

East of Eden

A commentary to
Niels Engelsted (2017): [*Catching up with Aristotle. A journey in quest of General Psychology*](#), Springer

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The Journey and Its Goal

I think Niels Engelsted's book: "*Catching up with Aristotle. A journey in quest of General Psychology*" is the most ambitious work I have met in psychology. It is not only ambitious to catch up with Aristotle's genius. It is perhaps even more to undertake a journey bound for General Psychology. The dominating opinion today is that this far destination is either unreachable or a Chimera like Treasure Island or the sunken Atlantis.

So, although Engelsted's voyage of discovery had its precursors through the ages, the destination seems unoccupied, despite some footprints left by Aristotle, perhaps. In Engelsted's case, the ambitions are, however, well-founded, and he meets them, as we shall see, with convincing proposals and solutions, guided by Aristotle.

But why is General Psychology attractive, to somebody, and why has it been so unattainable?

Psychology as any other science should have some sort of coherent and effective frame of conceptual and methodological tools to be able to sort and order empirical facts in hypotheses or tentative conclusions, or even in theories. This is necessary if psychology shall be "cumulative" and progress in time, i.e. take in new discoveries without throwing out what we already know, but correcting it if necessary. And this is mandatory if psychology is to be an effective tool for analysis, critique, and intervention, as it is the goal for other sciences. And this is what should be demanded of a "General Psychology".

Very few psychologists think we are there today, however. But what is more worrying is that also very few even see it as a program for psychology.

This extraordinary situation in the scientific landscape may have many causes. Some of the explanations are rather gloomy and refer to widespread sub-discipline chauvinism in psychology actuated by the modern destructive funding and merit system, and to political or ideological disruptive disagreements. There is also widespread data-fetishism and theory aversion among psychologists, justified by a

persistent and ignorance based myth that this is what we find in natural sciences, which ironically are more theory-driven than any. There is further an accelerating demand for quick and effective intervention here and now to a cascade of problems in modern society, which facilitates a development of pragmatic tools and solutions only corroborated by their immediate effect on the specific problems.

Some of these explanations are, of course, not only valid for psychology, and therefore not quite sufficient to explain the exceptional position of psychology. It is often referred to as the permanent “crisis of psychology”. But that is perhaps a little exaggerated, as very few psychologists, in fact, seem to care anymore.

Leaving these depressing explanations aside, there still may remain some deeper and more inherent causes for the extraordinary situation in psychological science, and consequently also reasons for some indulgence towards its agents.

Engelsted ventures both to explain these causes and to propose a solid framework for a real General Psychology.

There is, however, not a comfortable scheduled airliner to the destination. It is a long and strenuous journey, but also a journey through fascinating landscapes of evolution of life, history of mankind, history of ideas, history of psychology, and on a smaller scale, history of Danish psychology, and personal history of the author. This might seem a detour to a general psychology of modern human beings. But Engelsted shows, however, why it is not. To understand modern life, we must establish a conceptual co-ordinate system containing all the dimensions of our evolutionary and societal history and an essential part of the history of ideas also, that is, the history of the concepts we used through times to understand the world around us, our fellow human beings, and ourselves. The reason is that we always live in a state of transition. Not only do we live in a world filled with historical traces and artifacts, which is unintelligible without a historical perspective. We are also ourselves a pile of archeological layers both physiologically, culturally, and psychologically. We are carrying concepts of what it is to be a child, a man, a woman shaped through ages, and with inherent anachronisms and contradictions reflecting our changed conditions and our ways to meet them. And we always have a future perspective on the world and ourselves framed by the dynamic contradictions in our history.

So psychology and the history of psychology are merged with evolution of life, of mankind, of ideas, and perhaps more. This in turn raises a new question. Is psychology as a science then just the sum of all this, or is it still a science in itself? Or in other words: Is there a specific place for psychology in the scientific division of labor? Asking this does not imply that psychology should be isolated and not collaborate with other disciplines. All or most other scientific disciplines do that without losing their identity. I shall return to this intriguing problem later.

If the journey to general psychology involves this very broad field of investigation, and if it is even difficult to distinguish the goal from the journey, this may explain why it has been so hard to reach. But the problem is even worse!

The Leaps

The paths leading through evolution of life, history of mankind, and history of ideas and sciences have their own conundrums further complicating the journey. To take the evolution of life, it is obviously not some continuously, or just quantitatively,

growing phenomenon. There are qualitative leaps from inanimate matter to living organisms, from plants to animals, and from animals to human beings. There might even be qualitative leaps within these forms of life, e.g. from pre-mammalian to mammalian life, and between ancient and modern forms of human life.

Further, the qualitative difference between inanimate and living matter is reflected in a corresponding qualitative difference in history of ideas and science. Before the European renaissance we had the more holistic and organic understanding of the world, still shaped by the Aristotelian biological paradigm. After the renaissance this was almost completely replaced with the views of Galilei and Newton, understanding everything, also life, within a mechanistic frame, although sometimes with an appeal to God, to supply what obviously was lost.

