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**SUBJECTNESS AND THE REVITALIZATION
OF A TRADITIONAL CRAFT**

**Activity-Theoretical Analysis of Wooden Ship and
Boat Building**

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Supervisors

Adjunct professor Annalisa Sannino, University of Helsinki

Professor Yrjö Engeström, University of Helsinki

University of Helsinki

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Abstract

The main objective of the research is studying the features and development of subjectness among craftsmen, more specifically the builders of wooden boats. The research is carried out in three settings where wooden ships are built or replicated: 1) boat building in Frasersgunj in West Bengal, India; 2) the construction of a replica of an eighteenth-century rowing gunboat at the Suomenlinna Fortress, Finland; 3) the construction of a replica of a 12-gun Dutch yacht, *the Saint Peter* on the Solovetsky Islands, Russia. These culturally and historically different sites provide a broader picture of motivation to maintain the craft of wooden boat and ship building, the position of the activity in the market and possible future development of the activity. Generally, the research is being carried out within the network of the ongoing CRADLE research project, namely *Concept Formation and Volition in Collaborative Work*.

Traditional crafts went through major changes with standardization and industrialization: the significance and place of crafts in market has changes, as well as the process of production and relations with the customers. From one side, a lot of types of craft extinct or they become an alternative to mass production; from the other side, the products of craft become luxurious and elite (Roberts, 2012; Trexler, 2011). So called “deskilling” or “destruction of skills“ and re-discovery of crafts takes place at the same time.

People who try to maintain or resurrect traditional activities face huge tensions and contradictions in modern world. Craft should have something tremendously attractive, as people are passionate and still try to maintain or revive these types of activity. But facing these everyday tension and contradictions does not bring only negative. There can be a positive meaning in resistance and in conflict (Sannino, 2009) – a way of establishing agency and subjectness.

The main investigated phenomenon of the study is subjectness. In studying human features as an agent or subject, two possible terms of analysis can be used: “agency” and “subjectness”. These terms were developed in parallel in different scientific communities and have slightly different meanings. One

feature they share in common is that a person is aware of what and why he or she is doing certain actions and is engaged in an activity and what the boundaries are.

In CHAT framework, according to A. N. Leontiev (1978), objectiveness and subjectness are two main features of activity. The idea of the subjective qualities of individual was developed in the subjective-activity approach by S. L. Rubinstein (2005), one of the representatives of Soviet activity theory. Although subjectness has a rich theoretical basis, the criteria for studying it are quite vague and blurry. Thus, one of the objectives of the current research will be to define more precise criteria or to understand the way of describing such criteria for different types of activities in relation to existing research data.

One of the aspects of subjectness and agency is the tendency to change circumstances. In case of crafts, maintaining crafts and reviving traditions looks like going back to the past and resisting change. But can it be the opposite: by maintaining tradition, maintaining craft people promote change and change circumstances?

Keywords: subjectness, power of the object, wooden ship and boat building

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1 INTRODUCTION

Traditional crafts underwent major qualitative changes after the introduction of mass production: the significance and place of crafts in the market as well as the process of production and relations with the customers changed. In anticapitalism, defending the integrity of craft was central. But at the same time, crafts in mass production became the production of elite and luxury products, while they were a socialist alternative to alienated labor (Roberts, 2012; Trexler, 2011).

The situation is twofold. At the same time as the extinction and the revival and rediscovery of crafts are occurring, the use value of the craft products is being rediscovered. For instance, thatching - building a roof with dry vegetation - in England is now experiencing a “revival wave.” But, as already has been noted, what used to be a poor man’s roof is the roof of a rich person (McLachan, 2008).

Overall, people who try to maintain or resurrect traditions and traditional activities face huge tensions and contradictions in today’s innovative and changing world. So, what does craft mean to craftsmen? There should be something tremendously attractive in craft, as people are passionate about it and still try to maintain or revive these types of activity. These processes become important on a personal level. But is it all just nostalgia, or can a future-making potential be found in craft activities?

Overall, the outcomes of facing everyday tension and contradictions are not just negative. There can be a positive meaning in resistance and conflict (Sannino, 2009) – a way of establishing agency. One framework for studying the agentive dimension of the self in both the social and individual dimensions in a dialectical way is cultural-historical activity theory (CHAT) (Stetsenko and Arievidtch, 2004). In the CHAT framework, according to A. N. Leontiev (1978), objectiveness and subjectness are the two main features of activity. Davydov and colleagues (1982), in analyzing A. N. Leontiev’s activity approach, define and establish the relation between subjectness and objectness in this way:

Human activity is characterized not only by its objectiveness but also by its subjectness: the activity of a subject is always directed towards the transformation of an object which is able to satisfy a specific need. Activity contains the unity of the opposing phenomena – object and subject. (1982, p. 61)

In studying human characteristics as an agent or subject, two possible terms of analysis can be used: “agency” and “subjectness.” These terms were developed in parallel in different scientific communities and have slightly different mean-

ings. One feature they share in common is, to put it simply, that a person is aware of what actions he or she is doing, why those actions are being done, why he or she is engaged in the activity, and what its boundaries are.

The concept of agency refers to the ability of an agent (a person) to act in the world, to behave independently and to make free choices. The particular qualities of agency have many definitions. Morris, Menon and Ames (2001) point out a difference between the American and non-American (e.g. Chinese) understanding of agency: whereas in the American tradition it is essential to understand agency from an individual point of view, non-Americans conceptualize agency mostly in collective terms.

The idea of the subjective qualities of the individual was developed in the subjective-activity approach by S. L. Rubinstein, one of the representatives of Soviet activity theory. Although subjectness has a rich theoretical basis, the criteria for studying it are quite vague and blurry. Thus, one of the objectives of the current research will be to define more precise criteria or to understand how to describe such criteria for different types of activities in relation to existing research and research data.

One of the aspects of subjectness and agency is the tendency to change something, for example, the circumstances. In the case of crafts, maintaining crafts and reviving traditions looks like a return to the past and resistance to change. But is it? Can maintaining a tradition, craft, in the capitalist mode of production be a way of promoting change, changing circumstances?

One traditional craft which has both lost its significance, and has been introduced to modern methods of work in the process of production is wooden ship and boat building.

The current study is carried out in three settings where wooden ships and boats are built or replicated: 1) boat building in Frasergunj in West Bengal, India; 2) the construction of a replica of an eighteenth-century rowing gunboat at the Suomenlinna Fortress, Finland; 3) the construction of a replica of a 12-gun Dutch yacht, the *Saint Peter*, on the Solovetsky Islands, Russia. The research is being carried out within the network of the ongoing CRADLE research project, namely *Concept Formation and Volition in Collaborative Work*.

The three culturally and historically different settings provide a broader picture of and insights into motivation to maintain boat building, the position of the activity in the market and the future development of the activity.

2 THEORETICAL BACKGROUND: CULTURAL-HISTORICAL ACTIVITY THEORY

The dissertation will seek to explore the aspects of subjectness in wooden boat and ship building activities using the framework of cultural-historical activity theory (CHAT). First, I will draw a theoretical framework by analyzing the notions of activity and activity systems in CHAT. Second, I will shortly discuss the issues of tradition, which essentially arose in studying the craft of wooden boat and ship building. Then, I will analyze the characteristics of the object of activity in CHAT, focusing primarily on the power and the driving force of the object. And finally, I will move to the subject of activity: I will discuss the current understanding of subjectness and agency.

2.1 The Concept of Activity

The main theoretical and methodological approach for studying subjectness in this study is cultural-historical activity theory (CHAT), with its focus on activity and activity systems. The cultural-historical and activity-theoretical approach allows addressing the individual, agentive and social dimensions of the self, not as a dichotomy, but on a dialectical level (Stetsenko and Arievitch, 2004).

Engeström (1987) proposed three generations in the evolution of activity theory, which analyzes triangles of activity. The first generation is based on L. S. Vygotsky's work with the "mediating act" as a unit of analysis (Vygotsky, 1978). Vygotsky's cultural-historical approach is grounded on Karl Marx's dialectical materialism.

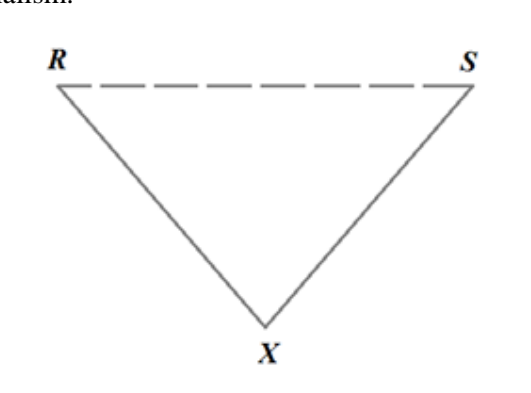


Figure 1. Vygotsky's representation of the mediated act (Engeström, 1978, p. 40)

Vygotsky’s main idea of mediation was that a human act is not just a response (R) to a stimulus (S), but is mediated by a cultural component (X), and this idea is pictured in Figure 1. The intermediate link in this formula is neither a simple method of improving previously existing operations, nor a mere additional link in an S-R chain. Cultural means, artifacts, can be represented as signs or tools, which are oriented in different directions.

The second generation of activity theory, based on A. N. Leont’ev’s works (1959), has a different unit of analysis. Activity is regarded as the molar unity of a subject, emphasizing the difference between individual action and collective activity and arising from activity’s dialectical nature. Leontyev (1978) proposed a hierarchical organization schema of the activity: activity – action – operation, and correlated this schema with the structure of motivation, respectively: motive – goal – condition. Activity cannot be reduced to actions. Collective activity is connected with an object and motives, which are not always conscious, and also has a longer historical perspective. Individual action is connected with a more or less conscious goal (Leont’ev, 1978).

Engeström’s (1987, p. 78) model of an activity system is a graphic representation of the expanded unit of analysis in the second generation. Further, not only is this triangular model of a basic structure of activity an extension of Vygotsky following Leont’ev, but it also stems from an analysis of the radical conceptual and methodological breakthroughs accomplished in the nineteenth century by Hegel in philosophy, Darwin in biology and Marx in the social sciences.

