



# Rebellion, Theory, and Dialogue: an Interview with Jens Mammen

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## Abstract

The conversation begins with a reflection on the 1968 student rebellion in Copenhagen University, and its implications for Psychology in Denmark and internationally. Against this historical background, Jens Mammen's own theoretical works and his approach to teaching are discussed. Also included, are reflections on scientific progress, the current academic conditions, the relationship between theories and theorists, and interdisciplinary thinking.

**Keywords** General psychology · Theoretical psychology · Activity theories · Aleksei N. Leontiev · Cognitive psychology

## Preface (by Davood Gozli)

Jens Mammen is Professor Emeritus at Aarhus University, an honorary Professor at Aalborg University, and a member of the Niels Bohr Professorship Center for Cultural Psychology. He received his PhD in Psychology from Aarhus University (1983). Prior to that, at Copenhagen University, he studied Mathematics, Physics, and Chemistry at the Niels Bohr Institute (1960–63), and Psychology (1961–1968).

Mammen's work is concerned with the conceptual foundation of Psychology, with two closely related themes. First, following activity theorists (e.g., Leontiev, Rubinstein, and Vygotsky), he has argued that the units of analysis in psychology ought to be activities, rather than, say, sensations or acts of will (e.g., Mammen 1993; Mammen and Mironenko 2015). Associated with the emphasis on activities is his critique of the mechanistic approach to human psychology, which in part consists of clarifying in what sense mechanistic models can be thought of as “successful” (i.e., as limiting cases), by placing them in the broader understanding of human activity, and

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showing why the shortcomings of the mechanistic approach are difficult to see “from within” the mechanistic perspective (Mammen 2017).

The second theme in Mammen’s work is the distinction between universal and historical properties that permeate our activities (e.g., Mammen 2016, 2017). Universal properties, to which we refer using “sense categories”, enable us to perceive *equivalence* in objects or states of affairs. Historical properties, to which we refer using “choice categories”, arise out of our capacity to *keep track* of things. Recognition of historical properties enables us to perceive the identity of an object or a person, in spite of change, and distinguish objects or people from one another, despite their equivalence. This also provides a frame for a unified theory for cognition and affection. Mammen’s work has far-reaching implications, highlights the importance of general-theoretical psychology, and can bring vitality both to the existing psychological literature and the future directions of our discipline.

A few brief remarks about the reasons behind this interview may be necessary (as pointed out by one reviewer). One reason has to do with the status of general-theoretical psychology, and its relation to the current professional norms. General psychology, despite its grand scope, is a minority interest. It poses a challenge to the current norms and, perhaps indirectly, challenges the current standards of evaluating research progress and professional success. In short, there is an element of rebellion in the pursuit of general psychology. Moreover, general-theoretical psychology is not only concerned with the subject-matter of psychology but also with tracing the relation between subject-matter to the historical and social contexts (Mammen 2017; see also, e.g., Danziger 1994; Valsiner 2012). Thus, a major reason behind this interview was to hear the reflections of a scholar who has been engaged with general-theoretical psychology for over five decades. In addition to this relatively professional reason, there is a personal reason: I have found my communications with Jens Mammen—starting in early 2018—immensely and intrinsically rewarding. He is an insightful and engaging thinker and a warm and patient communicator. Our personal exchanges added to my motivation to share such an interview with a wider community, many of whom will find inspiration in his work.

The following interview covers several themes. First, the student rebellion in the University of Copenhagen (1968) is discussed in terms of its impact on Psychology in Denmark and internationally. Second, we discuss activity theories and Mammen’s work on historical and universal properties. This part could serve as a brief introduction and invitation to Mammen’s work. The discussion also touches on the role of personal life-history in scientific theorizing, which provides a glimpse into Mammen’s philosophy of science. Next, we discuss the teaching of psychology, including Mammen’s own style of teaching. The interview extends to several sub-topics including the role of historical analysis in teaching, and the importance of interdisciplinary and critical thinking in education.

## Interview

Davood Gozli: Thank you, Prof. Mammen, for agreeing to this exchange. Let us begin with some historical context. I would like to ask you about the student rebellion against the phenomenological tradition at the University of Copenhagen in 1968. My little knowledge of this event is based on a few scattered pieces. I wonder whether we lost, as a consequence of that rebellion, a unique perspective in the international context of

psychological research communities, a tradition that was meant to act as resisting and balancing perspective against the natural-scientific mainstream. In retrospect, how do you see this event? What was the rebellion against? And, what were some of the consequences, especially with respect to Danish psychology?

Jens Mammen: The psychology students' rebellion at Copenhagen University in 1968 had far-reaching consequences for Danish psychology, for research orientation, teaching, the psychological profession, and for participation and influence at the university. Very central was, as you mention, a showdown with the so-called Copenhagen Phenomenology. This was, however, not a killing of phenomenology, but rather a serious critique of some radical elements in the special Copenhagen-version, in fact blocking a constructive reception of the rich Danish and European phenomenological tradition in philosophy and psychology, which was invited in after the rebellion.

