

# Bridging: Some Personal Reflections



Jens Mammen 

## 1 Introduction

October 29, 2013, was a turning point in my academic life. I had been invited to participate in Jaan Valsiner's kitchen seminar and gave a presentation "*Dualisms and dualities in psychology*," not knowing that this was the beginning of a long-lasting dialogue, inspiration, and support which was summarized when I, some years later, declared Jaan to be my *midwife*, recognizing that most of my publications since 2013 would not have been born without Jaan.

The prehistory is that I, in 2009, after having retired as a professor in psychology at Aarhus University, became affiliated as an honorary professor at Aalborg University, where many of my former students now held research and teaching positions.

I was attracted by the open-minded atmosphere in Aalborg, and one of the early culminations was a seminar through some semesters with participants from psychology and philosophy, among them Svend Brinkmann, Mogens Pahuus, and Jörg Zeller, the "*Fætter-Kusine Seminar*," referring to the two fields of study as cousins. In Danish, as in German, there are different words for male and female cousins. We never decided who was who.

In fact, it was Svend who arranged that I, in 2013, was invited to the kitchen seminar and in that way got in contact with Jaan, the kitchen seminars, and the cultural psychology.

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After that followed years of participation in the kitchen seminars and many events arranged in Aalborg by Jaan and the Niels Bohr Professorship Center for Cultural Psychology, often in connections with very social and generous sequels!

I did not participate in Jaan's and the center's extensive international activities except in July 2015, when Jaan together with late Dieter Ferring, Luxembourg's University, arranged a workshop "*Structuring of dynamic borders: Topological models for life-course transition*" in Remich, Luxembourg. Perhaps it was not arranged for my sake. But that was how I felt it, although I could not fully live up to the organizers' ambitious title. In any case, I was grateful for this fine opportunity to present and discuss some of my central ideas in this forum, and I was encouraged to go on with publications on the subject (Mammen, 2017, 2019).

All these events were very fruitful, and further, some of my former colleagues from Aarhus, Copenhagen, and Roskilde Universities were also invited by Jaan and enjoyed the open and engaged spirit in Aalborg. Especially my, also retired, friend from Copenhagen Niels Engelsted, with whom I have had a close cooperation for many years, was encouraged by Jaan to publish his important book "*Catching Up with Aristotle*" (Engelsted, 2017).

The best of all this was, however, my rich *dialogues* with Jaan through the years, both "face to face," and because of my residence in Aarhus, rather distant from Aalborg, via an extensive email correspondence. The very best was Jaan's meticulous comments to nearly every draft I made for manuscripts. Here, I met a Jaan with both supporting and critical, but very constructive, comments and knowledge far beyond the frames of cultural psychology and reaching fields of natural science which were rarely touched upon in the seminars and events. With a background originally in mathematics and physics, which still is my luggage, I loved that, of course. I was also surprised with Jaan's openness and degree of agreement when I often touched upon one of the themes from our first meeting in October 2013 about bridging traditions in psychology and strengthening the bridge to natural science in a non-reductive way, but also with some critique of cultural psychology in danger of isolating itself from natural science, and as a consequence also from an integrated and unified picture of human life.

I somewhat had the impression of Jaan being the *shepherd* keeping together, expanding and breeding his herd of cultural psychology in a courageous fight against the prevailing, dominating, and reductive mainstream psychology. Jaan knew that I agreed in this endeavor but that I did not buy the full packet from reasons I will try to expand here. And in our discussions, I felt that Jaan shared many of my concerns and was attentively open to my critiques. In any case, I enjoyed in our free discussions to have the privilege also to meet the *wolf*, although a very kind and caring exemplar.

In a way, Jaan's and my discussions have been a follow-up to my presentation at that occasion in 2013, which on the other hand also was a sort of summary of the problems I had worked with for many years. The seminar was thus bridging past and future and bridging Jaan's and my perspectives on the future. Therefore, I shall give a brief summary of the problems and the themes.

## 2 The Problems Behind: Schisms and Isolations

Psychology is in a permanent crisis. It is divided by, and in, two incompatible understandings of human life with incompatible frames of reference and basic concepts. One is referring to human and social sciences and one to natural sciences. This is well known, and I shall not, in this context, dwell on the roots and history of this classical schism between *Geisteswissenschaft* and *Naturwissenschaft* but just take it as a premise here.

