

Outside in and inside out

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Abstract

This paper seeks to further develop and refine a theory of the ways in which artefacts created by humans direct and deflect the attention of groups and individuals as they act in specific institutional settings. It draws on the writings of Basil Bernstein and Lev Vygotsky. These are two bodies of theory that have strengths which, to some extent, address the weaknesses of the other. It is argued that taken together they will provide a strong base for further extension and refinement in order to provide a coherent account which encapsulates the espoused but not yet fully realised ambitions of both theoretical traditions. A sociological focus on the rules which shape the social formation of discursive practice will be brought to bear on those aspects of psychology which argue that cultural artefacts, such as pedagogic discourse, both explicitly and implicitly mediate human thought and action.

Introduction

In 1987 the British sociologist Basil Bernstein posed the following question in relation to research in the social sciences: ‘How does the outside become inside, and how does the inside reveal itself and shape the outside?’ (Bernstein 1987: 563). In this paper we will seek to develop a theoretical position that will assist efforts to answer this question. We will draw on the strengths of Bernstein’s work in the sociology of pedagogy and cultural transmission together with developments that have taken place in accounts of the social formation of mind that have drawn on the writing of the Russian social theorist L.S. Vygotsky.

Several commentators have noted similarities in the theoretical assumptions (e.g. Daniels 2012; Kellogg 2019; Lerman 2019) and cultural priors (e.g. Castelnovo and Kotok-Friedgut 2015) of Bernstein and Vygotsky. These similarities suggest a certain level of compatibility but not complete alignment. The main concerns are with respect to individual agency, situational characteristics and formative effects. For example, Atkinson (1985) notes that Bernstein’s approach epitomizes an essentially macro-sociological point of view.

‘It is undoubtedly true that in Bernstein’s general approach there is little or no concern for the perspectives, strategy and actions of individual social actors in actual social settings.’
(Atkinson 1985:32)

This position concurs with that of some Vygotskian theorists who also argue that individual agency has been significantly under acknowledged in Bernstein’s sociology of pedagogy (e.g. Werstch 1998a).

Hasan (2001), who was influenced by both Vygotsky and Bernstein, argued that each act of speaking is a social event, behind which lies the history of the individual and so the history of the community of which the individual is a member. This is an understanding of the semiotic

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process which in fact provides a powerful sociological complement to Vygotsky's account of the role of semiotic mediation in the development of mind in society (Hasan 2001:6)

Bernstein on the construction of mediating artefacts

Bernstein (1971, 1973) himself acknowledged a debt to Vygotsky. It was through Luria's attempts to disseminate his former colleague's work that Bernstein first became acquainted with Vygotsky's writing.

"I first came across Vygotsky in the late 1950s through a translation by Luria of a section of Thought and Speech published in Psychiatry 2 1939. It is difficult to convey the sense of excitement, of thrill, of revelation this paper aroused: literally a new universe opened" (Bernstein 1993: 23).

This early translation of Vygotsky's work along with a seminal series of lectures given by Luria at the Tavistock Institute in London sparked an intense interest in the Russian Cultural Historical tradition and went on to exert a profound influence on post war developments in the development of education for young people with severe and profound learning difficulties, and theories and practices designed to facilitate development and learning in socially disadvantaged groups in the United Kingdom. In November 1964 Bernstein wrote a letter to Vygotsky's widow outlining her late husband's influence on his developing thesis.

As you may know, many of us working in the area of speech (from the perspective of psychology as well as from the perspective of sociology) think that we owe a debt to the Russian school, especially to works based on Vygotsky's tradition. I should say that in many respects, many of us are still trying to comprehend what he said (Bernstein 1964:1).