This already was the dominating opinion at the time of the rebellion and has been widely confirmed since then in Danish psychological literature. But as you also mention, this has been only little communicated internationally. And further, the student rebellion was much more than a critique of Copenhagen phenomenology.

Let me explain in more details:

The student rebellion in Denmark, which started at the Psychological Institute (Psykologisk Laboratorium), Copenhagen University, in March 1968 was not so spontaneous as often told and also not so inspired by what happened abroad as the common narrative suggests (Mammen 2010). The psychology students' rebellion, which soon triggered a more general student rebellion, had many local premises in the organization of the psychology study in Copenhagen, in the establishment of a democratic student organization some years before, and in initiatives which in fact came from political and governmental institutions, demanding general changes in universities, which made the Danish situation unique. It was also unique that there were no specific political demands in the rebellion, and that the student participation was very broad. The psychology students' rebellion was focused on specific problems at the university and there were no common political initiatives or activities beyond that.

Dissatisfaction with a narrow and unrealistic theoretical orientation dominating the study was only one of the premises. The effect of the rebellion was also much broader than a more open, pluralistic and practical orientation of the curriculum. In fact, enabling participation for younger teachers (i.e., teachers in general, as opposed to 2 or 3 professors) was in the long run just as significant as enabling students' influence on their study and the introduction of more up-to-date teaching forms and curriculum.

It could even be discussed if, in contrast to what happened abroad, it was a real rebellion although it included a peaceful but effective occupation of the institute by the students. The psychology students from the beginning gained the sympathy, not only from the university's vice-chancellor (rector), but also from most of the political establishment, the academic unions, and from the majority of professional psychologists. Soon after the psychology students' well-founded and successful actions were completed, within a little more than a month, the rebellion spread to other studies, and a long process followed all over the country, unfortunately in a few cases less reasonable and more extremist. But that is another story.

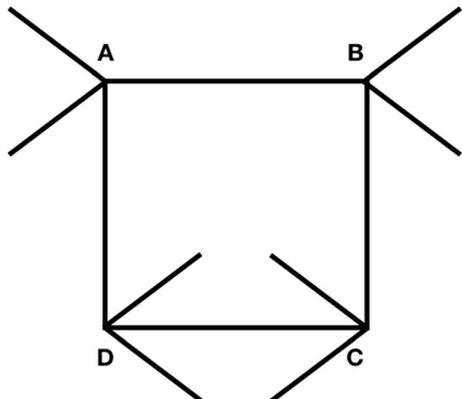
It is true that the dominating theoretical orientation in psychology at university level in Denmark, the so-called *Copenhagen Phenomenology*, for many years had been in a sort of opposition to most "mainstream" psychology, especially to behaviorism, which as an isolated

fact, of course, should be evaluated positively. The problem was, however, that Copenhagen Phenomenology had very little to do with the Danish and Continental European philosophical-phenomenological tradition represented by, e.g., Hegel, Kierkegaard, Brentano, and a little more modern Merleau-Ponty, to name a few, or to put it short, with the legacy from German idealism. It should rather be compared with Gestalt Psychology, and philosophically with the British empiricists, Berkeley and Hume and the sensualism of Ernst Mach, adding some “holism” (Tranekjær Rasmussen 1953; Petersen 1976). If German philosophy was involved, it was rather referring to Leibniz. And the “father” of Copenhagen Phenomenology, Edgar Rubin (1886–1951), explicitly expressed his contempt for theory and philosophy, including Søren Kierkegaard’s philosophy and psychology (From 1976).

In fact, Copenhagen Phenomenology as a theory was just a radical solipsism denying any reference to the common world as an object for our knowledge. Instead, it focused on pure intersubjectivity acquired through sophisticated formal linguistic procedures, culminating in Tranekjær Rasmussen’s so-called *relationsoverensstemmelseskalkule* (formal procedure for comparing relations). The subjective experiences were just considered products of the brain and physical stimulation, but at the same time “brain” and “physical stimulation” were themselves also just such products in a *circulus vitiosus*. Not easy to explain at the examination board. A consequence of this formalist theory was also that the concept of disagreement could not be established within this frame as it could not be distinguished from talking about different matters. Some students, including me, not only disagreed with the theory but found it below academic level with its conceptual mess, and in many ways also arrogant and uninformed in relation to European philosophy. Further, it was ignorant of the analytical, critical, and practical obligations of psychology.