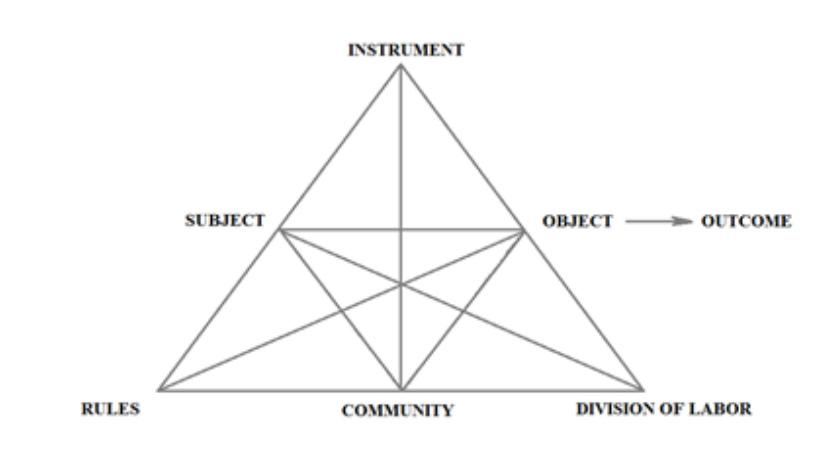


Figure 2. The triangular model of human activity (Engeström, 1987, p. 78)

The model is intended to analyze a multitude of relations within the triangular structure of activity (see Figure 2). The subject refers to the individual or group; the object refers to the “raw material” or “problem space” at which the activity is

directed and which is transformed into outcomes with the help of mediating instruments (tools and signs). The community represents individuals and groups, who share the same general object; the division of labor includes the horizontal and vertical division of tasks in the community; the rules refer to regulations and conventions that restrain actions and interactions within the activity system. Nevertheless, the idea is to understand the activity as a whole, not to study separate connections.

The third generation of activity theory, according to Engeström (1987), needs to develop conceptual tools to understand dialogue, multiple perspectives and networks of interacting activity systems. As an activity system does not exist in a vacuum and as it interacts with a network of other activity systems, the unit of analysis is expanded to include at a minimum two interacting activity systems (see Figure 3).

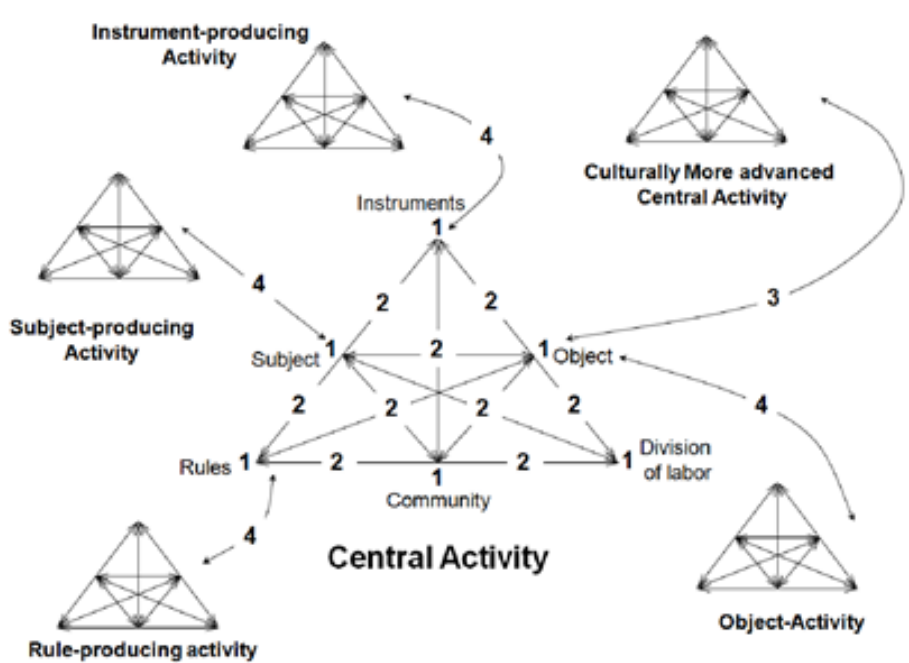


Figure 3. Interaction of activity systems

Each activity system is influenced by other activity systems, but the external influences cannot fully explain the changes in the activity; external changes are appropriated and transformed into internal factors by the activity system. The activity system is constantly working through contradictions within and between its elements. In the tradition of dialectical materialism, as developed by Marx from the Hegelian tradition, contradictions refer to the inherent opposition inside

one force or object. Contrary to traditional logic, dialectical contradictions are not impossible.

Contradictions in an activity system (Engeström, 1987) are represented on four levels (see Figure 3):

1. primarily inner contradictions within each component of the central activity,
2. secondary contradictions between the components of the central activity,
3. tertiary contradiction between the object/motive of the dominant form of the central activity and the object/motive of a culturally more advanced form of the central activity, and
4. quaternary contradictions between the central activity and its neighboring activities (Engeström, 1987).

Overall, the analysis of activity, activity systems and contradictions has the potential to enrich the study of self by putting it into a broader context.

2.2. The Concept of Object

The concept of “the object of activity” is one of the most crucial concepts of activity theory, and “object-orientedness” is the key attribute of the activity. As the notion of “the object of activity” was developed originally in Russian activity theory, a problem of translation and the real meaning of the term arises (Kaptelinin, 2005).

The Russian language has two words which can be translated into English as “object”: *objekt* and *predmet*. Generally, they have a similar meaning and can in part act as synonyms. The Dictionary of the Russian Language (by S. I. Ozhegov) gives these definitions of *objekt* and *predmet*:

Objekt. 1. In philosophy: something that exists outside us, independent of our consciousness; a phenomenon of the external world. 2. A phenomenon, *predmet*, to which someone’s activity or attention is directed (literary language).

Predmet. 1. Any material phenomena, thing. 2. Someone (something), to whom (which) thought or action is directed; object (2d definition).¹

¹ Ozhegov S. I., Shvedova N. Y. (1998) *Tolkovy slovar russkogo yazika* [Explanatory dictionary of Russian Language] Russian Academy of Science. 4th ed. Moscow, Azbuckovnik.

So, the modern everyday use of these terms seems to be similar with a slight difference arising from the concrete use of these terms². In the scientific, philosophical use of these terms, a slight difference arises:

Objekt – Something opposing a subject in his objective-practical and cognitive activity. O. is not a simple objective reality, but it is a part of reality in interaction with the subject.

Predmet – A category, which defines a unity, selected from the world of objects in human activity or cognition.³

The term *objekt* is used as an opposition to subject, and *predmet* is used to refer to a phenomenon in which *objekt* is embedded into activity or cognition. That small difference between *objekt* and *predmet* was crucial for Leont'ev's (1975, 1981) analysis of activity.

In *Problems of the Development of the Mind* (1981) he clearly states the difference, adding Marx's ideas to this distinction:

Accordingly, I will limit the meaning of “**object**.” Usually this concept has two meanings: in a broad sense, it is a thing related to other things, that is, a “thing having an existence,” in a more narrow sense, it is something that opposes (German *Gegenstand*), something that resists (Latin *objectum*), something at which an action is directed (Russian *predmet*), that is, something to which a living creature is somehow related, as an object of his or her activity, no matter if this activity is an external one or an internal one (for example, “the **object** of eating,” “the **object** of labor,” “the **object** of contemplation,” etc.). From now on the term “**object**” will be used in this more narrow, special meaning. (Leontiev, 1981, p. ?).⁴

In *Activity, Consciousness and Personality* (1978) Leont'ev reasonably refers to *objekt* and objective while analyzing psychic reflection. Later in the same book he refers to *predmet* as the object of activity and “object-oriented” activity as *predmetnaya deyatel'nost'*.

² Kaptelinin (2005), when analyzing the issue of *predmet* and *objekt* refers to an older issue of the same dictionary (1982), but he has a different analysis: *Although objekt deals mostly with material things existing independently of the mind, predmet often means the target or content of a thought or an action* (Ozhegov, 1982; Kaptelinin, p. 6, 2005).

³ Philosophical encyclopedia (1983). Moscow, Soviet encyclopaedia.

⁴ I deliberately marked “object” in bold in the places, where in the original Leont'ev uses *predmet* to make his reasoning more vivid.

Kaptelinin (2005) claims that the crucial difference between *predmet* and *objekt* is lost in the English translation, and he offers several rules to help the reader to understand the meaning of the word “object” in Leontiev’s works:

1. In general, the reader should rely on the context, taking into account that “object” is likely to have the meaning of *predmet* if a special emphasis is made on intentional, social, meaningful, and integrated qualities. Running the risk of oversimplification, one can say that *predmet* is more “subjective,” and *objekt* is more “objective.”
2. In the expression “the object of activity” and related uses, “object” has the meaning of *predmet*.
3. In the “subject–object” distinction and related uses, “object” has the meaning of *objekt*. (p. 8, 2005)

In his article Kaptelinin (2005), pursuing further the analysis of the notion of the object in CHAT, discusses two main contemporary approaches to the analysis of object: the approach developed by Leontiev (1978) with a focus on individual activity and the one developed by Engeström (1987) with collective activity. Analyzing the different focuses of these two approaches, Kaptelinin claims that they are complementary: their different areas of application provide a wide perspective for researchers.

Leont’ev (1978) defines the object of activity as a true motive:

The object of an activity is its true motive...and the motive can be either material or ideal, either present in perception or exclusively in the imagination or in thought. (p. ?)

Also, according to Leontiev, there is no “objectless” activity – this would be nonsense. True activity always has an object; an activity may seem objectless, but the scientific investigation of activity requires identifying its object. Leontiev (1978) discussed different types of activity using different criteria, but the main distinguishing feature was the object of each particular activity.