I also think that the theoretical consequences with fragmentation of knowledge, division in opposing “schools” and very little genuine accumulation of knowledge beyond additive pieces of local facts and “mini-theories,” are well known. The same is difficulties in finding the place of psychology in the landscape of other sciences and the difficulties explaining to your dinner partner what psychology is about.

The practical consequences are also broadly recognized. Although in some respects being a human science, psychological praxis can’t be isolated from, e.g., psychiatric, neurological, endocrinological, or addiction problems with clear reference to biology as a natural science.

*Cultural psychology* has, in my view, not surmounted these difficulties, which was the background for my presentation and the discussion at the kitchen seminar in 2013.

Rather, cultural psychology has, in several ways, *protected* itself against the schism by turning its back to natural sciences. That was, and is still, my thesis.

One of these ways is a belief that language, signs, and other symbolic systems create or construct *meaning*, out of a nature without meaning, defining the human situation as such. One expression of that is the adoption of semiotics as fundamental conceptual system of reference for cultural psychology (Valsiner, 2014).

The problem is here that nature, in this perspective, before being “invaded” by signs is of no significant importance for understanding specific human life as studied in psychology. Nature is so to say passive and silent, or anonymous, in the creation of humans.

On this background, it is no wonder that, e.g., early infant development apparently has gone under the radar of cultural psychology. It is obvious that the infant meeting human culture and language *already* must have some *natural*, species-specific, receptive, and adaptive capacities or prerequisites, so to say to “catch” the objective order and relational structure in the world of objects and other humans, prepared for language and signs, e.g., the relation of ownership and other people’s knowledge of objects, “a common third,” volition, and intention (Tomasello, 2008). To explain this “sense for human order” by appealing to signs is circular.

This raises a more general problem about the relation between language and signs and their *referents* in the world, between facts and language, or in other words the relation of correspondence or *truth*.

Cultural psychology has had a focus on our impressing capacity for meaning construction and creative interpretations and narratives. If we look around in the present world, it seems overwhelming and without limits or constraints, and you

may ask if it is enriching or destructive. When is it valid, and when is it fake? Here, I think we get little help from cultural psychology which, as far as I can see, has no conceptual tools for “reality check.” I wonder if there at all is room for a true/false dimension in cultural psychology’s conceptual framework.

Truth is never complete but can always be expanded and supplied by new knowledge and new perspectives. But this does not invalidate the absolute distinction between true and false. You can never reach an at once true and complete description of our inexhaustible blue planet. But that does not affect the fact that “the Flat Earth Society” is simply mistaking.

This apparent ignorance of “reality checks” has of course consequences for cultural psychology’s critical potential and societal responsibility in a “post-factual” world. But it is also in risk of isolating cultural psychology from practical psychology in the degree it is cooperating with disciplines, biologically oriented or not, based on empirically informed decisions as basis for choice of investigations and interventions. They can of course also be questioned and criticized, but a critical interdisciplinary dialogue has to respect that true and false can be applied to both sides and that you should not end in an infinite interpretative game or “hermeneutic circle.”

### 3 Key Concepts with Unclear Reference or Address

When reading writings inspired by cultural psychology, and especially when attending the kitchen seminars, some concepts are met rather frequently, which seem to have some “identity defining” status or function. Examples are *irreversible time*, *holism*, *process*, and *becoming*.

From the written and spoken context, it is clear that a key intention is to communicate some *distance* to the concepts’ opposites: reversible time, atomism, static properties, and being, respectively. But this is not always explicit.

If we shall understand what is intended or being told by putting these concepts on your coat of arms, we must try to identify what they refer to or address, as well as their negatives or opposites. Who is the enemy? Here, we don’t get much help from cultural psychology which is clearly not very fond of open confrontations.

Let us take “*irreversible time*.” This refers to an understanding of time as defining an order of events which can’t be “turned round.” If you show a short movie of a vase being dropped on the floor and goes into pieces, it will probably look “realistic”: This is what could really happen. But if you run the movie backward, anybody can see that this could not happen in reality. In fact, it would be hard to find any sequence of changing events which would also appear realistic when “turned round” in time.

