

# Re-mediation – a Potentially Useful New Concept for Design Research

Kari Kuutti

*Department of Information Processing Science, University of Oulu  
Oulu, Finland, kari.kuutti@oulu.fi*

**Abstract:** The paper presents that it would be useful for Design Research to be able to discuss about artifacts at a more general and abstract level than the concrete artifacts themselves and suggests that the concepts of mediation and re-mediation might serve such purpose. Based on Krippendorff it is suggested that any artifact carries at least three mediated relationships at the same time, and this is illustrated with an example. The existence and nature of the three relationships is then grounded and explained by the means of cultural-historical activity theory (CHAT). In conclusions the usefulness of the defined concepts of mediation and re-mediation is further discussed.

**Key words:** cultural-historical, activity theory, artifact, mediation.

## 1. Introduction

Alan Findeli from University of Montreal gave a few years ago a very interesting keynote talk in EAD06-conference at Bremen titled as “Eclipse of the product in design theories” [1]. In it he identified two steps away from artifacts in the history of design thinking: Initially artifacts were the main concern, but this has changed first after World War II, and has changed again recently. The central interest has moved "downstream" from the physical artifact to functions and interaction, and then to user experience. Correspondingly, the interest has also moved "upstream" from artifacts first to design processes, and then to designers as persons and human beings. Findeli's concern was that although this has led to certain theoretical refinement, something essential to design has also been lost in the process. Findeli suggested that artifacts should be brought again back in the center of design theories, but in an “elevated” way, where issues and levels identified during the historical development of design thinking should remain present, but as organised in a harmonious way.

The paper suggests that a novel concept and perspective – that of mediation and mediated relationship – might be useful in connecting those various separate issues and levels together into a meaningful whole. The concept and perspective of mediation is coming from cultural-historical psychology [2]. The relationship between humans and “the world” is mediated by artifacts in multiple ways, and design is actually a change, a re-mediation of this relationship. The paper suggests, that focusing on this mediated relationship and re-mediation could be useful for design research.

One of the problems with artifacts themselves is that they are rather ephemeral, they emerge and disappear, when new and new products are produced all the time. Where to find something more permanent to anchor our

theorizing? A hint to this can be found for example in a 3500-year old stone knife in Louvre collections the shape of which is surprisingly similar to one particular type of modern hunting knives. The most probable reason for this is that there are some practices where the needs have stayed similar for a long time, like in this case the skinning of a deer-like game animal in the field. A certain shape of a blade and angle of the handle will help the hand of a hunter to separate the skin from flesh without poking holes in the skin – and despite the change in knife materials a good form to support these hand movements has not changed in 3500 years. Thus it is not the artifact itself but the relation between human and world that might offer a more stable starting point. Tool use is a simple example of functionally mediated relationship between humans and world: tools enable us doing something and at the same time they limit other possibilities of action; they are in between us and world. This instrumental relationship is, however, not the only one, but the situation is more complex, as has very clearly been recognized already years ago in Design Research: “Artifacts are not only instrumental to users (operational context) and constitutive of social realities (sociolinguistic context), but they are also created, produced, marketed, consumed, retired, or recycled, and experiences with them inform a subsequent generation of artifacts.” [3], p. 13. Thus according to Krippendorff the relationship has at least three different “dimensions”. The paper will further explore this triple mediation, and suggest a conceptualization based on cultural-historical activity theory to help in dealing with it.

### **3. An example**

Let us take an example of such mediated relations, illustrated with my two visits to Hong Kong. I visited there first time in 1995, just when the digital mobile phone world boom was about starting. When I arrived at Kai Tak, there was one immediate issue that struck me as odd. It was the apparent esteem given to mobile phones: only a few people – apparently successful businessmen – had them, and they held and used them in a very visible way, barely disguising their proudness of having one. In several cases I saw them carried in the front of a person in a raised hand, erected as a sceptre, as demanding that the crowd should depart before such a sight.

Why was this odd in my eyes? I was coming from Finland, which at that time was one of the top countries in the world in mobile phone penetration, and which, together with other Nordic countries, already then had more than ten years history of mobile phone use, due to a very successful earlier analog mobile phone system (the one where Nokia and Ericsson got their headstart in mobile technologies). During these years the technology had evolved and in the beginning rather large transportable devices had become smaller and smaller, and initially the purely utilitarian use of phones started to penetrate also other spheres of life. Along the way phones and their use had already become rather commonplace; despite the fact that I was then a not-so-well-paid teacher in university I had already several years earlier bought an extra second-hand mobile phone for my aging mother, just to be used during the months she spent every summer in a rural cottage without a line phone.