Leont’ev’s (1978) overall analysis of activity had a psychological focus. He regarded all activities as social, but focused on concrete individuals engaged in activity. Leontiev analyzed activity as a type of activeness, driven by a need. During the search the need meets the object which is able to satisfy that need. By this encounter, activeness becomes directed, and need is objectified, becoming a conscious motive.

For Leont’ev (1978) need becomes a motive only when it finds an object in both animals and humans. For animals, objects are natural objects; for humans, they are cultural and historical.

Leont’ev described the twofold nature of the object of activity:

First, in its independent existence as subordinating to itself and transforming the activity of the subject; second, as an image of the object, as a product of its property of psychological reflection that is realized as an activity of the subject and cannot exist otherwise. (1978, ?)

Leontiev (1978) claimed that needs are only able to regulate activity if they are objectified. This led him to the Lewinian notion of the motivating force of objects:

From this arises the possibility of the reversal of terms that allowed K. Lewin to speak about the motivating force of objects themselves (*Auf-forderungscharakter*). (1978, p.?)

Overall, when a need becomes objectified and a simple object becomes the object of activity, it then carries motivation and gains its real power to drive people.

Another Russian activity theorist and developer of the subjective-activity approach in psychology, S. Rubinshtein, also analyzed the notion of the object of activity. For Rubinshtein (2005) things, which exist regardless of a subject, become objects only when subjects relate to these things in cognition or action; then these things become “things for a subject” or objects. Rubinshtein applied his principle “outer reasons work through inner conditions” also to the object of activity: activity is determined by its object, but not linearly; it is mediated through specific inner appropriateness and conditions (goals, motives, etc.).

Engeström (1987) extended the focus of analysis in activity theory to collective activity systems, based on the Leont’evian notion that all activity is collective activity. His understanding of the object of activity is also an extension off classical Leont’evian thought: a raw material or problem space toward which the activity is directed and which is molded and transformed into outcomes with the help of mediating instruments (tools and signs).

At the same time, the driving and moving power of objects of activity is not forgotten in the analysis. Engeström and Blackler (2005) regard activity theory as a theory of object-driven activity: objects are concerns; they are generators of attention, motivation, effort and meaning. Objects resist and fight back. Activity is driven by objects, and new objects are constructed through activity.

Engeström and Blackler (2005), following Baudrillard (1996), discussed the power of the object – objects act as a source of desire and passion, as carriers of exchange value and use value. Objects are constructed by actors and have a history of construction.

Kaptelinin (2005) considered the object of activity to be the “ultimate reason” behind the behaviors of individuals, groups or organizations. Kaptelinin, defining objects as “sense-makers,” noted that the concept of object

helps us understand not only what people are doing, but also why they are doing it. (2005, p.5)

Analysis of the notion of the object in activity theory supports the analysis of the object of activity in terms of power and driving forces as entities having the power to mobilize activities and to drive human actions.

2.3 The Concept of Subjectness

Subjectness, along with objectiveness, according to Leontiev (1978), is one of the key features of activity. Two alternative terms developed in different scientific ‘communities’ – *agency* and *subjectness* – can be used to study the features of the subject of activity. A preliminary outline of the main features of these two concepts can provide the grounds for building a broader analysis and comparison of the terms *agency* and *subjectness* in the future.

The concept of agency refers to the ability of a person (the agent) to act in the world, to behave independently and to make a free choice. Emirbayer and Mische (1998) have provided a temporal analysis of the phenomenon using Mead’s three levels of consciousness, which are characterized by increasing control through 1) the immediate response in current experience, 2) envisioning the future and thinking of the past and 3) social interaction. Based on these three elements, Emirbayer and Mische give the following definition of agency:

The temporally constructed engagement by actors of different structural environments – the temporal-relational contexts of action - which, through the interplay of habit, imagination, and judgment, both reproduces and transforms those structures in interactive response to the problems posed by changing historical situations. (p. 970)

Basing his arguments on cultural-historical theory, Ratner (2000) analyses agency as a cultural phenomenon that depends on cultural processes, forms culture and has a cultural form. In this case agency acts like an active element of culture.

Kögler (2012) distinguishes the main features of human agency as intentional causality, conscious understanding and the capacity to distinguish between self-caused and externally caused phenomena. Agency can also be considered in different dimensions; Hitlin and Elder (2007) describe different types of agency in different situations: existential agency, pragmatic agency, identity agency and

life-course agency, depending on the circumstances that an individual faces at a particular moment (2007, p. 175). In discussing professional practices, Edwards (2006) points out an important type of agency, namely relational agency, which is the capacity to offer support and to ask for support from others.

Engeström (2011) analyzes agency as a layer of causality, distinguishing three layers: interpretative, contradictory and agentic (p. 610), thereby developing Eskola's views on the chain of events of human beings. For Engeström, the agentic layer has the potential for an individual to act intentionally with the goal of changing circumstances by using artifacts and facing contradictory situations. As for the agentic behavior and its markers, Sannino (2009) claims resistance to be an agentic initiative, in this way giving a positive meaning to the term "resistance."

Subjectness [Rus. *субъектность* (*subjectnost'*)] and *subjectivity* [Rus. *субъективность* (*subjectivnost'*)] are two different concepts. While *subjectivity* refers to the subject with his/her perspectives, feelings and beliefs as opposed to objectivity, *subjectness* refers to the individual as the subject of activity.

It seems that *subjectness* is almost a 'made-up' word to define a concept in the English language that is sometimes used in scientific publications; however, *subjectness* in English has a different meaning from that developed in Russian. For instance, Schriempf (2009), in a discussion of issues of articulateness and deafness, analyzed *subjectness* as something similar to identity or as identifying a person. The correct translations of *subjectness* from Russian to English is still disputed, and its use in practice has been unclear. For instance, Stetsenko and Arievich (2004) use the word *subjectivity*, which is often used for translation of *subjectness*, while referring to the word *psychic*. Mironova (2013) states that *subjectness* [субъектность] can be translated into English as activity.

In the subject-activity approach, developed as one of the activity-theoretical approaches, *subjectness* refers to inner human conditions that are formed on a concrete life stage, determined not only by external reasons. Inner conditions lead to external changes according to the subject's plan. Human beings are not only affected by a given cultural-historical setting, but they also have the power to change and create this setting. This idea goes back to Marx (1888) and his "Theses on Feuerbach":

Circumstances are changed by men...The coincidence of the changing of circumstances and of human activity or self-changing can be conceived and rationally understood only as *revolutionary practice*.

This approach makes it possible to analyze humans as active creators of their own psychic appearance and producers of change in the world and inside themselves. The representation of the individual as a subject was a key idea in the

subject-activity approach developed by S. L. Rubinstein (2005). For Rubinstein (2005), subjectness was the main mechanism of individual engagement. The subject, according to Rubinstein, is characterized by activity, the ability to develop, integration, self-determination, self-regulation and self-improvement.

A. N. Leont'ev (1975) claimed that subjectness was one of the key characteristics of activity; he regarded it through motivational structure. For Leont'ev the main area of self-expression is labor; thus, subjectness should be analyzed in terms of the subject of labor.

B. F. Lomov (1984) pointed out a self-determination feature of subjectness, which is seen when a person consciously organizes his/her activity. Moreover, subjectness is reflected not only in the cognitive and activity relation to life, but also in relation to other people and it is connected with establishing relationships with others (Myasishchev, 2004). K. A. Abulkhanova (2007), analyzing the structure of subjectness, claims that activity is its main element. Moreover, the need to pursue activity is a new formation of the individual as a subject. A. V. Brushlinsky (1994) argued that the different levels of the subject's activity form a holistic system of inner conditions through which the outer reasons work.

Osnitsky (1996) identified subjectness-based⁵ activity as a specifically human activity. In this type of activity, a human being acts as if he or she is the author of his own activity. Osnitsky (1996) also insisted on the importance of distinguishing subjectness from personality, as a human being represents his or her different sides in subjectness-based activity. This diversity is determined by the tasks of self-regulation, which have to be solved in the process of achieving goals and addressed to different components of a subject's experience. While considering possibilities, a subject builds a line of behavior and realization of his or her objective transformations. The script of subjectness-based activity is a list of purposes, represented in consciousness in different ways, and the instruments of achieving the skills of self-regulation are oriented to achieving goals. According to Konopkin and Osnitsky (2003), the conscious self-regulation of activity and behaviour, *in medias res*, is a form of subjectness realization.

L. I. Vorobyeva (2010) suggests that at the base of the subjectness phenomenon lies a conflict structure of self-consciousness determined by the choices made in an individual's world and identity. Konopkin and Osnitsky (2003) claim that today there is more psychological research on subjectness than previously, but that most researchers use subjectness only as one attribute of a subject.

The notion of subjectness was developed in psychology with a strong focus on the characteristics of individuals. In A. V. Brushlinsky's (1994, 1996) analysis of the subject and the use of this notion in psychology, any entity can be a

⁵ In the original text explaining the phenomenon the author uses the adjective ("related to subjectness," Rus. субъектный, sub'ectnyj), which is almost impossible to translate into English.

subject – even mankind. Further development of the notion of *collective subject*, for instance by A. L. Zhuravlev (2010), consists of discussing the possibility of finding commonalities in the psychological features of groups and individuals. Zhuravlev (2010) identified some features of the collective subject in opposition to a simple group: 1) the interconnection and interdependence of individuals in a group, 2) the ability of a group to show collective forms of activeness or act as a unity and 3) self-reflection as a unity.

3 RESEARCH QUESTIONS AND ARTICLES

The tentative research questions posed in this study can be formulated as follows:

1. How can culturally and historically different research sites communicate? How can a common ground be established between the radically different actors and worlds of wooden ship and boat building ?

The three research sites, which represent different cultural and historical background sites have differences and similarities, and can be grouped in pairs on different points. For instance, replicas are being built in Suomenlinna and the Solovetsky Islands; Frasersgunj and Suomenlinna's builders are boat and ship builders by profession; and in Frasersgunj and the Solovetsky Islands the work is done by a crew of carpenters. The possible idea is to establish a common ground – something deeply in common that can bring the sites together. In addition, these different settings provide a broader insight to the motivation to maintain boat and ship building in different circumstances, the position of the activity in the market and the future development of activity.