So where is the idea of reversible time at all coming from? Perhaps it comes from knowledge of a special *formal* property in some physical laws. The laws for electromagnetism, special and general relativity, and some laws in quantum mechanics are “time symmetric.” The same are the dynamic laws for interaction and movements of

solid bodies, the laws for “mechanics.” In contrast to the first examples are these laws, however, only *approximations* to the real events, or more precise, unrealizable *ideals* as, e.g., the “ideal pendulum.” Every *real* mechanical movement, and that includes all movements of dead and living bodies in the world, will necessarily be accompanied with some friction and heat production, which is described by thermodynamics. And the thermodynamic laws are explicit time asymmetric or time irreversible. So present-day physics does not support time reversibility of everyday events, living or not.

Also, chemistry and the “interface” between quantum mechanics and classical physics, as basis for much experimental and applied physics, are time irreversible.

In fact, I know of no branch of natural or human science which operates with reversible time.

The same can be said of *holism*, if that means acknowledgment of the fact, that systems of connected parts show some features which are not the sum of the features, which the parts would display if not connected. Chemistry is just one obvious example. In fact, I can’t imagine a field of science which denies that.

Primary interest in *process* and not in static properties is also something characterizing most, if not all, sciences. Physics and chemistry are only studying static properties as, e.g., crystalline structures, as *products* of processes, and as *informing* of the *dynamic processes* resulting in the structures.

*Becoming*, or evolution of new phenomena, is intensely studied in cosmology, geology, biological evolution, and of course in the *history* of mankind, material life, societal organization, and ideas, just to name a few fields of study.

This raises the question if these identity-defining key concepts have a special meaning in cultural psychology, compared with the general or standard meaning. If not, we need an explanation why the concepts should be *nontrivial* in cultural psychology, when they seem to be trivial in other fields of knowledge, including common sense.

The concepts clearly have some polemic touch, implicitly pointing to their opposites. But where do we find the referents or addresses of these opposites? Where is the invisible enemy? Is it real, or is it windmills with the purpose to justify the heroic fight?

I think you in science have an obligation to be concrete in polemics. Perhaps we can, however, find some targets *inside* psychology.

I guess one of the targets of the fight could be some parts of cognitive psychology trying to reduce psychology to brain processes. And I can see that the *holistic* principle could be relevant here because the reduction can be seen as an example of “the mereological fallacy” (Bennett & Hacker, 2003) as an instance of reductionism. In this case, it is the attempt to reduce the relations *between* man and the world to something going on *within* man in a *reduced* mechanistic interaction with the world. But it is hard to see if these reductionists are against holism or if they just don’t apply it consequently.

The reference to *process* and *becoming* could, as a target, have some examples from psychology of personality believing in the existence of some basic static

dimensions and properties in individual personalities. But is that necessarily an expression of negation of the importance of processes?

All in all, it seems that the key concepts are primarily communicating some *evaluating* declarations rather than carrying precise identification of opponents and thorough critical analysis. It is unclear what is expressed besides some unspecific *distancing*, building a protective and isolating wall, rather than inviting to dialogue and building bridges to neighboring fields of science, including biology and other natural science.

Such a dialogue must always build on a combination of acknowledgment of *some* common premises and of the *partial* validity of both approaches. Without that, mutual critique of possible overgeneralizations and reductionisms is pointless.

## 4 Complementarity Versus Realism

The *cultural psychology* project is closely connected to the Niels Bohr Professorate Center for Cultural Psychology, established at Aalborg University in the spring 2013, with Jaan Valsiner as a leader. That may have been a reason why it was natural to show some interest in the thinking of the Danish physicist Niels Bohr, and also in one of his key concepts, the principle of *complementarity*, which Bohr himself considered applicable not only in physics but also in, e.g., psychology (Bohr, 1958). Bohr was probably already early influenced by his cousin Edgar Rubin who became professor of psychology in Copenhagen. The concept of complementarity was developed by Bohr in the first half of the twentieth century in cooperation with, among others, Werner Heisenberg.

Here is not room for a detailed discussion of the concept and its history, only that it today is considered “controversial” and doesn’t play a dominating role in modern physics. However, the principle has been adopted to a degree in cultural psychology reflected in the title of the first volume in a series collecting lectures from the annual *Niels Bohr Lectures* held by the center: “*Cultural psychology and its future. Complementarity in a New Key*” (Wagoner et al., 2014).