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It was Vygotsky's (1987) non-dualist cultural historical conception of mind claims for the role of *intermental* (social) experience in the shaping of *intramental* (psychological) development that continued to influence Bernstein's thinking. This was understood as a mediated process in which culturally produced artefacts (such as forms of talk, representations in the form of ideas and beliefs, signs and symbols) shape and are shaped by human engagement with the world (Daniels 2008; Vygotsky 1987). However, Vygotsky did not consider the ways in which concrete social systems bear on psychological functions. He discussed the general importance of language and schooling for psychological functioning, however, as Ratner notes, he failed to examine the real social systems in which these activities occur and reflect. Vygotsky never indicated the social basis for this new use of words. The social analysis is thus reduced to a semiotic analysis which overlooks the real world of social praxis (Ratner 1997).

Durkheim influenced both Vygotsky and Bernstein (Atkinson 1985). On the one hand Durkheim's notion of collective representation allowed for the social interpretation of human cognition, on the other it failed to resolve the issue as to how a collective representation is interpreted by the individual. This is the domain so appropriately filled by the later writings of Vygotsky (e.g 1999). Although Vygotsky (1987) discussed the general importance of language and schooling for psychological functioning, he failed to provide an analytical framework to analyse and describe the real social systems in which these activities occur. The analysis of the structure and function of semiotic psychological tools in specific activity contexts is not explored.

Amongst sociologists of cultural transmission and pedagogy, Bernstein (2000) provides the sociology of this social experience which is most compatible with, but absent from, Vygotskian psychology. His theoretical contribution was directed towards the question as to how institutional relations of power and control translate into principles of communication and how

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these differentially regulate forms of consciousness. Bernstein (1996) outlined a model for understanding the construction of pedagogic discourse. In this context pedagogic discourse is a source of psychological tools or cultural artefacts arguing that the basic idea was to view [pedagogic] discourse as arising out of the action of a group of specialised agents operating in specialised setting (Bernstein 1999).

The language that Bernstein (2000) has developed allows researchers to take measures of institutional modality of specialized settings. That is to describe and position the discursive, organizational and interactional practice of the institution. Importantly, modality does not imply homogeneity. Institutions may maintain some cultural forms more frequently than others and these may come to predominate and be taken to typify the culture of the institution. The extent of variation within the institution is a consequence of relations of control. Highly structured and controlled institutions reveal less variation than those which there are weaker relations of control. There will always be outliers. A modality does not determine any more than a cultural tool mediates in a uniform manner. Neither institutions nor their cultural products determine the social mind. They do however shape the possibilities and likelihoods of thinking and feeling.

Bernstein's model is one that is designed to relate macro-institutional forms to micro- interactional levels and the underlying rules of communicative competence. He focuses upon two levels: a structural level and an interactional level. The structural level is analysed in terms of the social division of labour it creates (e.g. the degree of specialisation, and thus strength of boundary between professional groupings) and the interactional with the form of social relation it creates (e.g. the degree of control that a manager may exert over a team members' work plan). The social division is analysed in terms of strength of the boundary of its divisions; that is, with respect to the degree of specialisation (e.g. how strong is the boundary between professions such as teaching and social work or one school curriculum subject and another). Thus the key concept

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at the structural level is the concept of boundary, and structures are distinguished in terms of their relations between categories. The interactional level emerges as the regulation of the transmission/acquisition relation between teacher and the taught (or manager and the managed); that is, the interactional level comes to refer to the pedagogic context and the social relations of the workplace or classroom or its equivalent. Power is spoken of in terms of classification, which is manifested in category relations that themselves generate recognition rules—possession of which allows the acquirer to recognise as difference that is marked by a category, as would be the case of the rules that allow a professional to be recognised as belonging to particular professional group. This is not simply a matter of finding out which service someone belongs to, it also refers to the ways in forms of talk and other actions may be seen to be belonging to a particular professional category or grouping. When there is strong insulation between categories (i.e. subject, teachers), with each category sharply distinguished, explicitly bounded and having its own distinctive specialisation, then classification is said to be strong. When there is weak insulation, then the categories are less specialised and their distinctiveness is reduced; then classification is said to be weak. Different institutional modalities may be described in terms of the relationship between the relations of power and control, which gives rise to distinctive discursive artefacts. For example, with respect to schooling, where the theory of instruction gives rise to a strong classification and strong framing of the pedagogic practice, it is expected that there will be a separation of discourses (school subjects), an emphasis upon acquisition of specialised skills; the teacher will be dominant in the formulation of intended learning and the pupils are constrained by the teacher's practice. The relatively strong control on the pupils' learning, itself, acts as a means of maintaining order in the context in which the learning takes place. This form of the instructional discourse contains regulative functions. With strong classification and framing, the social relations between teachers and pupils will be more asymmetrical; that is, more clearly hierarchical. In this instance the regulative discourse and its