2. What is the power of the object of wooden boat and ship building activity? How does the object of activity and the subject interact?

In wooden boat building the object of activity – the wooden boat or ship – is particularly crucial for the analysis of activity systems; in these activity systems the object can be a starting point for the analysis of the whole activity system as well as a pathway to the subject and subjectness. One excerpt from data shows the potential of the power of the object:

Head carpenter:

The ship for me is an image from my consciousness. It is yet not embodied into the matter. I need to embody it from consciousness to matter. Right, from an idea...And I [move] towards it...This is what moves me. This road goes there, to this particular ship.

(Solovetsky Islands. Interview from documentary, 2010)

The object in boat building is an entity that can potentially reveal history – the past, present and future. In different sites history has had a different significance and manifestation in the activity. For instance, building a replica an important issue of the relation between an old and a new boat arises. Is something new created, or is “new” just a copy of another object?

This leads to another issue of the object – its use value and exchange value. Why is the boat being built? Who is interested in building this boat? For example, the Indian carpenters, when asked to draw a picture of a boat, produced a picture of the finished boat sailing in the sea. The use value of the object for them has a crucial role in organizing the activity: the use of the boat determines that will be built.

Understanding the power of the object in boat and ship building activity can lay a path to the subject through understanding the relation between the subject and object.

3. What are the main contradictions in wooden boat and ship building today, and how are they related to subjectness and agency?

Wooden boat and ship building today, like any craft skill in the globalized world, faces many tensions. What contradictions can be traced in wooden ship and boat building? The idea of contradictions as a driving force of development in activity, as conceptualized by Soviet philosopher E. V. Il'enkov (1984, 1981), has been further developed further in works of Western scientists. Analyzing the tensions and the contradictions will provide an opportunity to understand the possibilities of future development and the changes in the activity systems.

In the case of replicating vessels, the issue of motivation in relation to alienation as an inner contradiction of the activity arises. For some builders ship building is partly a way to escape from alienation, to make sense of their work. In CHAT the idea of alienation was developed by A. N. Leont'ev (1957), following Marx (1990). Leont'ev's (1957) understanding of alienation refers to the opposition of personal senses vs. social meanings.

After analyzing the main tensions and contradictions, the relation between them and the subjectness should be established. Can subjectness be established and manifested by overcoming the contradictions? How is subjectness reflected in contradictions?

4. How is subjectness developed and represented in boat and ship building activity?

One of the main aims of the study will be to understand how subjectness emerges and becomes apparent in activity. The idea is to regard subjectness not as a

state – something people do or do not have – but as something that moves and changes. The focus will be on analyzing subjectness as a process, examining the personal development of subjectness and the development of subjectness in community. Another point of analysis here will be to find whether agency and subjectness represent the same phenomenon and identify then what are their similarities and differences.

With regard to the activity being examined, the relations between traditions and subjectness and agency should be analyzed. Subjectness is often understood as the ability to develop or change something, and agency as breaking away from something previously established. The revival and maintenance of tradition can at the same time be a nostalgic return to the past. One excerpt reveals this feeling of nostalgia:

Former carpenter:

This ship is not an attempt to follow fashion, it is just a return to things we have lost.

(Solovetsky Islands, Interview from documentary, 2010)

At the same time, subjectness can be a sign of carrying out a change today through the reintroducing of tradition.

Each research question will be answered in four separate articles (Table 1)

Table 1. Research questions and the respective articles.

Question	Article
1. How can culturally and historically different research sites communicate? How can a common ground be established between the radically different actors and worlds of wooden ship and boat building ?	I. Constructing common ground: Mutual understanding across cultural differences
2. What is the power of the object of wooden boat and ship building activity? How does the object of activity and the subject interact?	II. On the power of the object: History-making in wooden boat building
3. What are the main contradictions in wooden boat and ship building today, and how are they related to subjectness and agency?	III. Contradictions in wooden ship and boat building: Craft skills today (preliminary topic)
4. How is subjectness developed and represented in boat and ship building activity?	IV. The development of subjectness in craft (preliminary topic)

Article I. Constructing common ground: Mutual understanding across cultural differences

The first collaborative article for this study is being written in collaboration with Swapna Mukhopadhyay, Marco Querol and Yrjö Engeström within the project Concept Formation in the Wild. The article analyzes photo interviews, in which Indian and Finnish builders had to speculate on each other's boats and building process with the help of several photographs. One of the crucial issues discussed is the possibility of constructing a common ground between culturally and historically different sites of wooden boatbuilding. The proposition is that common ground can be constructed because the objects of activity are similar. The analytical ideas come from Ilyenkov's (1974) notion of the 'Universal': by not looking at superficial differences and similarities, object-mediated common ground is seen as a meeting place between different views of the object. The article is planned to be published in ETHOS, the Journal of the Society of Psychological Anthropology.

Article II. On the power of the object: History-making in wooden boat building

The second article is devoted to the second research question of the dissertation and will address the issue of the object of activity and its power. I plan to write the article in collaboration with my principal supervisor, Annalisa Sannino. The article will cover a classical understanding of the notion of *the object of activity* and the etymology of the term. On these grounds we will try to expand the understanding of the object as a phenomenon having the power to mobilize and to drive people. We will focus on two research sites – the Finnish and Russian sites – as in these the representation of the history and historical development of the object is more vivid and explicit, and therefore can provide rich data for analysis. We assume that the objects of craft can be a material representation of historicity; the activity of building a boat or a ship is an instantiation of historicity as constant dialectical movement between the past, present and future.

Article III. Contradictions in wooden ship and boat building: Craft skills today (preliminary topic).

The third article will cover the contradictions which evolve in modern wooden ship and boat building. These activities face numerous contradictions as a craft nowadays facing extinction. Some of the data already collected show that builders, even those who are respectful and passionate about their work, do not want their children to do the same work. The article will also focus on the questions of the motivation to pursue this type of work and the value of the craft product.

The article will trace the current development and state of skill of craftspeople. In the article I will analyze verbal and visual data (videos of the working process) to provide a better overview of the actual skills.

Article IV. The development of subjectness in craft (preliminary topic).

The fourth article will cover the issue of subjectness in craft, specifically in wooden boat and ship building. The objective will be to analyze subjectness as a process, focusing on how it evolves and develops in activity. I will try to examine how subjectness manifests in the activity of building wooden vessels. At the same time, after scrutinizing the phenomenon of *subjectness*, I will briefly compare it with the *agency* phenomenon, as the terms look interchangeable. A broader comparison can possibly lead to a separate article.

4 DATA COLLECTION AND SITES DESCRIPTION

4.1 Research Sites

The research is carried out in one of the ongoing projects of CRADLE *Concept Formation and Volition in Collaborative Work* (the principal investigator is Yrjö Engeström) in collaboration with the members of this project, which will give access to a vast amount of data from different parts of the world. Wooden boat building is one of the sites for this research, which on the whole, is aimed to study concept formation and volition in collaborative work.

The data collection for the dissertation is carried out in three cases of boat building.

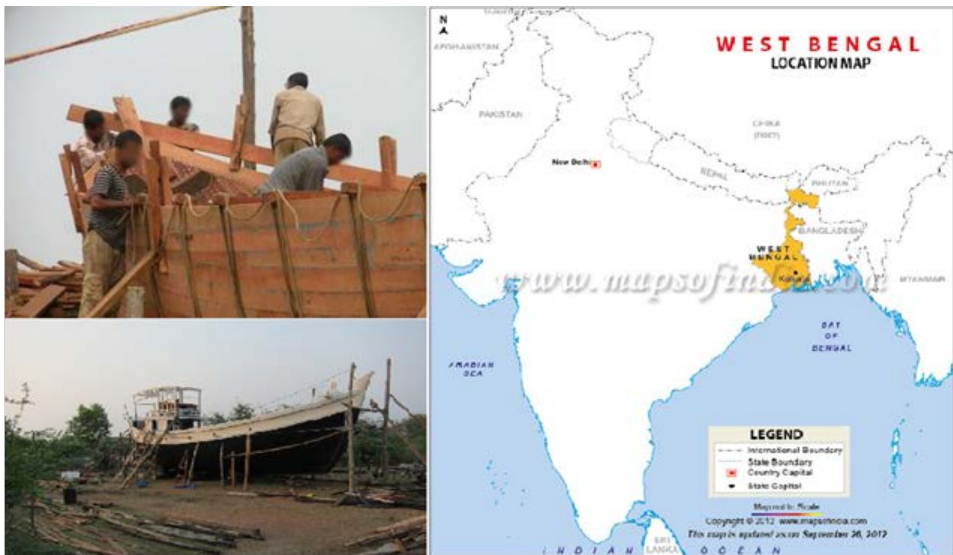


Figure 4. The process of wooden boat building in Frasergunj, West Bengal, India, India. Location map of West Bengal

Case 1: Wooden boat building in India. The history of boat building in the area of the Bay of Bengal goes back thousands of years. A group of carpenters (from 8 to 10 people) are building large (15-18 meters long) wooden boats in the village Frasergunj for more than six years.

Today, the boats are equipped with modern technology: motors, communication equipment and GPS, but the builders use “traditional” techniques and simple tools. The government regulates the safety issues regarding boat building - there is a law that mandates that all boats should have GPS.

The boats must cover long distances by sea, meet the needs of the customers and pass a government licensing inspection. The boats are handmade and decorated with items, such as eyes and red cloth. In the local tradition, the eye means that the boat is “alive.” The boats also each have a name and license number. They can be used either for fishing or transportation. The characteristics of the boat depend on its function and the needs of the owner of the boat. For instance, the fishing boats have a cabin, a small compartment in which the crew sleep and store their supplies (such as water, ice and food) and instruments needed during the fishing period.