This otherworldly theory was useless for any general purpose. It was, however, combined with a more practical derivative, called *Descriptive Psychology* (Moustgaard 1990; Pind 2014), which stressed the importance of open and meticulous introspection, not restricted by rules or logic. We were, e.g., trained in “experiences not compatible with geometry” (Rubin 1950). For instance, in Fig. 1, we experience the vertical sides (AD and BC) as parallel, even though the horizontal sides (AB and DC), using Müller-Lyer illusion motives, appear unequal. This training implied openness and sensitivity to other peoples’ experiences and feelings without interfering with our own experience and knowledge, and a sensitivity to contradictions in one’s own impressions. The problem was that Descriptive Psychology in Copenhagen was

**Fig. 1** A figure that seems to give rise to a kind of experience that contradicts geometrical understanding (based on Rubin 1950)



followed by a sort of hegemony and an anti-theoretical attitude. But that could be compensated for, and the method was still evaluated as useful anyway by the students, and not criticized seriously in the rebellion, as I remember it, although it was closing the eyes for theory and international psychology and in general was considered rather “provincial”.

I am sure that this tradition, to this day, is responsible for an emphasis on subjectivity and intentionality as central in Danish psychology, in opposition to the behaviorist focus on “prediction and control”.

There have been some Danish attempts afterwards to evaluate these consequences of the student rebellion 1968 in psychology (e.g., Schultz 1988; Karpatschof 2000; Mammen 2010). And it is my impression that some consensus exists saying that we succeeded in preserving the useful aspects of the Danish phenomenological tradition but got rid of the destructive extreme solipsism and anti-realism in its theoretical basis.

The rebellion also implied a greater pluralism in theoretical, empirical, and applied orientations, and inevitably also a greater opening towards mainstream international psychology. The openness towards subjectivity and intentionality, however, also meant an interest in German and Russian psychology as a counterweight to Anglo-Saxon mainstream. So we can still say that there is a special Danish psychology (Mammen 2009).

DG: And, one of themes of this psychology, highlighted in your work, is an emphasis on *activity* as a way to connect the material domain with the domain of ideas and values. With regard to the concept of activity, I want to see whether the distinctions you have proposed, between sense category and choice category, could be traced to distinctions between types of activity. We might consider, for example, the difference between *activities as means* and *activities as ends in themselves*. When engaging in the first type of activity, we aim to fulfill a goal and terminate the activity; when engaging in the second type of activity, we aim to continue the activity. Asking a stranger for directions would be an example of activity as a means, while talking to a friend would be an example of activity as an end (keeping a conversation going; or, perhaps, keeping a tradition alive). We could also divide activities into those in which certain attitudes, such as trust, empathy, and hope, are dominant, and those in which these attitudes are removed. The latter activities are not necessarily hostile. They might be the outcome of some of our ambitions and standards (e.g., being objective). Do you consider these distinctions theoretically useful? Do you think they map onto the two categories of sense and choice?

JM: I would rather say, that the distinction between sense categories and choice categories pervades all kinds of human activity, but that the categories play different roles in different kinds of, and levels in, activity.

Again, this short answer demands more elaborate explanations:

The concept of activity is in Danish tradition (Engelsted 2017) rather closely related to the theory of A. N. Leontiev (1978, 1981). Leontiev distinguishes between Activity, Acts or Actions, and Operations.

Activities are defined by their motives. In Leontiev’s theory, motives are not just needs as inner conditions or states but are intentional and affective, i.e., directed towards some object in its broadest sense, persons, a domain of study, more ideal goals, etc., but also more everyday objects of consumption. This is comparable to your *activities as ends in themselves*.

Acts or actions are defined as more instrumental in relation to the realization of an activity in a given context, buying a present for your friend, attending lectures on your subject of interest, etc. This is comparable to your *activity as means*.

Finally, operations are your repertoire of standard skills, which are chosen and used as elements in your acts or actions, your capacity to walk and drive a car, your ability to read and write, etc. This is also comparable to your *activity as means*, but without reference to some specific motive, goal, or situation.

These three levels are first of all analytical distinctions. In practice, they are almost always co-existing and combined in a synthesis, with the activity as the governing principle.

At all three levels, both sense and choice categories are involved. But while the role of sense categories is not dramatically changed, choice categories have more different roles (Mammen 2017).

At the level of activity, choice categories are relevant as the choice of objects for motives. Sense categories are also involved to define the qualities of the object, the gender, and appearance of persons, the taste and nutrition value of food, etc., and they often have a more esthetic and emotional role than on the other levels. But within such a framing by qualities there still is a necessary choice focusing in on other aspects of the object, primarily referring to its history and co-existence with the subject. This could be e.g., family relations. But it could also be a specific history giving this object a special significance, an affective or a sentimental role. Neumann (2016) gives examples, reported by soldiers, of very strong affective bonds to other persons, despite their qualities, but rooted in common fate and co-existence in vital situations. But our affection and reverence for personal gifts, independent of their esthetic or functional value, is also an example. The same applies to homes, monuments, and belongings as shared objects tying people together in affective bonds. The deeper aspects of our solidarity, affections, and love and the dramas in human existence could not be understood only as rooted in sensory criteria. It is rather based on our binding and breaking relations rooted in choice categories.