So in Finland the emergence of digital mobile phones was not a radical departure of what was already there. The new digital phones were neither much different than last analog ones, nor did they initially offer radically new services (except SMS, which became popular as a cheap way to communicate), so there was not much to boast about when having one. The new phones were of course much more expensive, and because of that there were occasions when somebody tried to show off with his new mobile, but such behaviour was typically meted by the audience with a mix of embarrassment and amusement. Not so that the phenomenon was completely absent in Finland, but it had become more discreet and sophisticated. For instance, connecting a mobile phone in mid-

1990s to a laptop computer, and using that for connecting Internet when on the road was still a novelty at that moment. Using such a device put one immediately at the forefront of mobile digital revolution – but that message was deciphearble by only those who knew and appreciated such an trick, the technological cognoscenti, not by everybody.

So in my eyes such open and unabashed use of mobile phones as strong symbols of power and prestige were a novelty – a weird and rather amusing one. But I must admit that when calling home, because of the six-hours difference late in the evening in Kowloon shore bulevard, and suddenly noticing that people around took a note that I was using a mobile phone (a humble Nokia 2110), made me momentarily feel like a celebrity myself.

2007 I did return to Hong Kong to participate the previous IASDR conference, and was curious to see, if the mobile use practices still differ from that in Finland. A dozen years had passed, and mobile phones had become a commonest commodity, unable to stir anything anymore, and despite the efforts of making such “luxury” phones like Nokia Vertu radiate power and prestige it does not seem to happen any more. Thus I did not see anything in the way how phones were used that would have caught my eye. But I noticed a difference anyway: practically each Hong Kong phone had some decoration or several of them hanging from it: small mascots, fashion jewels, cartoon figures and so on and on. Sometimes a bunch of decorations was almost as large as the phone itself. The largest collections were be seen in teenager girls phones, but also serious businessmen seemed often to have something. There were stalls and whole shops selling only mobile phone decorations. Again, this was something that hardly existed in contemporary Finland.

The point of this story is that artifacts themselves are not enough to be used as guides in understanding the relation between humans and world. Nothing changed in my humbe Nokia 2110 that nobody did look twice in Finland when it was magically momentarily transformed into a symbol of power and prestige in Hong Kong. To understand the relation we have to look behind the artifact itself – a mediated relation that it represents in a particular situation. Any personal artifact carried by a person tells something about that person to others, the relation between a person and that audience is mediated by the artifact. A person is not a person as such but also a person carrying just such and such artifact. This mediation is not necessarily a stabil one, but it typically changes over time, as has happened to the disapperance of power and prestige related to a mobile phone in Hong Kong since 1995. The mediation can be different in different cultures, like in Finland and in Hong Kong, and it can be targeted for different audiences, like the use of mobile phones as computer modems was back in 1995 – meaningless for the majority of people, but distinctive to a rather small group of people intimately working with information technology. But although the mediation may change, the relation itself stays, and can eventually lead to rather drastic re-mediation, like the one happened in Hong Kong from 1995 to 2007. As different as the 1995 spectre of prestige and a bunch of decorations hanging from a teenage girl phone may seem, they are both instances of the same relation.

It is easy to find all the three aspects suggested by Krippendorff in the story above. Mobile phones have a certain functionality, why they are used, and the “pocketability” of them was a certain turning point in their popularity. A number of those functions has stayed the same, while new functions have proliferated in the course of technological development. But the story is more about the meanings and values connected to phones, about the sociolinguistic context by Krippendorff, and the cultural differences of that in different countries. And finally there has been a prodound change in the conditions where the phones are “created, produced, marketed etc.”,

which has put them not only in the hands of successful businessmen but also in hands of teenager girls of Hong Kong. But how this phenomenon can be analysed at a more general level than that of the actual phones themselves?

## **2. The concept of mediation**

Despite the fact that there even is a book titled “Re-mediation” [4] on the changes in new media, the term and concept of mediation used in this paper should not be confused with that of media. Although there is a certain overlap, mediation as a cultural-historical concept is on one hand more broad and on the other hand more distinctive. As a psychological concept mediation was first introduced by L.S. Vygotsky in the context of ontogenesis – how cultural and interpersonal communication is influencing the development of mental faculties of a child [2]. For him the essential means for the development are different cultural tools and signs, varying from very simple to sophisticated, that are assimilated by the child in the course of development and interactions with world and other people. Vygotsky separated physical tools used in changing the material world and psychological tools used in changing the thinking of other people and also of oneself. Media can be seen as such psychological tool, its purpose is to carry meanings and influence the way people are thinking. But when we focus on media we are taking only one aspect of the mediation. When we plan to act in the world, our action is shaped and conditioned by the available means, mediating tools, which are the result of a cultural historical development. And also our thinking about the action is mediated by our understanding, our conceptual tools to make sense to a situation, which is also a result of how we have assimilated available cultural resources during our own personal history.