The carpenters build the same kind of boats from year to year. The crew consists of a highly experienced crew leader and several workers. The role of the crew leader is to supervise and to help with some of the minor tasks, but he does not do the heavy manual work. He is also responsible for keeping records of the working time and salaries. Teaching and learning are based on an informal apprenticeship. The carpenters have little or no formal education; moreover, they do not use drawings, blueprints or complex instruments (only simple tools and a few electric items) in building the boats.

The building process is hull based, which provides flexibility and is more common in building without blueprints (Hocker and Ward, 2004). It starts with establishing the keel. After establishing the keel, the hull of the boat is built by putting planks with a clinker technique. Once the hull is built, the ribs are made and fitted to their places to finish the skeleton of the boat. All the boats have a similar shape; everything else may differ greatly.

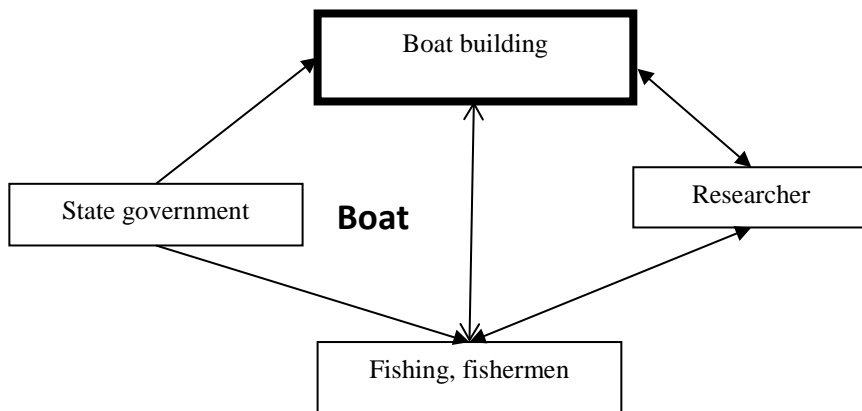


Figure 5. The network of activities of boat building in Frasersgunj, India

A preliminary acquaintance with the site and activities involved allows me to outline the network of activities involved in boat building (Fig. 5). The central activity is the building itself, which is directed to producing fishing boats for the

activity of fishing. The produced fishing boats undergo a government inspection; the rules of the government inspection determine some of the boat characteristics.

A closer look at the boat building activity itself gives us a preliminary analysis of the activity with the use of the triangle of activity (Fig. 6).

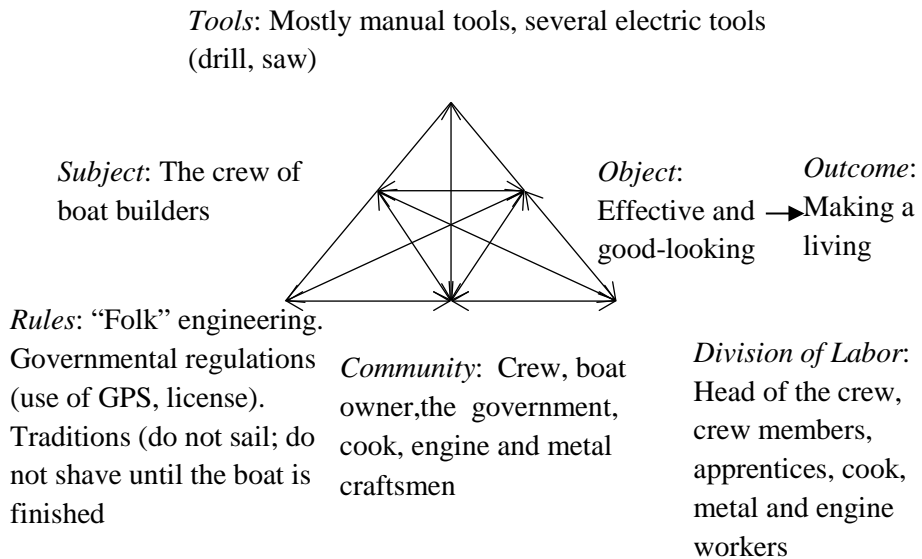


Figure 6. Boat building activity in Frasergunj, India

The next two cases represent the resurrection of wooden boat and ship building techniques, and they take place on groups of islands that are now UNESCO World Heritage Sites (Ref. 583 and 632).⁶

Case 2: The construction of a replica of an eighteenth-century rowing gunboat (Finn. *tykkisluuppi*) in the Suomenlinna Fortress (Finland), based on plans by the naval architect F. H. af Chapman. The restoration of the gunboat is coordinated by the Ehrensvärd Society⁷ and Viaporin Tellaka ry (the Viaporin Dockyard Association).⁸ The project started in the autumn of 2010, and the boat is expected to be launched in the summer of 2013.

⁶ UNESCO World Heritage. <http://whc.unesco.org/en/list> (retrieved 15.03.2013)

⁷ The Ehrensvärd Society was founded in 1921 with the purpose of informing the public about the Suomenlinna Fortress and its history. Augustin Ehrensvärd (1710 –1772) was a Swedish Field Marshal. See http://www.suomenlinnatours.com/ehrensvrd_society (retrieved 24.12.2012)

⁸ The Viaporin Dockyard society was founded in 1987 and is located in the old docks of Suomenlinna. Its mission is to preserve, develop and support ship restoration, conservation, repair



Figure 7. The process of building the replica of a gunboat in Finland. A map of the Suomenlinna Fortress

The general aims of the construction project are a) to employ and train young people interested in the construction of wooden boats, b) to preserve and revive traditional wooden ship building skills, and c) to develop and revive the history of and tourism in Suomenlinna.⁹

The new gunboat is based on a drawing of the marine architect Fredrik Henrik af Chapman. The original gunboats were low draught, sea-going and heavily armed oak vessels, which were constructed for sailing as well as rowing. As originally designed, the boats had a body length of 20 meters and a width of 4.5 meters, and were about 3 meters high. A boat had from one to two masts and 15 pairs of oars. The masts were lifted for long journeys, while the oars were used in battle. These small and agile boats were almost impossible to hit with the artillery of that time. The crew consisted of about 60 men, including 56 for rowing.

The modern gunboat is being built according to blueprints based on the remaining Swedish drawings and a few remaining calculations. The drawings were copied by a boat designer and transformed into modern blueprints with the help of computer calculations, which are required for passing government inspection. The boat will be equipped with two electric motors and will be used to take tourists around the Helsinki coastal area.

The woodworking for the boat is being done by an experienced Finnish wooden boat builder and shipwright, who is one of the remaining specialists maintaining the craft. Today, he is most likely the only person in Finland who is able to do this type of work. The builder has a formal education in wooden boat building. The shipwright receives a pre-established salary based on an hourly wage for

and operational knowledge and skills. See <http://www.viaporintelakka.fi/Etusivu2.htm> (Finnish, retrieved 24.12.2012).

⁹ www.tykkisluppi.fi (02.01.2013)

working on the gunboat. As one of the aims of the project is to train young people interested in wooden boat building, a constantly changing group of students takes part in the building process. The number of helpers varies from 1 to 4. Apprentices do mostly auxiliary work.

However, although the project intends to preserve and revive traditional wooden ship building skills and techniques, the builders have been given strict time and money limits and, therefore, are forced to use electric tools and machines in their work.

The boat is being built with the use of a skeleton-based technique. The modern gunboat is being built from pine with some oak parts; metal nails are used to join the parts together. The process started with the establishment of the keel and ribs with a crane. The keel and the ribs were sawn on a machine according to the full-sized templates from the modern drawings. Then the transom was put into place, as well as some parts of the hull and the deck. Next the planks are installed. Each plank is heated in a steam machine and then the softened plank is immediately bent while being put into its place to follow the curves of the boat. The planks are held by the clamps while they take the needed shape.¹⁰

Some previously gathered data allows the network of activities involved in boat building in Suomenlinna to be outlined (Fig.8). The central activity is the construction itself, which is directed to producing a replica of a boat; the metal work for the boat will be provided by another craftsman – a blacksmith. The entire project is organized by the Viapori Dockyard Association and the Ehvensvärd Society, which also have connections to investors. Several educational institutes are also involved, apprentices come from different vocational schools, and students of the Metropolia University of Applied Sciences provide information support for the project (photographs, videos).

¹⁰ The information on the building process is based on interviews and observations.

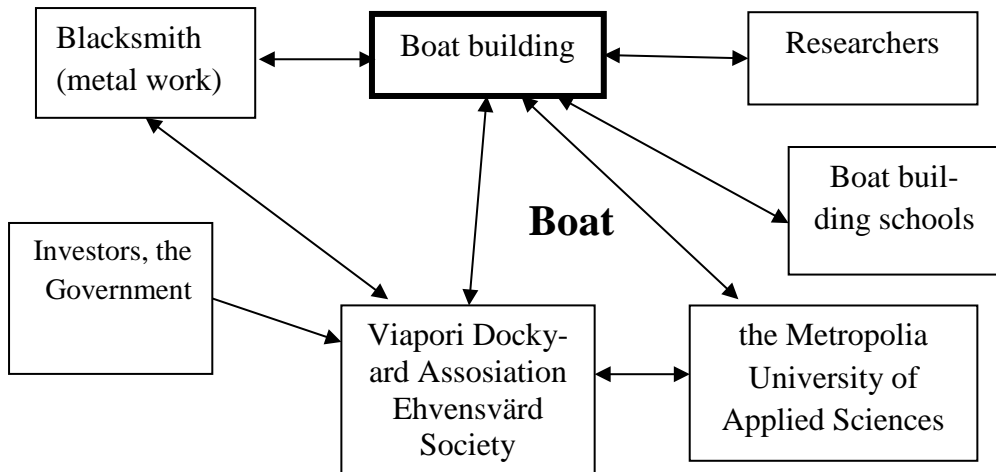


Figure 8. The network of activities involved in boat building in Finland

A closer view of the principal activity of wooden boat building with the use of the triangle of activity provides a more systematic understanding of the site (Fig. 9).