At the level of acts or actions, choice categories are basic in the definition of the situations and contexts for our activity. Am I meeting my old class mate or is it just somebody looking the same way? Is this a genuine and valid coin, or is it a counterfeit? You cannot tell from the appearance or qualities but have to refer to its history of production. In fact, most artifacts are defined and understood not only from their physical properties and functional values, their “affordances”, but from what Leontiev called their meaning, i.e., what they are meant for, which refers to the way and reasons they were produced and not some “inherent” quality. Our world has a historical depth both in a personal and a societal context, and it frames our actions far beyond the objects’ “natural” qualities (Mammen 1993). Today, I would rather talk about “universal” qualities, because nature also has a history. We have a “human sense” (Mammen 1996) for this historical depth as a basis for all our specific human cognition and behavior, concepts, and language, etc.

At the level of operations choice categories also have a crucial role. Take as simple an operation as counting objects in a heap. To notice their mutual differences is not sufficient. You must use a practical procedure securing that every object is counted once and only once by for instance moving them one by one to another heap, independent of sensory or qualitative similarities or differences. We also have to discriminate between some object being changed over time or being replaced with another object. In both cases, the sensory qualities have changed, but the object as a choice category has only changed in the second case. The establishment of this kind of basic cognitive operations has an important role in developmental

psychology (Krøjgaard 2016). Also, the establishing of a common object for the child, or infant, and an adult not by description but by pointing or touching is a necessary prerequisite for communication and appropriation of concepts.

DG: I see in your approach an attempt at re-orienting and broadening of attention, to make room for what is familiar to our human sense. This re-orienting and broadening of attention, I believe, promises a psychology that—without abandoning scientific ambitions—is something in which we can recognize ourselves. This is perhaps why your work has also inspired such outstanding commentaries (Krøjgaard 2016; Neumann 2016). On the other hand, the current emphasis on sense categories (and the neglect of choice categories) is indicative of a set of values that go beyond our discipline. What is emphasized in psychology is, in part, reflective of what is emphasized by the dominant forces of culture, politics, and economy (Valsiner 2012). Is there in this psychology, therefore, an act of rebellion or resistance against those overarching forces?

JM: Yes, indeed! And you express the situation very much to the point.

There is an unhappy alliance between mechanistic psychology and the ruling ideology of new public management and similar attempt to reduce humans with their irreplaceable relations to each other and to the world to replaceable algorithmic modules in a context of people and objects with no historical depth, and followed by a pervasive reduction of uniqueness and meaning to quantities. Many people feel alienated and do not recognize themselves in this functionalistic and instrumental picture, but contemporary psychology does not offer a recognizable conceptual alternative. It is no wonder that people desperately seek the recognizable conservative values, nationalism, etc. The problem is that meaningful historical depth—without a proper theory—tends to be reduced to pseudo-sense categories, supremacy, and excluding qualities. This is the classical transformation of existence to essence seen in chauvinism and fetishism.

Much more could be said about this, also about those who adapt to the situation and even take it as natural without noticing the loss of meaning, in the first place. I think it will be a leading theme on the conference in International Society for Theoretical Psychology (ISTP) August 19–23 in Copenhagen: “*Measured Lives: Theoretical Psychology in an Era of Acceleration*”.

DG: Related to the theme of alienation, I want to ask you about the relation between theories and theorists. Is there, in psychological theory, an inevitable role played by the theorists’ personal history? Is there an autobiographical dimension to psychological theory? Or, can we separate the theory from the person who gives us the theory?

JM: The short answers are: Yes, Yes, and No. And that is not only the case in psychology. If you read the history of the natural sciences, and even mathematics, and of the *debates* driving the development of new ideas in these fields it is obvious that you will find the same clear answers there, and therefore of course not less in psychology.

On the other hand, you could say, that the *results* reached in science should be rather independent of subjective opinion, and that is luckily also mostly true, and a level of objectivity is in fact reached. In these times, we have as scientists an obligation to defend

the objectivity of science against attacks from nearly everywhere, even from some of our own colleagues in the social constructivist camp (Otto 2012).

But that does not exclude that the *process* of reaching the results can be very personal, and also that the *prioritization* of subjects and domains of study have more secular motives referring to personal interest, curiosity, societal relevance, financing, career planning, etc. It is, for instance, a little depressing to see which motives have been driving forces in the development of mainstream American social psychology (Kuschel 2017).