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practice is more explicit and distinguishable from the instructional discourse. Where the theory of instruction gives rise to a weak classification and weak framing of the practice, then children will be encouraged to be active in the classroom, to undertake enquiries and perhaps to work in groups at their own pace. Here the relations between teacher and pupils will have the appearance of being more symmetrical. In these circumstances it is difficult to separate instructional discourse from regulative discourse as these are mutually embedded. The formulation of pedagogic discourse as an embedded discourse comprised of instructional and regulative components allows for the analysis of the production of such embedded discourses in activities structured through specifiable relations of power and control within institutions.

The Vygotskian account of mediation

Just as the development of Vygotsky's work fails to provide an adequate account of social praxis so much sociological theory is unable to provide descriptions of micro level processes, except by projecting macro level concepts on to the micro level unmediated by intervening concepts through which the micro can be both uniquely described and related to the macro level. Given that human beings have the capacity to influence their own development through their use of the artifacts, including discourses, which they and others create or have created then we need a language of description that allows us to identify and investigate: the circumstances in which particular discourses are produced; the modalities of such forms of cultural production; and the implications of the availability of specific forms of such production for the shaping of learning and development. Abreu and Elbers (2005) provide a plea for socially enhanced form of analysis.

“.. the impact of broader social and institutional structures on people's psychological understanding of cultural tools. We argue that in order to understand social mediation it is necessary to take into account ways in which the practices of a community, such as

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school and the family, are structured by their institutional context. Cultural tools and the practices they are associated with, have their existence in communities, which in turn occupy positions in the broader social structure. These wider social structures impact on the interactions between the participants and the cultural tools.” (Abreu & Elbers 2005:4)

It is Vygotsky’s (1987) work that provides a theory that places emphasis on individual agency through its attention to the notion of mediation (Daniels 2008, 2001). Vygotsky developed a rich and tantalising set of suggestions that have been taken up and transformed by social theorists as they attempt to construct accounts of the formation of mind which to varying degrees acknowledge social, cultural and historical influences. His is not a legacy of determinism and denial of agency; rather he provides a theoretical framework which rests on this concept of mediation. He was concerned with the ways in which cultural tools or artefacts, such as speech, mediate engagement between the social and the personal. This understanding has found expression in the study of the mediating role of specific cultural tools and their impact on development as well the mediational function of the social interaction that gives access to specific tools (Daniels, 2008). From this point in the development of his work the challenges that confront us are at least twofold: firstly, have we developed an account of mediation that is both necessary and sufficient for a satisfactory account of the social, cultural, historical formation of mind and secondly have we developed a sufficiently robust understanding of the ways in which mediational means are produced?

The very idea of mediation carries with it a number of significant implications concerning control. In that the concept denies the possibility of total determinism through external forces it is associated with an intellectual baggage which is potentially highly charged, especially in the political context in which these ideas were originally promulgated. In the extract

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reprinted below it is clear that Vygotsky was arguing that humans master themselves through external symbolic, cultural systems rather than being subjugated by and in them.

Because this auxiliary stimulus possesses the specific function of reverse action, it transfers the psychological operation to higher and qualitatively new forms and permits the humans, by the aid of extrinsic stimuli, to control their behaviour from the outside (Vygotsky 1978:40).