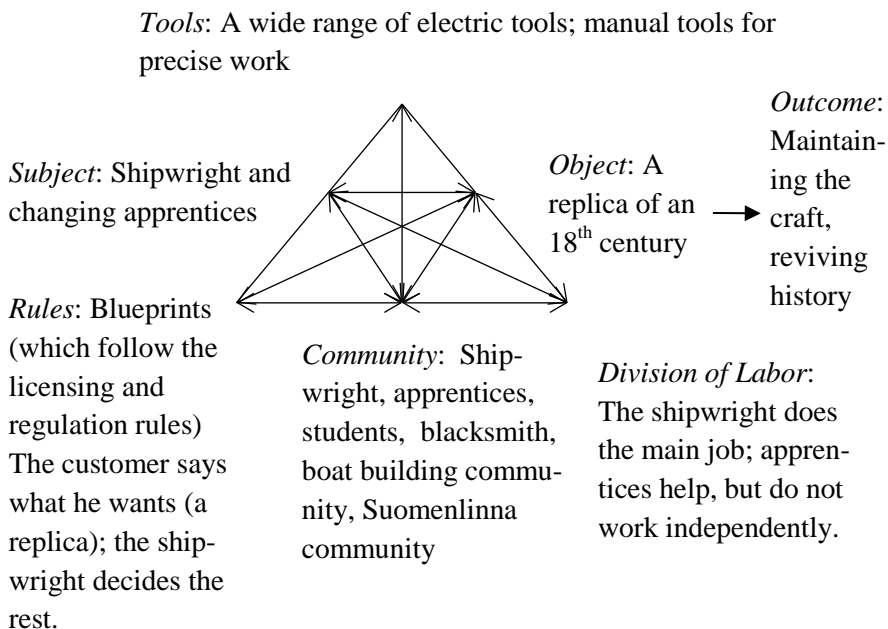


Figure 9. Boat building activity in Suomenlinna, Finland

Case 3: The construction of a replica of a 12-gun Dutch yacht, the *Saint Peter*, on the Solovetsky Islands, Russia. The Solovetsky Islands (Solovki) are situated in the North of Russia in the White Sea. The history of these islands is strongly connected with boats and ships.¹¹

The original *Saint Peter* was built in Archangelsk in 1693 for Tsar Peter the Great. The new *Saint Peter* under construction on Solovki is being built to resemble the original as closely as possible. The boat is being built in the shipyard situated inside the Solovetsky Marine Museum and is the main part of the exhibition (you can see it in the picture below). A lack of space has meant that the yacht has been reduced in length from 18m to 12m, with a proportional reduction of the other measurements.



Figure 10.The building of a replica of the yacht, the St. Peter. Map of the Solovetsky Islands

The organization responsible for this restoration project is the Northern Seafaring Fellowship (NSF), a non-governmental organization which brings together people with an interest in the Russian North, Solovki and the sea. The fellowship's main objective is to study the history and culture of the Russian North, which is strongly connected with maritime practices and ship building. Within the framework of its main objective the fellowship carries out the following activities (besides boat building): organizing a marine museum, publishing, ethnographic expeditions and the restoration of Solovki's buildings and historical objects. The fellowship has a modern boat which they use for their trips around the area, but the idea of building a replica of a historical boat had been discussed for quite some time among the members.

The boat is being made with the use of modern wooden boat building techniques and planned only to resemble an old boat. The “ultimate” purpose is to

¹¹ The information on the site and building process is based on interviews, observations and the website <http://solovki.info/index.php?lang=en> (retrieved 03.12.2012).

spend two weeks in the Barents Sea, which determined some of the characteristics of its construction: for instance, it will have an engine and three layers of planking. The boat is being built using a skeleton-based technique, following blueprints. The blueprints were made by a design bureau from old drawings. A range of electric and manual tools is being used. The tools are shared, but some of the carpenters have their own tools.

The project is a long-lasting one: it started in 2003, and in 2006 it was taken over by a team of young shipbuilders. After the death of the first shipwright, who started the construction, the work was halted for a year. Now the building is in the pre-final stage. Current members of the crew come for different short periods from different parts of Russia; some of builders moved to the Islands. The carpenters receive a salary for their work. The work is done seasonally due to weather conditions and the problematic availability of Solovki during the winter.

Carpenters come from different parts of the country, and each of them have a different story about their engagement in the project. Local people do not work at the shipyard. Most of the carpenters have no ship or boat building education; some of them even had no carpentry skills before joining the project. The learning process takes place in practice by observing experienced carpenters and using books and sources such as maritime journals and the Internet.

The head of the crew is a person with experience in shipbuilding. The division of labor among the crew is determined by the stage of the construction process: when the planking was being done, everyone was engaged in it; in the current stage most of the carpenters have their own specialization. All the decisions are made mostly collectively, with much negotiation taking place among the crew members. The future of the crew is vague as the project is a “one-time” deal; some of the carpenters would like to join the crew of the boat.

The network of connected activities is represented in Figure 8. The building is organized by the Northern Seafaring Fellowship (NSF) and takes place in the Maritime Museum, which was also established by the NSF. The boat and the building itself is a crucial part of the of museum’s collection. The museum and the building process are closely related to the Solovetsky Monastery, which has a huge influence and significance to the Islands.

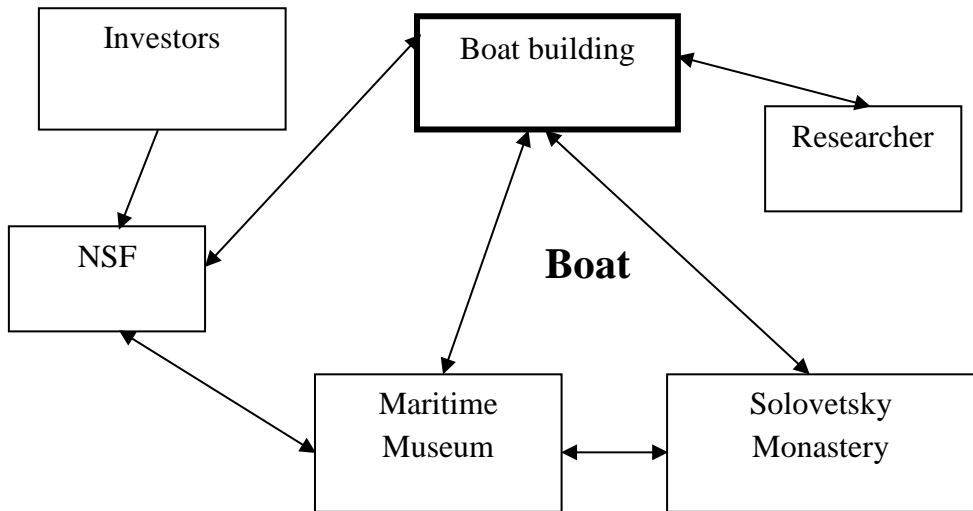


Figure 11. The network of activities involved in boat building in Russia

The analysis of the main activity of boat building with the help of activity triangles displays a systematic picture of the activity (Fig. 12).

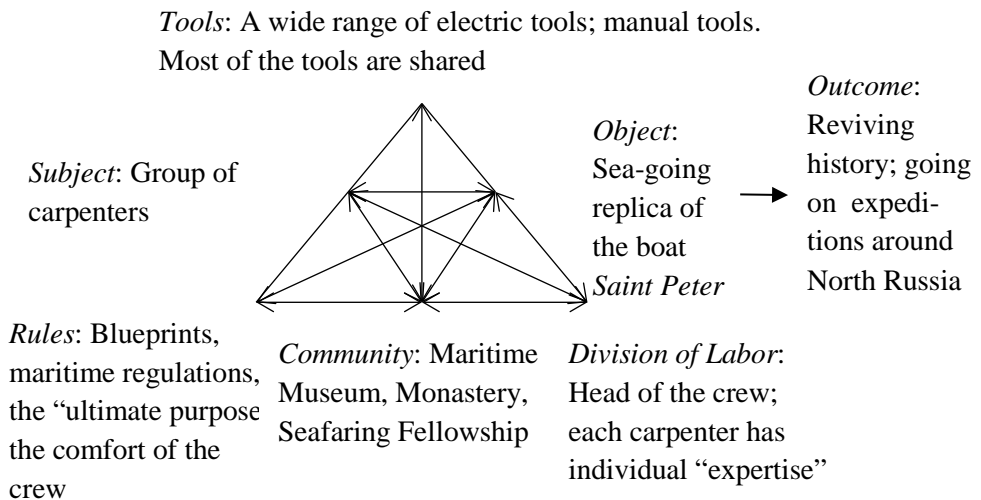


Figure 12. Boat building activity on the Solovetsky Islands, Russia

Overall, the three research sites represent different cultural and historical backgrounds, with many differences and similarities. The differences between the three research sites provide a broader picture of the state of the craft today. The data from different sites complement each other in the articles (see Table 2).

Table 2. Research questions, articles and research sites

Question	Article	Site and data
1. How can culturally and historically different research sites communicate? How can a common ground be established between the radically different actors and worlds of wooden ship and boat building ?	I. Constructing common ground: Mutual understanding across cultural differences	India, Finland
2. What is the power of the object of wooden boat and ship building activity? How does the object of activity and the subject interact?	II. On the power of the object: History-making in wooden boat building	Finland, Russia
3. What are the main contradictions in wooden boat and ship building today, and how are they related to subjectness and agency?	III. Contradictions in wooden ship and boat building: Craft skills today (preliminary topic)	India, Finland, Russia
4. How is subjectness developed and represented in boat and ship building activity?	IV. The development of subjectness in craft (preliminary topic)	India, Finland, Russia

4.2 Data Collection

Subjectness and agency in the work of the boat builders can be captured through longitudinal cognitive ethnography. Data will be collected with ethnographic field methods, specifically by observing the working process (as well as related processes) and conducting interviews (unstructured and semi-structured) with the actors and by documenting and collecting the mediating artifacts (templates, models, pictures, etc.) used by the actors (Emerson, 2001). The data will be gathered mainly by videotaping, photographing and audio-recording the building processes and conducted interviews.