The principle takes departure in some *facts* discovered in early quantum mechanics. One of them is expressed in Heisenberg’s so-called *uncertainty principle* referring to the discovery that if you, e.g., arrange a device to measure some pairs of properties with a particle, e.g., its position and its momentum (impulse), there is a necessary limit of the precision of the measures, not on each of them but on the product of the measures. If the “uncertainty interval” for measuring position is  $\Delta s$ , and the “uncertainty interval” for measuring momentum is  $\Delta p$ , the product  $\Delta s \times \Delta p$  can never be less than a certain universal constant, the Action Quantum. When one of the  $\Delta$ -intervals is small (relatively precise), the other one must be large (relatively imprecise). There is a mutual exclusion of precision.

Another example is also about arranging equipment tuned to measure features of, e.g., a stream of particles. In quantum mechanics, it was discovered that particles can both display properties bound to their moving positions (as known from bodies

in classical physics) and properties bound to some other parameters (as known from electromagnetic waves in classical physics). You can arrange the equipment to measure the “position-like” parameters or the “wavelike” parameters. But you can’t do it at once. Again, there is a relation of mutual exclusion.

Bohr’s and Heisenberg’s interpretations of these relations of mutual exclusion were very revolutionary compared with the tradition in natural sciences.

Instead of considering the measuring equipment as any other objective phenomena, they stressed that the equipment, or rather the whole experimental setting, had a special status as providing *knowledge*. You had to take in account that the setting was not an ordinary object-object relation, but a subject-object relation, and that you could not abstract from knowledge being part of the game. Already Heisenberg’s choice of the term “uncertainty,” and not, e.g., “smearing out,” is referring to lack of knowledge rather than to some objective phenomenon.

This *epistemological*, instead of the usual ontological, interpretation of situations and events in physics was early in the discussions with other physicists called the *Copenhagen Interpretation* because much of its development took place at what was later officially called the Niels Bohr Institute in Copenhagen. But connecting the name to a specific place was probably also signaling that this interpretation already from the start was controversial.

It was not possible in these days to settle the conflict experimentally because it appeared as rather a question of general attitude toward what phenomena and observations were at all in physics, but many considered the Copenhagen Interpretation to be too “subjectivist.”

Bohr insisted that quantum mechanics had drastic epistemological consequences and that “the lesson from quantum mechanics” first of all was epistemological and told us something new about the human conditions for getting knowledge in *all* domains of science and everyday experience. He even draws conclusions about logic and the principle of contradiction.

It is always hard to say that experiments or observations finally close a discussion of this general character. There may always be some ways of defending an attitude by new interpretations. But the fact is that a lot of experimental and observational facts, not known at Bohr’s time, today has implied that the Copenhagen Interpretation is considered outdated. What Bohr and Heisenberg considered uncertainty of knowledge is now acknowledged to be real objective “smearing” out produced by the experimental setting. Objects *can* really be nonlocal, and in more positions at once, they *can* be mutually entangled at great distance without interacting causally, etc. Objective phenomena like existence of Bose-Einstein condensates, quantum computers, black hole radiation as predicted by Stephen Hawking and Roger Penrose, superconductivity, and much more point very strongly in that direction, and as a consequence, that *epistemology* is *not* radically changed by appearance of quantum mechanics but has remained rather *realistic* as it is the dominating tradition in physics. That the *practical* conditions, for measuring different properties of the *same* events, may exclude each other is also not something radically new.

Cultural psychology adheres apparently to the Copenhagen Interpretation’s generalization to psychology. But it is a little striking, and perhaps misleading for the

non-informed readers, that it, without reservations, is taken as unquestioned basis in all the Niels Bohr Lecture reports in the mentioned first volume.

Bohr's not very well-founded generalizations to, e.g., psychology are also not being questioned.

To tie yourself to the concept of complementarity and its exclusion principles is an unlucky choice. We need many different perspectives on our common world and our coexistence. No single perspective is complete. But to declare mutual exclusion between perspectives is the same as, in advance, excluding common understanding, which is not only destructive to science but to our lives.

In fact, that was the theme of my presentation and the following discussion at my first "kitchen," October 29, 2013, as also reflected in its title. And I even presented a critique of complementarity by referring to examples from quantum mechanics. We should rather understand different perspectives as when the same landscape is seen or photographed from different positions. The configurations of objects as projected in the eye or the camera are different and depending of the position of the viewer. But by integrating the different "subjective" configurations, a new objective feature appears, which was not present in any of the two single perspectives: depth.

In psychology, this is known as stereoscopy, in astronomy as parallax, and in philosophy as dialectical sublation or *Aufhebung*.