This does not mean that the results of psychological research should not be debated, and in some cases also refused. The current “replication crisis” in psychology points to severe problems of empirical methods and in some cases also of honesty, and the conceptual and theoretical background is in many cases reductionist and misleading. The best medicine is here a living debate among the scientists themselves. But for the present conditions are not optimal. Responsible and critical mutual debate between researchers is too time-consuming and has been replaced by “parallel” competition to please institutions responsible for employment, funding and promotion, and often on quantitative parameters of dubious relevance for quality. Perhaps the ambitions with reducing basic funding of universities and increasing external financing through competition are to stimulate quality and honesty. But the consequences are often the opposite.

DG: Have you considered writing an autobiography, which could (among other things) elucidate the process by which you reached your theoretical and philosophical perspective?

JM: If I ever should find time to write about my early and more personal life I fear that will happen when it is too late. But I hope in due time to write some shorter memories about my study time and professional life. My short reminiscence from the student rebellion (Mammen 2010) is one example. I hope to follow up by collecting and delivering what I have of original material to the official archives, which some of my fellow students have already done.

Recently, I wrote a critical review, with some autobiographical content, of an ethological research project (about the behavior of the three-spined stickleback) I was part of as a student assistant in the 1960s, with emphasis on some general problems in mathematical modeling. It is now being published by The Royal Danish Academy of Sciences and Letters.

DG: Allow me to switch to a different topic, namely the teaching of psychology. I believe you used to teach cognitive psychology. I am very curious about the content you covered in that course, and how your style of teaching differed from the style encouraged in textbooks on cognitive psychology. My interest arises from my own desire to find the best way to teach this course. I have experimented with three different ways so far (textbook, big questions, and classic papers), but I have not yet found a method that could fit all the diverse content in a single story. I am also regularly struck by the mismatch between what is interesting to students and what preoccupies neuro-cognitive psychologists (if the top journals and the textbooks are reliable indicators). Please tell me a little about your approach to teaching, in general, and to teaching cognition in particular.

JM: In my lectures I mostly covered perception and cognition, and also research method in a separate course. In my seminars the subjects could be broader, and in tutoring or

supervision of student theses I nearly covered everything, also applied psychology, e.g. clinical psychology. Besides that I also had some “*con amore*” seminars, to some extent going beyond psychology.

But let me focus on the lectures on perception and cognition. I had the first ones in 1970 and the last ones as a course of lectures in 1999, because after that I had only shorter seminars and supervisions as I was fully occupied being head of the psychology department and head of research groups, e.g., Man-Technology Interaction. My notes with lecture plans and curriculum are in some moving boxes in my cellar. So it will be a reconstruction from memory.

I could not myself decide the curriculum because that was under the jurisdiction of the section for cognition and learning and ultimately of the board of studies and the department, and it should match the requirements for an exam where I was only one of the examiners. But I could make suggestions which in most cases were followed. Usually, there were some mainstream American textbook in cognition, some short historical “milestones”, as G. A. Miller’s “*The Magical Number Seven*”, some supplementary texts by authors, such as J. J. Gibson’s and A. N. Leontiev, and one or two short extracts from my own writings. There were also suggestions for further reading beyond the curriculum.

The significance was not so much in the curriculum, but the “style of teaching” as you call it. Basically, the structure was historical progression: starting with psychophysics and its theoretical and empirical background, moving to Gestalt psychology, Gibson’s “ecological” psychology, New Look, cognitivism, and Russian Activity Theory, with digressions to minor theories or “schools”, such as information theory, David Marr’s theories of perception, or neural networks and pattern recognition.

The backbone of the course was the perspective on the development of cognitive psychology as a continuing discussion or dialogue using both theoretical and empirical arguments. Psychophysics had a solid basis in empirical investigations of isolated physically well-defined stimuli and subjects’ well-defined answers to yes/no questions referring to the stimuli. Psychophysics had a limited domain of application but within this domain, it was scientifically sound and with far-reaching applications in, e.g., audio-visual technology until today’s latest equipment.

While psychophysics was a splendid success within its relevant domain, it was a catastrophe as basis for a theory covering most of our everyday perception and cognition outside its narrow domain. Here were clear counterexamples emphasized by the Gestalt psychologists which also had a domain of application and empirical justification where it had some success.

But again, Gestalt psychology could not explain the pervasive stability and constancy of our perception under changing conditions, which was pointed out by J. J. Gibson. And so on for the other theories or “schools”.

This everlasting dialogue between expansion of the domain, counterexamples to the over-generalizations of the domain, and new expansions referring to new empirical basis were used as a recurrent method of presentation, giving the course some “dramatic” qualities and, I hope, also sharpened the students’ sense for scientific arguments. The price was that not all subjects in the curriculum were “covered”. But I presupposed that the students themselves were able to read.