Photo elicitation

One method of data collection is a photo-elicited interview. Its main objectives are to bring two worlds together by presenting the depicted features of different activities and to structure the interviewing process to make it more similar in each of the cases.

The method of interviewing people using photographs started to develop in the 1950s (Collier, 1957). Harper (2002) gives a simple definition of photo elicitation in the following:

Photo elicitation is based on the simple idea of inserting a photograph into a research interview. (p. 13)

Photo elicitation itself can take different forms: the photographs and their content may vary, and the photographs that the researcher has taken and the photographs that the subjects have taken themselves elicit different reaction (Keller, Fleury, Perez, Ainsworth and Vaughan, 2008).

The primary idea of photo elicitation is to establish rapport and eliminate the stress of answering direct questions, as the pictures give a possibility of choice (Harper, 2002). Among other benefits of the method is its relatively successful use with people who have difficulty with the language (Affleck, Glass and Macdonald, 2012). Hurthwort (2003) claims that photo interviewing is a powerful tool which can be used in different stages of research, assist with building trust, produce new information and facilitate longer and more detailed interviews, especially when limitations for conventional interviews exist.

As for the limitations of photo-elicitation, issues of ethics, sampling and validity should be taken into account. In addition, one of the most important risks of using photography in an interview is that the pictures may not elicit a reaction; therefore, the photographs should provide a different perspective (Harper, 2002).

In the current case, the researchers from both sites took a fair amount of pictures of the working processes, tools and the constructed vessel. After that, 17 pictures from each case, covering different aspects of the activity, were collected. The 10x15 cm pictures used in both interviews were printed on plain paper with a color printer. The researchers gave these photos to the builders in a pile with the request that they comment on the photographs of different wooden boat building site.

Overview of the data

The data collection process is still ongoing. Generally, the data consists of

- videotaped and audiotaped interviews with actors;
- videotaped material of the parts of the work process;
- photographs of the work process, artifacts, boats, places, etc.;
- field notes and
- mediating artifacts (templates, blueprints, models, pictures, books, etc.)

A detailed overview of the data from each of the sites is provided in the following table (see Table 3).

Table 3. Overview of the data

India		Finland		Russia	
Content	Quantity	Content	Quantity	Content	Quantity
Video data					
Working with ribs outside	~41 min	Interviews with the shipwright	~2h 30min	Working process, discussions among builders (20.6.2012)	1 h
				Short interviews on templates (21.6.2012)	6 min
Sharpening the tool	~2 min	Interviews with apprentices	~25 min	Working process (22.6.2012)	36 min
Overview of boat	~1 min	Working process on the gunboat	~3 h 47 min	Documentary	39 min
Placing the ribs inside the boat	~15 min	Working process on the other boat	~34 min	Tour in museum	26 min
Total	~1h	Total	~7h 16 min	Total	2 h 47 min
Visual data (pictures)					
December 2009-March 2010	40 pictures	12.03.2012	133 photos	Photos of working process, boat, tools	570
January-March 2012	41 pictures	27.03.2012	17 photos	Blueprints	5
17-20 January 2013 (Field and village)	270 pictures	04.09.2012	31 photos	Photos of sketches and pictures used by builders	38
		6.3.2013	41 photos	Axillary photos (the area)	>500
17-20 January 2013 (India, as supplementary data)	>400 pictures	8.3.2013	9 photos		
Total	351 (+400) pictures	Total	214 photos	Total	~ 600 photos (+500) +5 blueprints

Audio data					
Discussions with Indian researcher on the data	2 h 18 min	Primary interview with shipwright and manager of the project (09.12.2011)	40 min	18.6.2012	2h 10 min
		Interview with shipwright on the tools (12.03.2012)	22 min	19.6.2012	2h 49 min
				20.6.2012	1h 19 min
		Photo-elicited interview (27.03.2012)	55 min	21.6.2012	1h 36 min
		Visit with Indian researcher (04.09.2012)	57 min	22.6.2012	18 min
25.6.2012	53 min				
Total	2 h 18 min	Total	~2h 54 min	Total	9h 05 min
Text					
Field notes (Word)	12 pages	Transcripts	62 pages	Field notes	~21 pages
Field notes (hand-written diary)	24 pages	Field notes	3 pages	Journals issued by the NSF	6 volumes
Research group meeting reports on Jan-Mar field trip	9 pages	Article in magazine about the shipwright (biography, 2006)	2 pages	E-mails	13 pages
Transcript of photo-elicited interview	19 pages	E-mails	~5	Work plans	2 tables
Total	64 pages	Total	68 pages	Total	45 pages

5 DATA ANALYSIS

The data analysis methods in this study are particular for each research question and each article. However, throughout the research I will be using theory-driven analysis, as my research is conducted with the CHAT approach. Using a general theoretical framework can enrich the analysis and allows working “from both ends”: theory and data (Fig. 13).

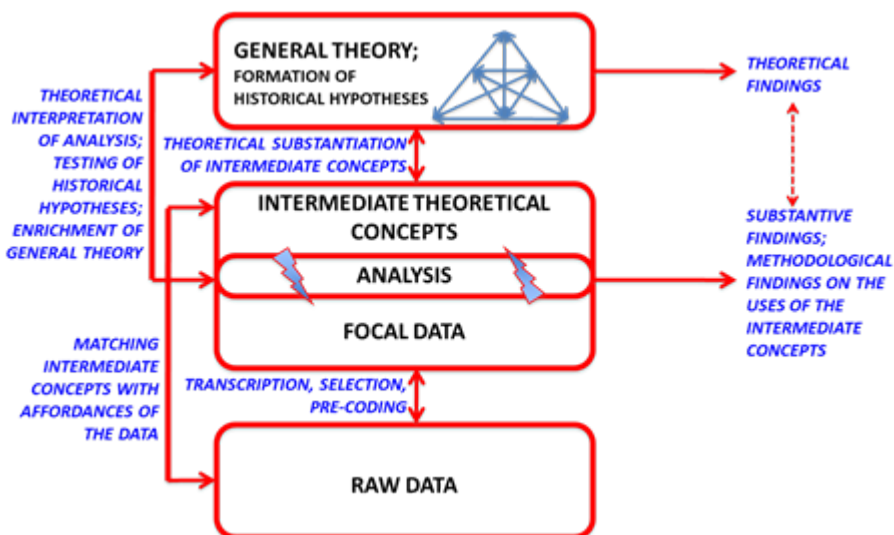


Figure 13. A model of theory-driven analysis in the CHAT framework ¹²

The theory will help in formulating concepts and hypotheses and in understanding the unit and focus of analysis. Using data-driven methods of analysis can help to produce focal data, which during the analysis produces intermediate concepts that are theoretically evaluated and help to enrich the theory. The intermediate concepts themselves are in a constant dialogue with the data. My main objective regarding the data analysis is to create a constant dialogue between the levels of data, the general theory and the intermediate concepts.

Most of the methods of analysis are used as bases for the analysis in order to create a ‘customized’ tool which best fits the research purposes. An overview of the research questions, articles and particular methods of analysis is presented in Table 4, and a detailed explanation of the methods can be found below the table.

¹²This representation was taken from Yrjö Engeström’s comments in the ISCAR Conference of 2011.

Table 4. Research questions, articles and research sites

Question	Article	Site and data	Methods of analysis
1. How can culturally and historically different research sites communicate? How can a common ground be established between the radically different actors and worlds of wooden ship and boat building ?	I. Constructing common ground: Mutual understanding across cultural differences	India, Finland	Analysis of photo-elicited interviews
2. What is the power of the object of wooden boat and ship building activity? How does the object of activity and the subject interact?	II. On the power of the object: History-making in wooden boat building	Finland, Russia	Historical analysis, grounded theory, thematic analysis
3. What are the main contradictions in wooden boat and ship building today, and how are they related to subjectness and agency?	III. Contradictions in wooden ship and boat building: Craft skills today (preliminary topic)	India, Finland, Russia	Analysis of the discursive manifestation of contradictions
4. How is subjectness developed and represented in boat and ship building activity?	IV. The development of subjectness in craft (preliminary topic)	India, Finland, Russia	Expressions of subjectness, based on an analysis of the expression of agency

Article I. Analysis of the photo-elicited interviews

The data for the first article was gathered with photo-elicitation interviews. The idea of establishing an object-mediated common ground puts the emphasis on similarities and differences. One can analyze superficial similarities and differences, but in this case the object acts as something universal. The notion of universal was developed by Soviet philosopher Il'enkov:

It is quite clear that the concrete (empirically obvious) essence of the link uniting the various individual in some 'one', in a *common* multitude or plurality, is by no means posited and expressed in an abstract attribute common to them, or in a determination that is equally proper to the one and the other. Rather such unity (or community) is created by the attribute that one individual possesses and the other one does not. And the absence of a certain attribute binds one individual to another much more strongly than its equal existence in both.

Two absolutely equal individuals, each of which has the very same set of knowledge, habits, inclinations, etc., would be absolutely uninteresting to one another, and the one would not need the other. They would simply bore each other to death. It is nothing but a simple doubling of solitariness.

(Ilyenkov, 1977, p. 349-350)

Following Il'enkovian ideas on mutual complementariness, the starting point of the data analysis was the search for the attractive differences pointed out by the builders in each case. All the attractive differences found in the data were then sorted into categories. The analysis of the attractive differences was followed by tracing the tracks of the establishment of a relationship, ignorance and contradictions. The final step of the analysis of the common ground is "different, but similar."

Article II. Historical analysis, grounded theory, thematic analysis

Historical analysis

The historical analysis in this article will be grounded in the cultural-historical and activity-theoretical approaches. Engeström (1999) claims historicity as the key but undeveloped principle of cultural-historical psychology.