Thus when the followers of Vygotsky such as A.N. Leontjev and A.R. Luria developed his ideas further they ended up with a still rather bold thesis that it is inadequate to study human psyche using a unit smaller than a meaningful context of a purposeful action, where the mediations discussed above have been taken into account. This minimal context was called an activity, and the theory developing around it became known as cultural-historical activity theory (CHAT, see e.g. [5]). Originally CHAT was a purely psychological theory used in developmental psychology and education, but in the 1970s and 1980s researchers in Europe and in US got interested in if CHAT could be used in a broader way, also for analysing actual practices. Y. Engeström developed 1987 a hypothesis of a structure of an activity, to be used as an analytical tool [6] and this hypothesis has been a fruitful and influential one, spurring analysis based on it to a wide variety of research fields and settings. In Engeström’s model there is a system of three main members, related to each other by three relations, each of them mediated by a different artifact. The central member is an object to be manipulated and transformed. It can be something physical (like a building) but it can as well be something non-physical (like a legislation), and often there are a number of different aspect involved. Another main member is community of people who want the object to be transformed, and finally there is one member of the community representing the active, individual subject. The relation between the active subject and object is mediated by tools – what is available for various acts needed. The relation between the community and object is mediated by division of labour – how the community should be organized to tackle the process of transformation. And finally, the relation between the individual subject and community is mediated by cultural rules – what it means to be a member of that community. The apparent simplicity of the model (Fig. 1) is somewhat deceiving, and elaborate analytical approaches have been based upon it.

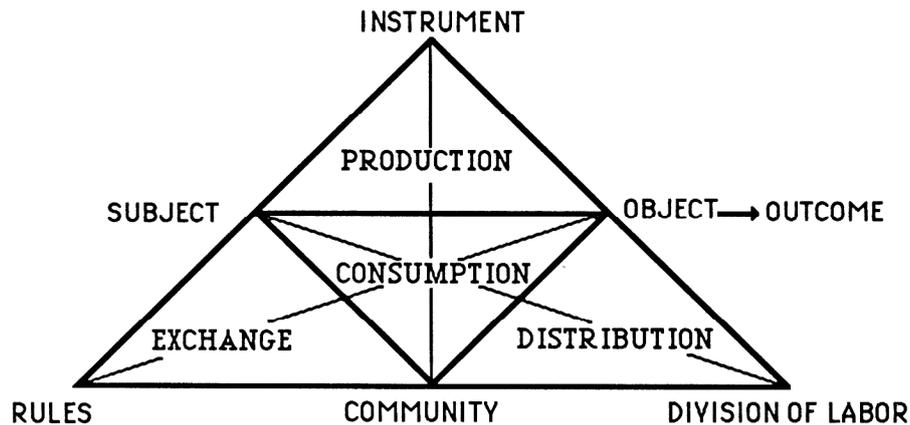


Figure 1. The structure of human activity [6], p. 78)

Human life consists of a large number of this kind of activities, some short-lived, some more durable lasting in some cases even tens of years, and our relationship towards the “world” consists of the multitude of these mediated relationships. In the Fig. 1 Engeström has also suggested a connection between the various parts of the activity model and the well-known analysis of human productive life by Marx [7] where production, distribution, exchange and consumption are defined as the fundamental characteristics. According to the Engeström’s formulation the three other aspects of a human activity fall together in consumption as prerequisites to it.

Artifacts used in activities are carriers of mediated relationships – one can say that artifacts are condensations of the cultural-historical development of interactions between actors and various aspects of world. Because artifacts are consumed when they are used, we can following Engeström suggest that every artifact carries with it at least those three mediated relationships discussed above. Artifacts have a productive functionality, but they are also at the same time carriers of culturally determined meanings. And finally they cannot be neither used functionally nor in carrying meanings before they have been made to emerge within a certain division of labor, which most often means that they must be fabricated, distributed, sold and bought, that there is an economic dimension involved as well. This definition is thus in a good harmony with the citation from Krippendorff presented in the beginning of the paper.