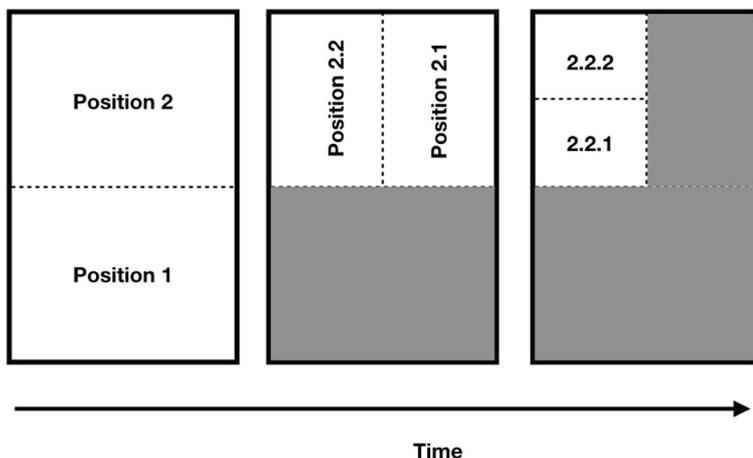
Activity theory was treated in the same way pointing to its limitations, e.g., its emphasis on appropriation at the cost of discovery and invention, and its overly functionalist theory of motivation. At last, I presented my own theory and its virtues. But I also tried to point to its shortcomings or “zones of development”.

Anyway, the lectures were rather popular, and some students even made notes used to write some fine summaries with figures etc. distributed to their fellow students. There was much dialogue with the audience, and often my pause between the usually 2 h of the lecture was hindered by insisting students with good questions, which I could also use as an introduction to the second hour.

I liked the lectures, but I did not enjoy the preparation the day and night before. The stress of preparation seems to be undisturbed by success. Interesting in itself!

DG: I can certainly relate to the stress of teaching preparation, especially after repeatedly learning that my assumptions about what students find interesting are incorrect.

I'd like to go back to your point about history and dialogue. There is another way to view the development of a domain of research, using the game of Twenty Questions as an analogy (Fig. 2). Earlier in the discipline's development, disagreements are over relatively more fundamental questions. These disagreements are resolved partly through debate and partly through the unequal distribution of resources, institutional power, and hiring and training of the next generation of scholars. This also involves casting a shadow on the less popular positions. The popular topics in our generation are, in part, the product of such a narrowing-down process. This is probably not an accurate image of Psychology in general, but it seems to describe the progress of a sub-discipline such as cognitive psychology. There is even a genre of writing that focuses on how dominant academic positions distort and exclude their dissidents (e.g., Costall and Morris 2015; Griggs and Whitehead III 2015). With this in mind, attention to history would also take the role of showing neglected positions, widening the map of inquiry, and bringing to view the possibility of a general psychology. Would you agree that a lot of what we do involves recovering the hidden parts of the map and, in a sense, "rewinding" the twenty-question game?



**Fig. 2** A view of progress in a (sub)discipline, using the twenty-question game analogy. Resolution of relatively more fundamental issues (left), partly by means of unequal distribution of attention and resources, lead to highlighting relatively more specific issues (right)

JM: I agree that the picture of scientific progress I presented in my lectures was somewhat simplifying and idealized for the sake of clarity. Little was said of the sociology of science. Only in my critique of the cognitivists' computer analogies and their exaggerated optimism concerning the powers of Artificial Intelligence did I refer to the narrowing and even censoring influence of economic interests, following e.g. the critique from Hubert Dreyfus (1979).

But in general, the present competitive system of financing and promotion establishes a positive feedback loop with the already established and praised research as a strong attractor, cf. your Fig. 2. I have heard about examples of application for funding of already finished research to be sure that you could satisfy the demands for results, so the funds in secrecy could be used to more risky exploratory research. Also, the scientific journals' demand for statistical significance, mainly motivated by economical interests, is blocking more explorative research and publishing of so-called negative results and is responsible for most of the current "replication crisis". As mentioned earlier no researcher has spare time in the competitive race to repeat and check others' research if it is not published and produces no merit.

You may think it is easier for theoretical research which is not so dependent on external funding as empirical research. But today in many universities and research institutions your employment is dependent on your ability to attract external financing to your institution. This means, of course, a reduction of theoretical research and with that also of new ideas.

DG: What do you look for in a good book, a good article, or a good conversation?

JM: That the author him/herself presents the necessary arguments in a coherent and logical way, referring to other authors in order to place the arguments in the context of dialogical and cumulative science, but not using other authors as authorities or as unspecific supporters by "name dropping".

DG: Let us explicate this a little further, because what you refer to as "name dropping" might be a symptom of one or several underlying causes. Perhaps we can think of the organizing principle (Leontiev's *activity*) behind the acts of name dropping. These include, as you already suggested, the appeal to authority as a substitute for argument. But, let me bring in a different, but related, type of behavior. I teach Chinese students in Macau, who are on average more reserved and less outspoken than Western students. It is, in fact, common for a student to come to me with a friend's question, "my friend is wondering..." or "my friend would like to know...". In these instances, the student isn't name dropping or using authority, and yet something is missing, in a similar way as when someone name-drops.