This emphasis on the self-construction through and with those tools which are available brings two crucial issues to the foreground. Firstly, it speaks of the individual as an active agent in development. Secondly, it affirms the importance of contextual effects in that development takes place through the use of those tools which are available at a particular time in a particular place. He distinguished between psychological and other tools and suggested that psychological tools can be used to direct the mind and behaviour. In contrast, technical tools are used to bring about changes in other objects. Rather than changing objects in the environment, psychological tools are devices for influencing the mind and behaviour of oneself or another.

Bakhurst (1995) uses the term objectification in connection with the cultural historical production of the tools and artefacts which humans use to order and construct their lives. The idea of meaning embodied or sedimented in objects as they are put into use in social worlds is central to the conceptual apparatus of theories of culturally mediated, historically developing, practical activity.

This notion of 'objectification' (*opredmechivanie*) is easiest to understand in the case of artefacts. What distinguishes an artefact from a brutally physical object? (e.g. what distinguishes a table from the raw material from which it is

fashioned?). The answer lies in the fact that the artefact bears a certain significance which it possesses, not by virtue of its physical nature, but because it has been produced for a certain use and incorporated into a system of human ends and purposes. The object thus confronts us as an embodiment of meaning, placed and sustained in it by ‘aimed-oriented’ human activity. (Bakhurst 1995:160)

It is of interest that so much effort has been expended by writers who espouse a Vygotskian commitment attempting to clarify the movement from the social to the individual and yet relatively little attention has been paid to the reverse direction. Bruner’s (1997) reminder about Vygotsky’s liberationist version of marxism serves to reinforce the view that his was a social theory which posited the active role of the person in their own cognitive and emotional creation. Whether the emphasis was directly on creativity itself or through the use of expressions such as ‘mastering themselves from the outside’ in his early work Vygotsky discussed externalisation at some length. Engeström (1999) reports that there has been a reawakening of interest in the topic in Russia. He links this development to political shifts that have taken place.

In a Russian collection on the concept of activity edited by Lektorsky this emphasis was suddenly almost turned around. Nearly all authors emphasised that the most important aspect of human activity is its creativity and its ability to exceed or transcend given constraints and instructions. Perhaps this conclusion reflected the impact of perestroika in philosophy and psychology (Engeström 1999:231)

Engeström has developed a model of transformation which he calls the expansive cycle in which internalisation and externalisation develop complementary roles. Engeström and

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Miettinen (1999) provide a discussion of the internalisation externalisation process at every level of activity.

‘Like Ilyenkov after him, Vygotsky recognises that as much as culture creates individuals, culture itself remains a human creation (Bakhurst, and Sypnowich 1995:11)

Leontiev's (1978) work on internalisation and externalisation also revealed that the internal and the external were not identical. He saw externalisation as the process that ‘produces artefacts... that enter into and channel subsequent streams of activity’ (Prior 1997) p.278.

Ways of thinking and feeling may be influenced and shaped by the availability of cultural artefacts which may themselves be the products of mediated activity. In his discussion of Leontiev's work, Glassman (1996) characterised this process as expansion originating in the development of symbols in a joint community. Yet the notion of community remains analytically elusive.

Sociologists have suggested that there are important limitations with Vygotsky's sociogenetic arguments. The argument is that that post-Vygotskian theory is particularly weak in addressing relations between local, interactional contexts of 'activity' and 'mediation', where meaning is produced and how wider structures of the division of labour and institutional organisation act to specify social positions and their differentiated orientation to 'activities and 'cultural artefacts' such as discourse (e.g. Fitz 2007).