The use of historical analysis was crucial for Vygotsky's theory. According to Vygotsky (1983), the essence of the dialectical approach is to study something historically, or to study "phenomena in movement":

Historical investigation simply means to apply the category of development to the investigation of phenomena. Studying something historically means studying in movement. This is the basic requirement of dialectical method. Covering a process of development of a phenomena in all of its stages and transformations - from emergence to destruction - in a study means to reveal its nature, grasp the essence; because only in movement a phenomena shows what it really is. So, the historical research of behavior is not an additional or auxiliary to theoretical study but it forms the basis of the latter. (p. 62)

Scribner (1997) conducted an analysis of Vygotsky's use of history, naming historical analysis as the key to Vygotsky's system. She determined three levels of history in Vygotsky's works: general history, ontogeny and the history of higher psychological functions. According to Scribner (1997), the full range of "phenomena in movement" is not encompassed in these three levels; a fourth level - the history of individual societies - is needed to fill the gap.

In Engeström's (1999) application of historical analysis to activity systems, historicity is used as the "concrete historical analysis of the activities under investigation" (1999, p. 25), and he understood as a "...historical analysis must be focused on the units of manageable size" (1999, p. 26). These "units of manageable size" are usually collective activity systems in which history may become manageable, but the idea steps beyond individual biography. Drawing on Holzkamp (1983), Engeström proposes analyses of activity systems consisting of (a) an object-historical analysis, (b) a theory-historical analysis, and (c) an actual-empirical analysis.

Grounded theory

Grounded theory was initially developed on the assumption that there is a theory 'grounded' in the data. The classical, constructivist method of grounded theory is conducted in a reversed order to that of traditional research: first, the data is collected: then, the key aspects are marked into codes; next, the codes are grouped into concepts; then the categories are grouped into a theory or hypothesis (Glaser and Strauss, 1967)

With further development grounded theorists started to employ new methodologies, and scholars from different methodological traditions started to use grounded theory as a methodological and analytical tool. Seaman (2008), for example, tries to connect cultural-historical psychology and activity theory toward the development of grounded theory using these theoretical approaches as a strong interpretative tool.

Grounded theory can be used in qualitative research; sometimes it can be even applied to quantitative research. In activity-theoretical studies grounded theory can be useful when the activity under analysis is understood by other theories as marginal.

On the level of data analysis, several methods can be used to help to understand activity and activity systems. Open coding, for instance, in an early stage of the analysis, helps to capture the meaning of small segments of data. The next level can be the categorization into group phenomena, where the researcher makes decisions based on codes, not on the whole data set.

At the same time the use of grounded theory has limitations (Thomas and James, 2006):

- Is the theory really produced?
- What is the ground? Whose ground it is?
- The analysis cannot be neutral (the researcher has some bias).

Thematic analysis

Braun and Clarke (2006) define thematic analysis as simply the search for repeated patterns or meanings (themes) across data. This type of analysis minimally organizes and describes the data sets in rich detail.

Braun and Clarke (2006) claim that qualitative analysis is not a ‘branded’ method, although it can be used as an independent or as a supplementary method or a tool for other types of qualitative analysis.

Thematic analysis is not a linear process, but it moves back and forth through the following phases:

1. Familiarization with the data: transcribing data, reading data, noting down initial ideas.
2. Generating initial codes: coding features of the data systematically, collating data relevant to each code.
3. Searching for themes: shaping codes into potential themes, collating all the data relevant to each theme.
4. Reviewing themes: analyzing whether the themes work in relation to the codes (Phase 1) and the entire data set (Phase 2), generating a ‘thematic map’ of the results of the analysis. Re-reading the data.
5. Defining and naming themes: describing the specifics of each theme and the overall story that the analysis tells, generating clear definitions and names for each theme.
6. Producing the report: selecting of vivid extract examples, analyzing the selected extracts, relating back to the research question and literature.

Overall, a thematic analysis seems to be a useful research tool for organizing qualitative data, especially when the quantitative characteristics are not important. At the same time, this type of analysis can be quite weak without a good interpretation and theoretical background.

Article III. The discursive manifestations of contradictions

The idea of the third article is to trace the contradictions in the current practice of wooden boat building and examine how subjectness can be developed through contradictions. The exact analytical tools will be customized for the particular data, as these include verbal and visual data. As for the analysis of the discourse to trace contradictions, the concept of the discursive manifestations of contradictions, developed by Engeström and Sannino (2011), will be taken into account.

Contradictions in dialectical logic refer to a unity of the opposition of two forces within one phenomenon or object, which is in opposition to formal logic, where contradictions are impossible whereas in dialectics contradicting phenomena define each other. Engeström and Sannino (2011) claim that in some research areas the use of contradictions is vague, as they are not theoretically defined, are analyzed ahistorically and are presented as simple competing priorities which require balance. With regard to this situation, Engeström and Sannino (2011) created a framework for analyzing the discursive manifestations of contradictions, as contradictions cannot be observed directly.

Using this framework, four types of discursive manifestations can be identified in the verbal data: dilemmas, conflicts, critical conflicts and double binds, using specific linguistic cues.

Article IV. Expressions of subjectness, based on an analysis of the expression of agency

This article will focus on the development and realization of subjectness in craft. The methods of researching subjectness are rather vague; thus for my research purposes I will have to customize the data analysis, so that the method will both follow the theory and suit the data.

The method, which will be the grounds for my analysis, is the analysis of the types of expressions of agency. Haapasaari et al. (2013) identified the evolution of six types of expressions of transformative agency which evolved during Change Laboratory sessions. In the analysis Haapasaari et al. (2013) used the cultural-historical approach to studying agency with a focus on the transformative dimension of the phenomenon instead of the individual (Engeström, 2006). The analysis of types of transformative agency expands Engeström's (2011) five types of the transformative agency that emerged in participants during Change Laboratory interventions: resisting, explicating new possibilities, envisioning a new pattern of activity, committing to concrete actions and taking consequential actions to change the activity.

Following the data and the results of the intervention, Haapasaari et al. (2013) extended the classification further:

1. *Resisting* the change, new suggestions or initiative. This type is directed at management, co-workers or the interventionist.
2. *Criticizing* the current activity and organization. It is change-oriented and focused on identifying problems.
3. *Explicating* new possibilities in the activity. This agency relates to past positive experiences or practices.

4. *Envisioning* new patterns or models in the activity. Suggestions are future-oriented, and new ways of working are suggested.
5. *Committing* to take actions to change the activity. Speech acts are tied to time and place.
6. *Taking actions*. The participants discuss how to make consequential actions to change the activity in between or after the laboratory sessions.

Overall, when constructing my own analysis I have to keep in mind that these types of agency were defined on the basis of the data from an intervention, whereas my data is ethnographical.

6 ETHICAL CONCERNS AND DATA MANAGEMENT

In this study ethical matters will be taken seriously during all phases of the research, as the project is based on observations in everyday life work settings in unique, open and accessible communities. The study best fits the category of cultural-anthropological research, thus the Code of Ethics of the American Anthropological Association will be implemented in all of its stages. This code pays close attention to the rules of openness, anonymity, informed consent and non-exploitation.

Before the data collection starts, informed consent will be obtained from all the participants in the study, and the purpose of the study will be discussed. Data will be collected and processed by all members of the research group, of which I am a part, by observing, videotaping and audio-recording crucial moments of collaborative work and conducting interviews (which also will be recorded). Data protection and backup creation will be carried out with the help of experts from the University of Helsinki. All audio and video data will be transcribed into text files, which will be deposited at the Finnish Social Science Data Archive for research and teaching purposes at the end of the project. All participants will be informed about the information storage procedures. The original recordings will be destroyed at the end of the whole project. Identification information about the respondents will also be removed from the archived files.

Along with general ethical concerns, several site-specific concerns should be taken into account in the study.

Site 1. India. There are many barriers between me and the Indian builders regarding my position as a completely foreign and educated woman who does not speak Bengali. A fear of sharing information and of closeness may be indicated. Taking this into account, the data collection is pursued by or together with an Indian researcher who is fluent in Bengali. The researcher has had a long relationship with this particular community, which gives credibility to me as a person who is related to the Indian researcher.

Site 2. Finland. In this case, I also come as foreigner to the site, but we have a shared language of communication. Another threat specific to this research site is that it is very 'close' and very open, easily accessible; also, the participants are quite unique. The issue of anonymity must be taken extremely seriously in this case; the participants have been informed about the purpose of the data collection, and informed consent will be obtained from all the participants in the study.

Site 3. Russia. At first glance, my position at this site is the most advantageous, as I am a native Russian and Russian is my native language. But I am

also a foreigner, as I now work and live in a different country. Therefore, my credibility is lessened. Informing participants about the research purposes, maintaining a certain level of openness on my side and establishing continuous relations with the actors will help in establishing a relationship of trust and non-exploitation.

7 TIMETABLE AND TASKS

My dissertation is to be an article-based document. The dissertation will consist of four articles, one covering each research question. Some of the articles will be written in collaboration with the research group to which I belong or my supervisors.

Table 5. Timetable and tasks

	2012	2013	2014	2015
Data collection	<ul style="list-style-type: none"> • Visits to Suomenlinna • 1st trip to Solovki 	<ul style="list-style-type: none"> • Trip to West Bengal • 2nd trip to Solovki • visits to Suomenlinna 	<ul style="list-style-type: none"> • Additional data collection if needed 	<ul style="list-style-type: none"> • Maintaining relations with sites – monitoring the “use” of the vessels
Writing	<ul style="list-style-type: none"> • Start <i>Article I</i> • Research Plan 	<ul style="list-style-type: none"> • Finish <i>Article I</i> • <i>Article II</i> • Submit CRADLE Research Plan 	<ul style="list-style-type: none"> • <i>Article III</i> • Start <i>Article IV</i> 	<ul style="list-style-type: none"> • Finish <i>Article IV</i> • Writing the summary
Conferences and seminars	Annual FIDPEL seminar FERA conference on Education	Nordic ISCAR, Kristianstad 4 th ISCAR Summer University, Moscow	ISCAR International Congress, Sydney ECER Conference	9th International Researching Work and Learning Conference

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