style-type: none"> - Returning to the idea of patterns (feed, play, sleep) - Actions in settling that are calming for mother and child - Shifting goal from making child sleep to giving opportunity to learn to fall asleep - Empathy with Morgan, interpretation of behaviours as tiredness rather than objections
4a and 4b	Real conflict occurs in Morgan’s cries and tired signs Sophie’s interpretations and prompts guide Masha to decisions Masha makes decisions based on new interpretations
Apparatus 2	Decisions implemented in Masha’s actions

Channel intervention	Morgan's behaviours and cues Sophie's interpretations of those cues Masha's changing interpretations of Morgan
Channel wider life	Reference to Banksia ways (approaches to settling learned in the residential unit previously) Accounts of Masha's recent actions in settling Morgan including at night

At issue here are interpretations of Morgan's behaviours and cues. Masha, reading changes in his outward behaviours, concludes that practices from Banksia that used to work no longer do so. Sophie accepts that specific things (such as dummy use) may be less effective now he is getting older. But she also contests this: rather than changes in the child explaining why Banksia approaches no longer work, she sees that Masha has "lost that pattern". In her view Masha has lost the capacity to offer the predictable, consistent settling approach that Banksia suggest (being consistent and predictable through patterned parent behaviour are key concepts that come up in settling-related work in residential, home visiting and day stay services – see Hopwood (2016a, 2016b) and Hopwood & Clerke (2016) for details). This is significant, because Sophie's view is what constructs the situation as one where double stimulation is relevant. The problem is not a change in Morgan or something being "wrong with him", but Masha's capacity to regain control of her actions in settling.

Sophie's approach to accomplishing this includes a range of suggestions that involve actions, shifts in the temporality of settling, and the idea of patterns. Cradling in arms and closing blinds are intended as specific material actions that produce and maintain calm for both Masha and Morgan. Their capacity to do this relies on a changed timing – beginning the settling routine before he (and she) escalate to overtiredness and distress. In turn, this relies on a differing interpretation of Morgan's cues – recognising that he is indeed tired – and implementing a pattern that relates sleep to play and feeding in a consistent sequence.

Both Sophie and Masha recognise that in this moment, Masha will struggle to convert these stimuli into auxiliary motives that help her regain control of her actions. Masha thinks sleep in the day is "impossible". Sophie's suggestions are gentle and qualified invitations to experiment: "maybe", "try". A pattern, by definition, cannot be established in a single sequence, and Masha's capacity to

implement this herself is neither assumed by Sophie nor established through concrete, specific commitments. The demands of Morgan in the moment occupy Masha's attention and her doubts prevent immediate closure, although Masha's "success" in the pattern at night forms a potential seed that could be used to persuade Masha of her capability.

Securing and stabilising such patterns is important to Sophie as a means to avoid the crisis of harm in Extract 3. She is laying the groundwork for a longer project they will undertake together. This preliminary work involves expansions of the object, and the extract suggests these *do* take hold. Initially, Masha refers almost exclusively to Morgan's outward, physical behaviours (playing, crying), although she does suggest "he wants to be picked up". Sophie draws on the latter empathetic stance to expand the object in a way that Masha takes up herself, acknowledging he knows her best. Masha's shifting interpretations begin to align with Sophie's when she suggests his tiredness and difficulty separating from her are what makes this such a hard process for him. This in itself is a significant, and crucial, accomplishment. Sophie elicits Masha's account of success in the night to bring her into a shared space of reasons about the significance of patterns and their relevance to this expanding object: the patterns explain why the nights are so much easier.

Significant here is a shift in how the goal of settling is framed. Sophie tries to persuade Masha that her job is not to make Morgan sleep, but to offer him (consistent, patterned) opportunities to learn this process. This redefines the success criteria (the attempt and the conditions, rather than sleep as the result). What Masha deems "impossible" becomes irrelevant when this is taken up as her goal. As with patterns, this is a move we have found to be common in home visiting and other services (Hopwood, 2016a, 2016b; Hopwood & Clerke, 2016). At this point in Sophie's work with Masha, it is more a signpost of the work to come than a stimulus that has been converted to an auxiliary motive.

While Table 5 outlines real conflict, decisions and their implementation, we are not suggesting that full double stimulation has occurred here. Rather, Phase 4 and Apparatus 2 appear as a kind of guided walk-through. There is no evidence that Masha has taken control over her behaviour. Insofar as volitional action occurs, it is highly scaffolded. The stimuli listed in Table 5 (Phase 3) constitute tools that Masha could use as a solution to the crying problem, but not yet secondary stimuli connected with volitional action. The latter are tools that someone can rely upon, use in moving towards control and ultimately agency. Patterns and the associated actions do not yet serve this function for Masha. There is a dialectic in play here: the patterned approach is both a means to

avoid the escalation to serious conflicts, but also depends on Masha acting volitionally when experiencing stress.