The general argument was that there is a requirement for a conceptualization of the cultural historical processes of the shaping of consciousness which recalls Vygotsky (1987), but one which is backed by a theory which provides a much clearer understanding of the social structuring of discourse in society. “Not surprisingly, communication whether it occurred in

everyday life or in the context of official pedagogy was for Bernstein an important instrument in the multiple layers of ‘translations’ that his ambitious theory attempted, linking the smallest human action, the most ordinary seeming talk ultimately to the principles of social organization, to the production and distribution of power within societies” (Hasan 2001:6).

Development of a productive synthesis of Bernstein and Vygotsky

If activities are to be thought of as ‘socially rooted and historically developed’ how do we describe them in relation to their social, cultural and historical contexts of production? If

Vygotsky was arguing that formation of mind is a socially mediated process then what theoretical and operational understandings of the social, cultural, historical production of ‘tools’ or artefacts do we need to develop in order to empirically investigate the processes of development? Bernstein has suggested that the metaphor of the ‘tool’ itself serves to detract attention away from the relation between its structure and the context of its production.

“The metaphor of ‘tool’ draws attention to a device, an empowering device, but there are some reasons to consider that the tool, its internal specialised structure is abstracted from its social construction. Symbolic ‘tools’ are never neutral; intrinsic to their construction are social classifications, stratifications, distributions and modes of recontextualizing.”
(Bernstein 1993:xvii)

These questions concerning the production of artefacts or tools would appear to be a matter of some priority for the development of the field, as so much of the empirical work that has been undertaken struggles to connect the analysis of the formative effect of mediated activity or tool use with the analysis of tool or artefact production. Through the development of both theories it is possible to outline an account of the production of psychological tools or artefacts, such as discourse, that will allow for exploration of formative effects of the social context of production

at the psychological level. This will also involve a consideration of the possibilities afforded to different social actors as they take up positions and are positioned in social products such as discourse. This discussion of production will thus open up the possibility of analysing the possible positions that an individual may take up in a field of social practice. The passage below opens the debate about the relationship between principles of social production, regulation and individual functioning:

“The substantive issue of the theory is to explicate the processes whereby a given distribution of power and principles of control are translated into specialised principles of communication differentially, and often unequally, distributed to social groups/classes. And how such an unequal distribution of forms of communication, initially (but not necessarily terminally) shapes the formation of consciousness of members of these groups/classes in such a way as to relay both opposition and change. The critical issue is the translation of power and control into principles of communication which become (successful or otherwise) their carriers or relays.” (Bernstein 2000:91)

Bernstein seeks to link semiotic tools with the structure of material activity. Crucially he draws attention to the processes that regulate the structure of the tool rather than just its function.

Bernstein, (2000) suggests that pedagogic discourse is constructed by a recontextualising principle that selectively appropriates, relocates, refocuses and relates other discourses to constitute its own order. He argues that in order to understand the artefact that is pedagogic discourse as a social and historical construction attention must be directed to the regulation of its structure, the social relations of its production and the various modes of its recontextualising as a practice (Bernstein 1993:xvii).

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He also argues that much of the work that has followed in the wake of Vygotsky does not include in its description how the discourse itself is constituted and recontextualised.

‘The socio-historical level of the theory is, in fact, the history of the biases of the culture with respect to its production, reproduction, modes of acquisition and their social relations.’ (Bernstein 1993:xviii)

The theoretical and methodological development of post-Vygotskian theory requires languages of description which will facilitate a multi-level understanding of pedagogic discourse, the varieties of its practice and contexts of its realization and production. Bernstein’s (2000) work provides the basis for such a language of description which may be applied at the level of principles of power and control which may then be translated into principles of communication. Different social structures give rise to different modalities of language which have specialised mediational properties. They have arisen, have been shaped by, the social, cultural and historical circumstances in which interpersonal exchanges arise and they in turn shape the thoughts and feelings, the identities and aspirations for action of those engaged in interpersonal exchange in those contexts. Hence the relations of power and control, which regulate social interchange, give rise to specialised principles of communication. These mediate social relations.