The saying, "don't kill the messenger", points to the fact that a messenger is not attached to (or entangled with) the message. If someone name-drops or carries someone else's message, they cannot be held responsible for the message. They are not, so to speak, standing behind their words. I think what you allude to in relation to a good book or a good conversation partner is the willingness to cease to be a messenger ("kill the messenger" within oneself), because only then one would be engaged in a dialogue, attentive to the other's response, and open to change. Is that a fair inference based on your statement?

JM: There may be some cultural differences in the attitude towards authority and the courage to take personal responsibility in front of others. Perhaps that could be compensated for to some degree by arranging the setting of the teaching in some small groups provoking active participation. Even in Denmark, where students are rather outspoken, we had good results with this in the first two years of study at my institute in Aarhus. I agree that from the perspective of advancing science it is important that curiosity, doubt and critique is facilitated as much as possible, and that students are trained in a dialogue, where they are able to openly test both their own and the other's opinions, not for the sake of winning or losing, but for the sake of mutual enrichment. In science, you are not losing face by asking questions, and that can sometimes be a little hard to acknowledge.

DG: What is one important domain, topic, or method that most university students in Psychology should be learning about, but aren't?

JM: I think there is no such specific domain, topic or method, although I think every student of psychology should have some broad knowledge of the history of psychology which is not always the case, and some introduction to logic would perhaps also be useful. Psychology is in many ways without the coherence, precision and analytic power we know from other sciences, and I doubt that can be repaired by some course or exercise in the curriculum. However, it is my experience that colleagues who have some solid background in another scientific discipline, be it natural science, law, mathematics, or philosophy have a great advance in having a precedent, so to say, and a source of inspiration. The same is not acquired from just having some short auxiliary courses. It is, of course, utopian to demand that psychology should always be preceded by another full study. At least, it is important that the terms of admission don't exclude students with some other academic background, which in fact is the case today in Denmark. I could not myself have done my research without a background in mathematics and science.

DG: Is there an advice that you have found yourself giving repeatedly to junior researchers?

JM: I have always stressed the importance of critical thinking and taking the role of the devil's advocate, to look actively for counterexamples, and to have the courage to trust one's own skepticism and intuition, not as a final rejection but as an opening for constructive alternatives. In science, nobody is an authority beyond arguments and reasons. To have a problem can be a burden, but it is necessary if you want to advance science.

DG: I couldn't agree more.

Let me recap some of what we have talked about. Even though we touched on several different topics, it feels as if we have been discussing various aspects of a single topic. We began with the student movement in 1968, which you viewed as a generally positive influence on Danish psychological thought and education, and I think you made this clear when detailing how things were prior to the movement. Then we discussed activity theories, particularly with reference to Leontiev, distinguishing activities, acts/actions, and operations. You pointed out

that these distinctions are analytic, in the sense that we can usually point to one and the same behavior and describe it with reference to all three concepts. You also clarified that there is no one-to-one mapping between sense and choice categories (Mammen 2017) and different types of activity. Rather, the two categories permeate the three levels of activity/acts/operation, playing different roles at each level. Indirectly, we also touched on the philosophy of science. The theorist's personal life-history often shapes the *process* of inquiry, but the *outcomes* of inquiry ought to be defensible in a shared, intersubjective domain of rationality. We also discussed teaching students about the developmental of a field (e.g., cognitive psychology) over the course of its history, which can be viewed as an on-going and open-ended conversation. Would you like to add anything in closing?

JM: Only that I will thank you cordially for this fine opportunity to discuss important subjects and issues in an inspiring conversation between Macau and Denmark. I am looking forward to a continuation in common space-time!

DG: Thank you very much, Prof. Mammen. I am grateful for your interesting and inspiring work, as well as for this illuminating exchange.