5.5 *Extract 5* *Departure*

There follows a brief interlude focused on how Masha can prepare food that enables her to eat properly on days when she has almost no break from caring for Morgan. The visit concludes as in the excerpt below.

Masha: This is so hard.

Sophie: So have that plan. Put him down, then?

Masha: I call the line. If they don't answer?

Sophie: Call the 24-hour mental health team and remember to breathe. Think about pattern, feed then play then wind down and then sleep opportunity.

Masha: And if not, walk with the pram.

Sophie: Yes. And try without the cover.

Masha: Yes.

Sophie: See you next week. Here's a bad-day plan that our mums suggested. The first one is for you, 'Remember to breathe' but in big letters 'BREATHE' and 'Tell yourself you're doing the best you can.'

[Sophie gives Masha the bad-day plan paper; Masha puts Morgan on the floor on his tummy]

Sophie: Wow look at that!

Masha: He used to hate it.

Sophie: That's the thing to say, the same with sleep 'you struggle now but I'm helping you learn, and you'll learn to love it like you did the tummy time'.

Masha: Thank you.

[Sophie leaves]

These exchanges are important in understanding what has happened and how the visit is drawn to a conclusion. Sophie reinforces the shift from spontaneous to planned use of stimuli, now including

the new phone numbers and the breathing. She invites Masha to “think about” the pattern, again pointing to “sleep opportunity” rather than sleep. Masha now connects the idea of walking – with a pram – with the activity of settling. Thus walking appears in Extract 1 linked to weight management, in Extract 2 linked to the mittens and courage, and here focused on sleeping (Extracts 3 and 4). Removing the cover goes back to the issue of Morgan wanting to look around, thus materialising and specifying actions connected with empathy, and reconfiguring the pram, re-stabilising it, after its temporary loss as a tool due to Morgan’s screaming.

When Sophie gives Masha the bad-day plan, this materialises the stimulus of breathing, leading to its physical co-location next to the phone numbers on the fridge. More specific words to tell herself are offered. This further specifies and concretises these stimuli. Sophie then notices Morgan being content on his tummy, using Masha’s indication of the change this represents as a resource to strengthen the auxiliary stimuli around sleeping. The proof that Morgan can learn things he used to hate is converted into more specific words Masha can use to control her behaviour when things get tough. We name this extract “Departure” because it refers both to Sophie’s leaving, but also the indication of a departure in Masha’s relationship with elements of parenting practices, from one of multiple paralyses towards volitional actions that enable her to escape conflicted situations.

6. Conclusions

Our purpose in this article has been to answer two questions. The first question is:

- How can concepts of double stimulation account for features of professional–parent interactions in the context of intervention services for families with children at risk, and what new insights does such an account reveal about the professional role in helping parents in such services?

Our analysis shows how parenting intervention can address an important but often overlooked absence. This kind of intervention is often described in terms of building parents’ capacity, skills, and confidence, working with and potentially shifting their constructs (Day, Ellis, & Harris, 2015). Our analysis shows that it is not just a lack of skill or confidence that is at issue, but crucially *the absence of auxiliary stimuli that enable parents to break out of conflicted situations*. Intervention focused on particular skills and actions is oriented directly and only towards the object. That which operates through the principle of double stimulation addresses not just parent-child relationships but also the parent’s ability to control her own behaviours. Rather than one path to change, two are

activated in dialectical relation with one another. Echoing Vygotsky (1999), we argue that a parent enters into a new relationship with elements of parenting practices not just by learning new actions but by taking control over her own behaviour, compelling signs to affect her and elicit a desired response. Importantly, this view specifies a strong role for professional expertise that does not constitute the professional as the (only) knower who fixes problems on behalf of families.

In deploying the principle of double stimulation as a means to promote volitional action, the professional is working simultaneously on two dialectically related fields: getting the parent to act using new auxiliary stimuli, and getting them to think differently about the object. Sophie's work with Masha was resourced by and depended on changing interpretations of Morgan and the mother's relationship with him. These changes were not just a result of Sophie providing specialist expertise. Sophie did a lot of work to elicit Masha's own knowledge and experiences, so that the parent herself contributed to the expansions – a truly collective form of work. We hypothesise that double stimulation may prove an important means through which potential secondary stimuli are identified, accepted, committed to, and ultimately, acted upon.

This article highlights the diverse forms of and requirements for expertise in interventions that promote change through double stimulation in the wild. One such requirement relates to recognising conflicts of motives. Just as they were not obvious analytically, neither were they self-evident in the interactions themselves. Sophie's effectiveness on the issue of the mittens depended on her recognition that removing them required an act of great courage by Masha. Sophie then had to work skilfully to get Masha to accept the new stimuli, and to commit to them. This involved drawing on resources from channel intervention and channel wider life to bring Masha into a shared space of reasons (Derry, 2008) in which the potential of the stimuli to change the situation can be recognised. To make her own reasoning explicit and elicit Masha's knowledge to feed this process, Sophie drew on her specialist knowledge and relational expertise (see Edwards, 2016). Both are equally in play in the yet further work required to stabilise and secure the secondary stimuli. In these wild settings, one-off decisions (as in the waiting experiment) are not of concern. Rather, establishing volitional acts that endure and potentially contribute to the development and exercise of agency is paramount. The analysis shows how much intervention effort is devoted to this and how nuanced this work is.