Discourse may mediate human action in different ways. There is visible (Bernstein 2000) or explicit (Wertsch 2007) mediation in which the deliberate incorporation of signs into human action is seen as a means of reorganising that action. This contrasts with invisible or implicit mediation that involves signs, especially natural language, whose primary function is IN communications which are part of a pre-existing, independent stream of communicative action that becomes integrated with other forms of goal-directed behaviour (Wertsch 2007). Invisible semiotic mediation occurs in discourse embedded in everyday ordinary activities of a social subject’s life. Such discourse is ordinary in that its sayings and their meanings are seen as

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entirely natural and arguably, that is why it is so effective. It is instrumental in creating 'habits of the mind' which are crucial to a subject's ways of engaging in decision making in the social world.

The challenges of studying implicit mediation have been approached from a variety of theoretical perspectives. Holland, Lachiotte, Skinner, and Cain (1998) have studied the development of identities and agency specific to historically situated, socially enacted, culturally constructed worlds in a way which may contribute to the development of an understanding of the way in which the development of social capital is situated. This approach to a theory of identity in practice is grounded in the notion of a figured world in which positions are taken up constructed and resisted. Bakhtin's (1986) concept of the 'space of authoring' is deployed to capture an understanding of the mutual shaping of figured worlds and identities in social practice. They refer to Bourdieu (1977) in their attempt to show how social position becomes disposition. They argue for the development of social position into a positional identity into disposition and the formation of what Bourdieu refers to as 'habitus'—a recursive, internalised process of embodied enculturation structured by spaces, sociality, and institutions (e.g. 1977: 85-97). Significantly, Bernstein is critical of habitus, arguing that the internal structure of a particular habitus, the mode of its specific acquisition, which gives it its specificity, is not described. For him habitus is known by its output not its input. (Bernstein, 2000). In Bourdieu there is no language of description and analysis of the social formation of habitus that allows for a consideration of its contextual specificity. Holland et al. (1998) tend to lean on Bourdieu to explicate the pervasive influence of structuration in shaping agency and habitus in institutional settings, but we argue that an enlightened synthesis of Bernstein's and Vygotsky's work can provide a tantalizing alternative to such overreliance on Bourdieu for sociological analysis.

Wertsch (1998b) turned to Bakhtin's theory of speech genres rather than habitus. A similar conceptual problem emerges with this body of work. Whilst Bakhtin's views concerning speech genres are 'rhetorically attractive and impressive, the approach lacks both a developed conceptual syntax and an adequate language of description. Terms and units at both these levels in Bakhtin's writings require clarification; further, the principles that underlie the calibration of the elements of context with the generic shape of the text are underdeveloped, as is the general schema for the description of contexts for interaction' (Hasan, 2005).

Hasan (2005) is also concerned with the bias within Vygotskian theory towards the experiential function of language. She equates this with the 'field of discourse' within systemic functional linguistics. Her concern is with the absence of analysis of what she refers to as the 'tenor of discourse' by which she means the social relations and the positioning of the interactants and the 'mode of discourse' the nature of semiotic and material contact between the discursive participants. She argues that Bernstein provides the basis for a language of description which may be applied at the level of principles of power and control which may then be translated into principles of communication. Bernstein also seeks to show how these principles of communication differentially regulate forms of consciousness. As he noted in a discussion of sociolinguistics:

'Very complex questions are raised by the relation of the socio to the linguistic. What linguistic theories of description are available for what socio issues? And how do the former limit the latter? What determines the dynamics of the linguistic theory, and how do these dynamics relate, if at all, to the dynamics of change in those disciplines which do and could contribute to the socio. If 'socio' and linguistics are to illuminate language as a truly social construct, then there must be mutually translatable principles of

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descriptions which enable the dynamics of the social to enter those translatable principles' (Bernstein 1996:151-2)

Different social structures give rise to different modalities of language which have specialised mediational properties. They have arisen, have been shaped by, the social, cultural and historical circumstances in which interpersonal exchanges arise and they in turn shape the thoughts and feelings, the identities and aspirations for action of those engaged in interpersonal exchange in those contexts. Hence the relations of power and control, which regulate social interchange, give rise to specialised principles of communication. These mediate social relations.