We have protecting walls enough. We need more bridges.

## 5 Conclusion and the Future

There is a problematic *reductive* tendency in much contemporary academic psychology. In an attempt to be acknowledged as a "real science," concepts and methods are taken from natural science and applied in psychology *in a way* that ignores the *specificity* of human life, which on the other hand has been articulated in human sciences and the arts, and of course in thousands of years accumulated common sense and traditions.

The present dominant role of cognitivist theories, or even computer models, so-called neuroscience, and narrow genetic approaches, are expressions of this reductionist tendency in psychology.

*Cultural psychology* as a project is facing this worrying situation with the ambition of bringing the two approaches, or cultures, together because *we need both*. The humanist approach we have already in our accumulated cultural heritage, so why should we *also* have psychology if not because it adds some *new* scientific insights and some *new* possibilities for intervention in human suffering and disabilities?

And of course, we can't do with the reductionist theories alone with their obvious ignorance or "blind spots."

In this way, cultural psychology is taking up a *necessary challenge* and should be praised for that!

Both the diagnosis of the situation and the ambitions are summarized and programmatically expressed in the preface to a volume (Valsiner et al., 2016) with the committing term “*Manifesto*” in its title.

However, in the preface, the two approaches, the humanist and the natural scientific, are, unfortunately, referred to as an interest in “higher levels” and “lower levels,” respectively. These *terms* are referring to an idea of different levels within a hierarchically organized “system” and in my view a radical *narrowing* of the whole issue in question, throwing yourself in the arms of some mechanically and functionalist inspired “system thinking,” which cultural psychology, paradoxically, is trying to avoid. That Vygotsky also uses these terms is no authorization (see Mammen, 2016). But for sake of the theme of our discussion, I choose to read it as a *façon de parler* in *this* context and to take the discussion of terminology another time.

In the preface, there are expressed some integrative or synthetic conceptual frames for cultural psychology. “That system is organized at multiple levels ... Each level is simultaneously participating in the organization of adjacent levels ...” ... “Subjectivity is organized by basic, objective organizational forms.” (Valsiner et al., 2016, v). But the dominating view of relations between levels is that the higher ones are determining the lower ones.

On the publisher’s home page (Springer, 2016), a section is chosen from the preface (Valsiner et al., 2016, vi) as an introduction to the book. In the full version of the preface, which can be downloaded from the home page, two sentences in this section are emphasized with italicized words by the editors:

*Being* refers to the process of existing – through construction rather than an ontological state

and

*...psychology as science needs to start from the phenomena of higher psychological functions* and look at how their lower counterparts are reorganized from above.

Perhaps that is better than alone stressing the opposite relation of domination from beneath. The problem is that when there are many methodological considerations of using, e.g., semiotics at the higher levels, there are no hints of how the use of causality on the lower levels in any concrete way could influence or interfere with the higher levels, and I have not been able to find any examples in cultural psychological literature of concrete influence from the lower levels on the higher ones, despite this is in the center of much *applied* psychology, especially in interdisciplinary cooperation.

In contrast to the integrative declarations of principle, we are back into the two camps, protected areas or reservations, in psychology we, unfortunately, know so well.

*So what to do?* First, cultural psychology has to acknowledge that, with very few exceptions, modern natural science is not reductionist. It is psychologists uncritically importing and abusing what is often outdated science, who are the reductionists.

Next, and even more important, the concepts of “*ontological state*” and “*lower counterparts*” astonishingly seem to play the same role in the two latest citations above and de facto to be identical, not only in this programmatic preface but recurrently in cultural psychological literature and in contrast to what is “*constructed*” or defined by “*signs*.”

This dichotomy must be hard to defend philosophically, and from the perspective of psychology, it leaves out the whole *real ecology* of human life which is neither “meaningless nature” nor semiotic structures of signs. The whole reality of our historical and significant natural relations of coexistence to persons and objects, our affective bonds, and much more (Mammen, 2017, 2019) is left out. Cultural psychology simply has to *drop semiotics* as *absolute* conceptual basis. As such, it is reductionist and dichotomizing. But some of its methods may be useful in a suitable conceptual frame.

Finally, on the more practical level, interdisciplinary meetings and conferences, and serious dialogues with applied psychology, should have priority in the future rather than the present internal “networking.” After some 10 years (or more?), cultural psychology should be strong enough to dare some possible confrontations.

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