Grounding the flying triangle: activity theory and the production of space

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Abstract

Space is a fundamental issue in organizing yet remains unexplored by cultural historical activity theory. The growing interest for the theory to study organizations calls for a reflection on how to grasp space. The activity system model, a triangle that underpins the analysis of organizations, is evaluated against the issue of the production of space. The episodic experience of the author in applying the model to the design of a new healthcare facility is presented for reflection. The facility was supposed to produce a new multi-organization activity; however, the production of this shared space made contradictions emerge beyond the reach of the activity system model. Some possibilities are considered to ground the model with the dialectics of the production of space, including the triad of representations of space, space of representations, and spatial practices.

Keywords: space, activity theory, ethnography, organization

When I was a little kid, my schoolteacher would ask me to draw a house and a person. After I was finished with my drawing, she would come to check: “— My dear, where is the shadow under the person? Is she flying?” Slightly embarrassed, I would draw a shadow. The shadow worked to ground the elements of my drawing to a common space, even if I have drawn them with no regard for that; the person had nothing to do with the house. Perhaps the teacher wanted to avoid leaving my imagination free to draw disparate elements that do not fit the house scene. The embarrassment I felt made me consider the materiality of visual representations at such an early age.
Recently, I faced a similar situation in my research practice. I was conducting an ethnographic study about the design of a healthcare facility, under the Cultural Historic Activity Theory (CHAT) framework (Engeström, 1987). The facility will host activities that are currently developed at different locations, by different organizations. It is a shared space, but the organizations do not know exactly how this sharing may happen. Space as such is being used to push the convergent development of these organizations.

![Figure 1 - The activity system model. Redrawn from Engeström (1987).](image)

When trying to apply the activity system model (Figure 1), I was in doubt how to grasp that convergent space. Is space an instrument for expansion? Is space an object of design? Is space the cornerstone of the division of labor? Is space a rule for body movements? Can space be a subject or an outcome of activity? The answer found in CHAT literature is that all of these are possible, depending on the historical development (Engeström, 1996). The categories in the model are meant to be flexible enough to track changes, such as movements from one category to another. The example given is a wall in a house: initially an object to be constructed and finally a part of the dweller’s identity (the subject).

It is also possible to extend this answer to explain the connection between different activities in space: the outcome of one activity can be the subject, object, instrument, rules, community, or division of labor of another. In this explanation, space is something that flows through activity, a rather counter-intuitive notion. It is not surprising that few CHAT ethnographies explicitly discuss the issue of space (the exceptions are Engeström, 2003; Gutierrez, 1999; Leander, 2002), while so many deals with generic activities that happen everywhere and nowhere in the world (some examples are Barab, Evans, & Baek, 2004; Blackler, Crump, & McDonald, 2000; O’Brien & Varga-Atkins, 2012). Sometimes, it looks like
the triangle model is flying away from its self-proclaimed radical localism (Engeström, 1999)...

In my case, without clear references to deal with space in CHAT, the ethnographic study was stuck into circles, trying to grasp something that was constantly running away. Many disturbances stemmed from the attempt of one organization to accelerate the design and construction process. This organization hoped to get more commitment from other organizations by making the new space more concrete. Space was dealt as an instrument to push the expansion of activities, with not much regard to their previous historical and spatial constitution. Such instrumental approach to space did not work very well due to the double resistance of construction materials and the future users. The construction materials presented complex legal, technical, and social problems that could not be solved by a single organization. The end-users were initially not aware of those problems and informed incomplete and conflicting requirements. At some point, the project was lacking commitment from partner organizations so much that no decision could be made about the design. The approach had to be changed from instrumental to object-oriented, treating space as a shared object between those activities. The design was presented for criticism to future users from the organizations involved, and many changes were made collaboratively. As soon as there was enough agreement, the design was frozen (Whyte, Ewenstein, Hales, & Tidd, 2007) and became again an instrument. These shifts between object and instrument (Hasu & Engeström, 2000) can explicate how space develops historically in this activity, but can do little to explicate how this activity develops spatially, a central issue in the project studied.

The limitation in this partial account is that it uncovers contradictions that happen in space, but not the contradictions that are intrinsic of space. This distinction made in the theory of the production of space (Lefebvre, 1991, p. 334) allows the analysis to step out of the circle. First of all, the space already existed before it became an object of design as a retrofitted building located in the terrain of the organization pushing the process. The building was designed for another purpose, but did not suit anymore. The increasing exchange value of the site pressed the organization to use the building in a smarter way than the temporary
deposit it was. Many design problems stem from the characteristics of this space that were set by activities that occupied it in the past, such as too flexible services and consequent weak load bearing. Further design problems arose from the replication and expansion of existing spaces from the organizations involved to this new shared space. Some of these problems were solved by design, some not, but the systemic contradictions of activity were embedded in space anyway, thus becoming contradictions of space. Contradictions of space keep bothering activity even if it develops further by resolving contradictions in space, pretty much like the contradictions of the past that are still bothering the organization now even after the original activity has moved out of the building. According to the theory of the production of space, revolution — or expansion — can only succeed to stabilize if it manages to produce a new kind of space.

Nevertheless, space is understood as a set of social relationships that define coexistence, simultaneity, and order in the everyday life. These relationships are reproduced and hidden by and within space. Form, function, and structure are the main analytical categories used to uncover the social relationships so concealed. The spatial is put forth by this theory to complement the historical in Marxist thought and dialectical materialism. Since they share the same philosophical roots, the production of space seems to be a great candidate to develop further with respect to local grounding and materiality. Leander (2002) made a good initial attempt to bring these two theories together, but there is still a long way to find the shadow of the activity system model.