Hasan (2002, 2001) brings Bernstein's concept of social positioning to the fore in her discussion of social identity. Bernstein (1990:13) used this concept to refer to the establishing of a specific relation to other subjects and to the creating of specific relationships within subjects. As Hasan (2005) notes, social positioning through meanings are inseparable from power relations.

Bernstein provided an elaboration of his early general argument:

"More specifically, class-regulated codes position subjects with respect to dominant and dominated forms of communication and to the relationships between them. Ideology is constituted through and in such positioning. From this perspective, ideology inheres in and regulates modes of relation. Ideology is not so much a content as a mode of relation for the realizing of content. Social, cultural, political and economic relations are intrinsic to pedagogic discourse." (Bernstein 1990:13-14)

Here the linkage is forged between social positioning and psychological attributes. This is the process through which Bernstein talks of the shaping of the possibilities for consciousness. The dialectical relation between discourse and subject makes it possible to think of pedagogic discourse as a semiotic means that regulates or traces the generation of subjects' positions in

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discourse. We can understand the potency of pedagogic discourse in selectively producing subjects and their identities in a temporal and spatial dimension (Diaz 2001:106-108). As Hasan (2005) argues, within the Bernsteinian thesis there exists an ineluctable relation between one's social positioning, one's mental dispositions and one's relation to the distribution of labour in society. Here the emphasis on discourse is theorised not only in terms of the shaping of cognitive functions but also, as it were invisibly, in its influence on dispositions, identities and practices' (Bernstein 1990:33).

Post Vygotskian studies have developed accounts of contestation and transformation. Activity Theory based developments of Vygotskian ideas speak of networks of activity within which contradictions and struggles take place in the definition of the motives and object of the activity. They call for an analysis of power and control within and between developing activity systems. The latter is the point at which Bernstein's emphasis on different layers and dimensions of power and control becomes key to the development of the theory.

Lemke (1997) suggests that it is not only the context of the situation that is relevant but also the context of culture when an analysis of meaning is undertaken. He suggests that 'we interpret a text, or a situation, in part by connecting it to other texts and situations which our community , or our individual history, has made us see as relevant to the meaning of the present one' (Lemke 1997:50). This use of notions of intertextuality, of networked activities, or network of connections provides Lemke with tools for the creation of an account ecosocial systems which transcend immediate contexts. Post-Vygotskian Cultural Historical Activity Theorists (CHAT) Engeström and Miettinen recognise the strengths and limitations of this position. They imply ~~they~~ a need for an analysis of the way in which networks of activities are structured – ultimately for an analysis of power and control.

Various microsociologies have produced eye-opening works that uncover the local, idiosyncratic, and contingent nature of action, interaction, and knowledge. Empirical studies of concrete, situated practices can uncover the local pattern of activity and the cultural specificity of thought, speech and discourse. Yet these microstudies tend to have little connection to macrotheories of social institutions and the structure of society. (Engeström and Miettinen 1999:8)

In our research on school design, we have attempted a productive synthesis of Bernstein and Vygotsky in microstudies of school settings (Daniels et al. 2019). From Vygotsky (1987) we argued that engaging in the pedagogic discourses (thought of as tools) and practices of each school transforms the activity of schooling and gives rise to specific orientations to meaning. These are the tools which mediate thinking and feeling and are in turn shaped and transformed through their use in the activity of schooling. In this way processes of co-creation of individual/psychological and cultural/historical factors become interwoven. From Bernstein (2000) we developed an account of the regulation of these discourses and practices as institutional modalities.