We are living embedded into a large number of such mediated relationships, which are culturally and historically formed, and always in a flux. The work of a designer is to purposefully create a new set of relationships, or to change an existing one – in one word, re-mediate. So the triple-way mediated relationship looks as a promising addition to the design research vocabulary, because all design activities are in a way or another related either to understanding or changing the relation. A relation seems also a better building block for theory building than an artifact, because relations are relative stabil, while each artifact is instead only a single instance where the mediated relation has been temporarily “crystallized”. My experiences with mobile phones in Finland and in Hong Kong are easy to be analyzed in the terms of mediated relationships – for example, it is easy to see how a mundane phone in Finland can suddenly change into an icon of prestige when brought to Hong Kong street in 1995. And it gives us concepts to analyse, that change in the “economically” mediated relation of a phone – becoming cheap and commonplace – has eroded any such possibility anymore, but at the same time created new ones where phones are not important as such but as platforms of “personality markers”.

It is somewhat surprising how well an old theory, developed without any connection with design research, is fitting with the definition by Krippendorff given in the beginning of the paper, and making the separate pieces to form a meaningful whole. But it is also clear that the mediation model goes beyond of what Krippendorff says in his seminal paper or in his larger elaboration of the topic in the recent book [7]. He recognizes the existence of the same three issues the activity model contains: for him they are functionality, semiotics and lifecycle of artifacts. But Krippendorff is content with the artifact level only; he does not feel it necessary to study or explain, why and how these three aspects fall together in artifacts, is there any systemic nature in the relationships, and what such relationship might be. For him, there is no riddle in the situation that semiotics won't solve. The farthest Krippendorff proceeds towards conceptualizing of the issue is "ecology of artifacts", where artifacts can have "family resemblances" or "metaphorical resemblances". But these are very weak analytical conceptual tools when compared with the idea of mediated relations.

With respect to Bolter and Grusin's book [4] it is also true that actually their "remediation" is much the same that is elaborated here, and that they are also discussing about economical conditions of historical development. The difference is that they focus on a very special class of artifacts: those whose functionality is reduced to be only a carrier of meanings, and the channels needed to distribute such artifacts. And for them what is happening in media is more or less unique event, not a part of what has been happening all the time and is constantly happening in the relationships between humans and world.

Selection of a relationship as focus has some interesting consequences. First, the definition is so general that it is capable to encompass all the diversity of the design field; there is no design without a change in the relationship. Secondly, it bridges the gap between artifact designers and experience designers: remediation always operates through changes in material environment, although not necessary through specific artifacts – computer programs, sound and light belong also to materiality. Thirdly, the relation is not timeless and general, but very tightly culturally and historically conditioned: it is thus not stable but in a constant flux and evolution. Different artifacts (and processes where they are designed) are just instances of the long-term flow in the development of the relation – which makes it possible to understand why it has been difficult to base a discipline on them. Because of the continuous development of mediation, the study of dynamics of different forms of mediation and their connections with each other, will open up as a novel field of study.

## **5. Conclusion**

Every design is a re-mediation: providing a new functionality, finding a new form to make an artifact more attractive, inventing a way to produce it more economically, are all re-mediations of relationships an artifact participates. Thus re-mediation is not anything exotic but simply what every practicing designer is doing all the time. The purpose of this paper has not been to invent a novel way of designing, but to suggest a new and potentially useful vocabulary to discuss about the issues in the next more general level above the ephemeral artifacts. Artifacts come and go, and they are difficult to grasp in their very specificity. The concept of mediated relationship might offer us a way to study what is general in the specific artifacts, and learn what can be applied more widely. The existence of relations is stable, but they keep changing in various ways. How to study and understand the dynamics of that change? What are the factors related to it? How a re-mediation can be managed?

The concepts of mediated relationships and re-mediation might offer design research a new venue and approach. Because of situationality and historicity of mediation an interesting and perhaps also somewhat radical consequence is that a discipline using it must necessarily adopt a cultural-historical perspective. Nothing new to design research in general, but in a rather sharp contrast with for example the line of thinking represented by H. Simon in his seminal book [8]. Mediation obviously calls for empirical research of the historical development of some particular relationships, made from a cultural-historical point of view. And there we have a wide vista open to us: if we eventually can grasp something of the origins, direction, and speed of the changes in the artifact-mediated relationships between humans and world, we are also approaching the dynamics of the whole human life from a fresh perspective – a noble enough challenge for design research.

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