Our response to the first question concludes by highlighting the non-linear nature of professional work that makes use of the principle of double stimulation in the wild. Sophie was not supporting

Masha in a sequence of work on one goal then another. Instead, she had to navigate multiple lines of work rooted in multiple, related paralyses. What may be secure at one moment comes undone later (as with the pram walking being undermined by Morgan’s screaming). Such an account points to a complex set of demands that are placed on the professional (and which we note Sophie meets admirably).

The second question we sought to answer was:

- How does double stimulation in the wild relate specifically to Sannino’s model and processes of expansive learning?

Ideal situations are never encountered; instead we are dealing with situations “more or less like the given situation” (Vygotsky 1960/1997a, p. 45) – the given here being the conceptual model of double stimulation (Sannino 2015c). Nonetheless, juxtaposing double stimulation in the model and in the wild highlights some important points.

Our analysis extends existing findings about the temporality of double stimulation in the wild (Engeström et al., 2015; Portes et al., 1997). We saw how accomplishing Phase 3 required not just skilful relational work, but took time – often not in one single chunk of time either. While the visits themselves saw relatively little of Phase 4 or Apparatus 2, these were evident in accounts of what happened between the visits. Progress through the Apparatuses and Phases in the wild may be temporally dispersed and fragmented rather than compressed and continuous, as it appears in the waiting experiment. Sannino and Engeström (2016) describe double stimulation as “progressively cultivated” through a ‘Fifth Dimension’ intervention (see Nicolopoulou & Cole, 1993). In the wild we saw recursive, multi-threaded and non-linear work through which possible stimuli are identified, presented, accepted, committed to, stabilised, fall apart, reconfigured in relation to other stimuli, and so on. While the waiting experiment is ahistorical, we found double stimulation in the wild to be highly contingent on the past, through relationships built up over extended channel intervention, or the use of channel wider life as a pool of potential resources to link the past to the present. In all these regards the principles and features of the model remain intact (the model specifies no continuity or timeframe). Indeed the fact that the model specifies processes in a phased manner has proved especially valuable, for example, in attuning to Extract 4 where the conditions are not yet in place to convert new stimuli into auxiliary motives.

The work done in gaining acceptance of and commitment to new stimuli points to an aspect of double stimulation in the wild that is rather black-boxed in the model. Much of the effort in Sophie's work with Masha was devoted to Phase 3. This connects with Sannino and Engeström's (2016) description of the struggle in breaking away from previous conceptions. There is no prospect for volitional action if auxiliary/second stimuli are not acceptable to the subject. Edwards' (2016) notion of common knowledge (understanding what matters to others) shows promise in specifying how acceptance of challenging ideas might be obtained (see Hopwood & Edwards, under review), while Sannino and Engeström (2016) make links between double stimulation and the associated concept of relational agency. The distinctions drawn by Engeström et al. (2015) in relation to spontaneous/ planned and restrictive/expansive artefact use seem relevant to a better understanding the specific features of stimuli, and their transformation from vague and abstract to specific and concrete material formulations that are less fragile. Such stability is a result of considerable effort, and even then is not guaranteed. Stabilisation work is not completed and moved on from, but recursive. It is also accomplished by connecting different threads and stimuli together, as with the Pram and door whose function changed by virtue of changed position in a constellation of stimuli. Such changes may be triggered by unplanned or client-prompted changes, so we speculate that "productive deviations" (Sannino, Engeström & Lemos, 2016) from the professional intent may well be an important feature of double stimulation in the wild.

Our analysis has pointed to a conceptual feature of Sannino's (2015c) model of double stimulation as a principle of volitional action: the need for a very specific notion of second stimulus. It is indeed consistent with Vygotsky's work to regard second stimuli as tools that enable people to work on problems, as Edwards (2016) suggests of common knowledge, for example. However in double stimulation in the wild, second stimuli and their function *in relation to volitional action* have a specific connection to conflicts of motives that is not necessarily attendant with a broader idea of tool use. This connects back to Engeström and Sannino's (2016) argument that motives and volition cannot be removed from a principle of double stimulation, lest it lapse into the more general notion of mediation.

The theory of expansive learning has proved highly relevant in understanding the interactional dynamics of double stimulation in the wild. Existing studies have linked this to double stimulation in formative interventions, but these connections in work activity require further exploration. Redefining the object is a process full of struggle, and not one that parents engage in without clear need. Pressures from their daily activity in caring for their children create this need. This is why the

concept of double stimulation is so important, as the conflict of motives is what unleashes both the need for and power of expanding the object, opening up the possibility of new action.

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