Earlier in the current article we cited Abreu and Elbers who argue that it is necessary to take into account ways in which the practices of a community, such as school and the family, are structured by their institutional context and that social structures impact on the interactions between the participants and the cultural tools (Abreu & Elbers 2005:4). In a footnote to the introduction of a 2007 volume of the journal 'Mind , Culture and Activity' Roth sees what might be the root of a problem in translation:

English translations of Marx and Leont'ev use the adjective *social* (sozial, [sozial'no]) where the German/Russian versions use *societal* (gesellschaftlich, [obshchestvenno]). The two English adjectives have very different implications in that the latter concept

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immediately introduces society as a major mediating moment into the kinds of relations that people entertain and realize. (Roth 2007:143)

The point we wish to make is that it is not just a matter of the structuring of interactions between the participants and other cultural tools, rather it is that the institutional structures themselves are cultural products which serve as mediators in their own right. In this sense they are the 'message'—that is, a fundamental factor of education as discussed by Ivic (1989) because, as an institution and quite apart from the content of its teaching, it implies a certain structuring of time and space and is based on a system of social relations (between pupils and teacher, between the pupils themselves, between the school and its surroundings, and so on" (Ivic 1989:429). When we talk, as Makitalo and Säljö (2002) argue, we enter the flow of communication in a stream of both history and the future (Makitalo and Säljö 2002:63). When we talk in institutions history enters the flow of communication through the invisible or implicit mediation of the institutional structures. Our suggestion is that there is need to analyse and codify the mediational structures as they deflect and direct attention of participants and as they are shaped through interactions which they also shape. In this sense we are advocating the development of cultural historical analysis of the invisible or implicit mediational properties of institutional structures which themselves are transformed through the actions of those whose interactions are influenced by them. This move would serve to both expand the gaze of CHAT and at the same time bring sociologies of cultural transmission such as that developed by Bernstein (2000) into a framework in which institutional structures are analysed as historical products which themselves are subject to dynamic transformation and change over time. From a post-Vygotskian perspective Roth and Lee (2007) put forward a compatible understanding of learning:

Hence, learning is equivalent to the mutual change of object and subject in the process of activity; human beings plan and change the material world and societal life just as these

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settings mutually transform agents and the nature of their interactions with each other.

Learning occurs during the expansion of the subject's action possibilities in the pursuit of meaningful objects in activity (Roth and Lee 2007:198)

Bernstein provides an account of cultural transmission which is avowedly sociological in its conception. In turn the psychological account that has developed in the wake of Vygotsky's writing offers a model of aspects of the social formation of mind which is underdeveloped in Bernstein's work. The sociocultural account of the social, cultural, and historical context is insufficient for the task that Vygotsky set himself in his attempt to formulate a general social theory of the formation of mind. Bernstein's account of social positioning within the discursive practice that arises in institutional settings taken together with his analysis of the ways in which principles of power and control translate into principles of communication allows us to investigate how principles of communication differentially regulate forms of consciousness. As Bernstein noted:

[A] specific text is but a transformation of the specialized transactional practice; the text is the form of the social relationship made visible, palpable, material. ... Further the selection, creation, production, and changing of texts are the means whereby the positioning of the subjects is revealed, reproduced and changed (Bernstein 1990: 17).

It is precisely this contribution that distances Bernstein from Bourdieu. The language of description that Bernstein developed enables an analysis of the social formation of habitus that allows for a consideration of its contextual specificity. In this way Bernstein charts the way in which the outside positions the subject and it is Vygotsky who provides a theory of the way in which socially, culturally and historically produced artefacts mediate between the inside and the outside. Taken together Bernstein and Vygotsky theorise the ways in which the outside shapes the inside, and the inside reveals itself and shapes the outside. There is a need to develop and

nuance further the concept of 'mediation' in order that it more satisfactorily 'translates' between the sociological language of 'regulation' and 'social positioning' on the one hand, and the language of interactional 'self-construction' and 'transformation' on the other.

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Outside in and inside out