Perhaps, one way to approach space using the activity system model is to consider it the first outcome of any activity. Space is a precondition for activity, but it does not remain as a fixed container. Activity manifest through space precisely by producing space as it goes. Each element in the activity system model is part of the production of this outcome. Subjects position themselves, instruments require storage, rules are hard coded, community anchors to place, the division of labor is bound to walls, and the object is not just waiting somewhere to be transformed. The orientation towards the object, which is the fundamental characteristic of activity (Leont’ev, 1978), is produced by the object as a space of its own. “From the start of an activity so oriented towards an objective, spatial elements - the body,
limbs, eyes - are mobilized, including both *materials* (stone, wood, bone, leather, etc.) and *matériel* (tools, arms, language, instructions and agendas)” (Lefebvre, 1991, p. 71). It could be said that the activity system model is the space produced by an activity while reconstructing itself.

In the aforementioned case, this notion of space linked to object allowed tracking the formation of a new activity. Even before the concept for this new activity was formed, space was there pushing development. The site itself is located in the middle of the two cities where the organizations come from, inside the terrain of a University, the organization pushing the project forward. Despite being neutral space in terms of commercial competition, the site’s exchange value and building costs called for a concept that would still be profitable. The resulting concept is a medical imaging center with state of the art diagnosing machines that can be shared among the partner organizations. More than patient care, the center aims to produce innovative knowledge based on clinical trials of new machines and techniques. The concept appealed even to the hospitals that compete in the same region, since the space where the center competes is not the regional, but the global imaging diagnosing community.

Space grounded concept formation, however, this did not happen automatically. The concept had to be articulated against a range of heterogeneous networks: funding agencies, research communities, care practices, technology supply-chain, and so on. The building’s availability and strategic position certainly played a role in arousing motivation from the organization to join the endeavor. As the concept evolved, some organizations reduced or increased their motivation towards this shared object. When the design was opened for criticism, there was a sudden investment of motivation and the organizations begun to dispute and collaborate for space. The printed floor plan mediated the negotiation up to the point that overlaps were realized (Figure 2).
The concept behind the design was that each organization would have separate areas in the building; however, as they simulated the future activities, the organizations realized that a good deal of overlap is required to achieve coordination and knowledge sharing. Instead of accepting the functionalist design, they preferred to redesign the layout so as to facilitate interaction among different activities. The resulting design featured a long corridor spreading across the designated areas. Since the corridor does not embed any clear function, the implication is that shared space is to be produced by the eventual encounters that happen by routine or by chance.

Now I could see space relating to not only one, but also many activities, in a dialectical relationship. Activities are projecting themselves into space, thus producing their own space and being reproduced by that same space. Activities leave gestures, traces, and marks over space, while space imposes form, function, and structure to activities. The abstract representations of space, such as the layout of a building, are soon filled and transformed by the concrete experience of subject’s bodies seeking for a place that is not necessarily the one prescribed. The ascendance from the abstract to the concrete happens when the representations of space meet the space of representations, the opposite experience of space that relates to meaning, emotions, beliefs, and tacit knowledge. Terminological
inversion is a technique extensively used in the theory of the production of space to emphasize the interpenetration of opposites and the production of the third element of the dialectics, in this case, the actual spatial practices (Lefebvre, 1991, p. 43).

The triad between the representations of space, space of representations, and spatial practices constitutes the dialectics of the production of space. They could be paralleled to the activity system model as instruments, community, and division of labor plus rules. However, this would perhaps miss their potential to avoid formalism, functionalism, and structuralism. If space is just supposed to accurately represent, or accommodate, activity, there will be a gap between the representations of space and the spatial practices that is typical to formalism. What people do with space is usually not what planners think. If space is just supposed to express the imagination of a community, then there will be a gap between the space of representations and the spatial practices. The functionalist building hides the enforcing order under signs of identification but soon looses its power to community changes. Last but not the least, if space is designed just to enforce rules and the division of labor there will be strong contradictions hidden in the spatial practices, since no representation would be available for accountability.

To avoid these gaps, the triad of the production of space may be better applied to every corner of the activity system model. This would reveal their particular role in the production of space. For instance, it is commonplace to assume that the division of labor imposes a spatial practice, but it is bit more cautious to consider that this practice is optimized by carefully crafted representations of space that do not necessarily produce the desired effects, since the space of representations resists domination through imaginative tricks. The dialectics between them is what produces the actual division of labor, the spatial practice. The analysis could go on to community, rules, subjects, instruments, and object, keeping their mutual constituting relationships and observing movements from one to another category, as explained before.

Spinuzzi has observed the expansion of the object category in CHAT, expressed in terms such as “runaway object” or “polymotivated activity”, making empirical work difficult to pinpoint the material counterpart of the object (Spinuzzi, 2011). The production of space could
perhaps be another way to corral the runaway object and ground ethnographic work. This essay is just a rough draft of what is possible in this regard.

If space grounds the object, a question may be raised: can space produce activity? Or to put in another way, can a new building create new practices in an organization? The project studied was indeed trying that, hoping that a multi-organization activity would flourish out of the new building. The observed difficulties of realizing this vision does not let me believe in that, tough further studies are needed for conclusive thoughts.

The activity system model is great to set, organize, and present ethnographic studies, however, without space it looks like flying. The local is indeed the departing point of much ethnography using this model, but since there is no clear view for dealing with space, the dialectical return might lose the concrete locality to abstract form, function, or structure. The risk of falling into formalism, functionalism, or structuralism has been acknowledged; systemic approaches have this tendency. Nevertheless, I believe that the production of space could perhaps keep the system more grounded and sensible to expansion.

References