**The works by Mammen (until 2010) can be downloaded freely from <http://engelsted.net/mammenbibliografi.htm>**

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## References

- Costall, A., & Morris, P. (2015). The "textbook Gibson": the assimilation of dissidence. *History of Psychology, 18*, 1–14. <https://doi.org/10.1037/a0038398>.
- Danziger, K. (1994). *Constructing the subject: Historical origins of psychological research*. Cambridge University Press.
- Dreyfus, H. L. (1979). *What computers can't do. Revised edition. The limits of artificial intelligence*. N. Y.: Harper.
- Engelsted, N. (2017). *Catching Up With Aristotle. A Journey in Quest of General Psychology*. Cham, Switzerland: Springer. <https://doi.org/10.1007/978-3-319-51088-0>
- From, F. (1976). Hvordan var Rubin? – Sådan husker jeg ham [How was Rubin? – this is how I remember him] In: S. E. Nordenbo *et al.* (Eds.). *Dansk filosofi og psykologi 1926–1976* [Danish philosophy and psychology 1926–1976], Vol. 1. Copenhagen University, pp. 163–170.
- Griggs, R. A., & Whitehead, G. I., III. (2015). Coverage of recent criticisms of Milgram's obedience experiments in introductory social psychology textbooks. *Theory & Psychology, 25*(5), 564–580.
- Karpatschhof, B. (2000). Fra fænomenologidebat til studenteroprør - en revurdering af Københavnerfænomenologien 30 år efter [From phemenology debate to student rebellion – a re-evaluation of Copenhagen Phenomenology after 30 years]. *Psyke & Logos, 21*(1), 152–173.
- Krøjgaard, P. (2016). Keeping track of individuals: Insights from developmental psychology. *Integrative Psychological & Behavioral Science., 50*(2), 264–276. <https://doi.org/10.1007/s12124-015-9340-4>.
- Kuschel, R. (2017). *Psykologer i CIA's tjeneste. Eksperimenter med sindelagskontrol*. [Psychologists in CIA's service. Experiments with mind control] Copenhagen: Dansk Psykologisk Forlag.
- Leontiev, A. N. (1978). *Activity, consciousness, and personality*. Englewood Cliffs, NJ: Prentice Hall <https://www.marxists.org/archive/leontev/index.htm>.
- Leontiev, A. N. (1981). *Problems in the development of the mind*. Moscow: Progress Publishers <https://www.marxists.org/archive/leontev/index.htm>.

- Mammen, J. (1993). The elements of psychology. I. In N. Engelsted, M. Hedegaard, B. Karpatschof, & A. Mortensen (Eds.), *The societal subject*. Aarhus, Denmark: Aarhus University Press, pp. 29–44.
- Mammen, J. (1996). *Den menneskelige sans. Et essay om psykologiens genstandsområde* [The human sense. An essay on the object of psychology]. Copenhagen, Denmark: Dansk. Psykologisk Forlag (1st ed. 1983, 2nd ed. 1989).
- Mammen, J. (2009). Findes der en særlig dansk psykologi? [Is there a specific Danish psychology?]. *Psyke & Logos*, 30 (1), 355–379, Summary, 383–384.
- Mammen, J. (2010). Udvikling af faget psykologi og dets rammer [development of the discipline of psychology and its frames]. In T. Nielsen (Ed.), *Psykologisk Institut i 40 år ved Aarhus Universitet i perioden 1968–2008 [Institute of Psychology 40 years at Aarhus University 1968–2008]* (pp. 41–56). Plurafutura: Aarhus, Denmark.
- Mammen, J. (2016). Using a topological model in psychology: developing sense and choice categories. *Integrative Psychological and Behavioral Science*, 50(2), 196–233. <https://doi.org/10.1007/s12124-016-9342-x>.
- Mammen, J. (2017). *A New Logical Foundation for Psychology*. Cham, Switzerland: Springer. <https://doi.org/10.1007/978-3-319-67783-5>
- Mammen, J., & Mironenko, I. (2015). Activity theories and the ontology of psychology: learning from Danish and Russian experiences. *Integrative Psychological and Behavioral Science*, 49(4), 681–713. <https://doi.org/10.1007/s12124-015-9313-7>.
- Moustgaard, I. K. (1990). Psychological observation and description. Søreidgrend, Norway: Sigma.
- Neumann, A. (2016). Looking for a symphony. *Integrative Psychological & Behavioral Science*, 50(2), 257–263. <https://doi.org/10.1007/s12124-015-9332-4>.
- Otto, S. L. (2012). America's science problems. *Scientific American*, 307(5), 48–57.
- Petersen, A. F. (1976). Om objektivitetsproblemet i dansk erkendelsesteori i det XX. århundrede [About the problem of objectivity in Danish theory of knowledge in XXth century] In: S. E. Nordenbo, et.al. (Eds.). *Dansk filosofi og psykologi 1926-1976, [Danish philosophy and psychology 1926–1976]*, Vol. 1. Copenhagen University, pp. 47–83
- Pind, J. L. (2014). *Edgar Rubin and Psychology in Denmark*. N. Y.: Springer.
- Rubin, E. (1950). Visual figures apparently incompatible with geometry. *Acta Psychologica*, 7, 365–387.
- Schultz, E. (1988). *Personlighedspsykologi på erkendelsesteoretisk grundlag - eller mysteriet om personen der forsvandt* [psychology of personality founded on theory of knowledge – Or the mystery of the disappearing person]. Copenhagen: Dansk psykologisk Forlag.
- Tranekjær Rasmussen, E. (1953). Berkeley and modern psychology. *British Journal for the Philosophy of Science*, 4, 2–12.
- Valsiner, J. (2012). *A guided science: history of psychology in the mirror of its making*. New Brunswick, NJ: Transaction Publishers.