To understand and explain these qualitative leaps is the theoretical pivot in Engelsted's work. There is a contradiction in this ambitious endeavor, between the discontinuity to be explained and the explanation seeking some bridge connecting the two sides, or the "before" and the "after". The irony of this situation is that the same theoretical difficulty serves as an explanation of contradictions in our lives, reflecting the opposition between such before and after.

The leaps have so far been very hard to integrate in a coherent theoretical frame, and this may also be part of an explanation of the lacking success of the general psychology program. It has been easier to divide psychology into mutually alienated sub-disciplines or theoretical schools within protecting boundaries defined by the leaps, or simply to deny the leaps and smear the understanding rooted in one of the sub-disciplines or theoretical schools over the whole domain. This is beautifully illustrated with very informative examples in the book.

Dramatic changes or qualitative leaps could in some cases be explained by reference to "external" events. The fabled meteor hitting the Earth 65 Mio years ago changed the opportunities for mammals, turning them from night-living into day-living after the resulting decline of the dinosaurs. And perhaps life itself entered the Earth as passenger on a meteorite from some distant planet. To use the latter as an explanation is of course just cowardly exporting the problem to the colleagues on the planet in question. Except for the mass-extinctive meteor, Engelsted refrains from such short cuts. He also refrains from the magical formula of "the dialectical law of the transformation of quantity into quality", introduced by Hegel and continued in Marxist literature but without any explanatory force.

The task is not easy, however, partially because some of the leaps are past and gone and have to be reconstructed. In fact you can take two directions facing these problems. One is the stance of continuity or gradualism, preferred by e.g. Charles Darwin stating that "Natura non facit saltus" or "Nature makes no leaps", emphasizing explanation of the process with conceptual means, which a priori excludes discontinuities, or qualitative leaps. This is the case when sticking to the mechanistic stance of renaissance physics. Or you can emphasize the phenomena as appearing in their obvious discontinuous consequences and view the process as a problem waiting for explanation, but not dismiss the phenomena with reference to the missing explanation. This more phenomenological solution was apparently chosen by Darwin's co-discoverer of evolution, Alfred Russel Wallace. In many

ways this more “humble” attitude, accepting the existence of phenomena despite the lack of explanations, (just think of modern cosmology) is, contrary to the prejudices, more common in natural science than in psychology. In psychology, the lack of reduction to the canonical forms of explanation has often been taken as evidence of non-existence (just think of the fate of “consciousness” under the reign of behaviorism and its continuation in mainstream cognitive science).

It is true that we don’t really understand phenomena before we understand their genesis. Their consequences can, however, also open our eyes for what, in fact is, or was, going on. Understanding and explanation are running in both temporal directions. First when looking back at earlier societal forms, as e.g. feudalism, and seeing their defeat do we understand their determining conditions. The contemporaries were blind, being surrounded by what they found natural. Even Aristotle was so immersed in the slave society that he did not understand how goods got their price. Similarly, another genius G.W.F. Hegel thought that the contemporary Prussian state was the only natural one and the end of history.

This just to say that lack of “forward” explanation of the process is no final argument against qualitative leaps. And Engelsted as a good phenomenologist accepts the leaps, but of course also tries to explain.

The Leap from Inanimate Matter to Life

If you can’t bridge the gulf between the sides of a qualitative leap with a processional explanation, you can at least bridge it conceptually. This is what Engelsted does with the leap between inanimate nature and life. If inanimate nature was just functioning according to the mechanistic laws of renaissance physics, this could not be done. The core of mechanism is that any causation between distant objects or events can be analyzed as a chain of independent “infinitesimal” causations, i.e. causations between events in immediate spatial and temporal contact. The causal elements in the causal chain are “transitive” in the sense, that if a causes b , and b causes c , then a causes c in the same way as b does. The effect of b on c is independent of what caused b . Far or distal causations in space and time are therefore fully explained as “integrations” of independent proximal causations. This is reflected in the infinitesimal calculus as a tool for understanding mechanistic processes, invented by Newton and Leibniz.

This causational “atomism” is, however, not exhausting the interactions in nature. There are at least two exceptions. One is due to quantum mechanics where distant objects can be connected or “entangled” in a non-transitive way, without any causal mediation. A simplified model of this would be three distant events in space, a , b and c , where event a is coupled to event b , and b to event c , while c is coupled to event *not- a* . The logic of the triangle is “twisted” like a Möbius strip, and all three events are therefore indirectly coupled to, or co-existing with, their own negation. This means that quantum entanglement is a distant interaction not following the logic of causation, but also that it from the same reason can’t carry causation or information between the distant events, although this possibility is sometimes mentioned in popular versions. The other exception is thermodynamics. This is an example of a phenomenon that can’t be explained by integration of all the proximal causal interactions

between elements in an ensemble of particles. This follows already from the fact, that the equations describing these proximal interactions are time-reversible, they can equally well run both ways in time, while the behavior of the ensemble can't. There is a physical measure connected with the ensemble, its entropy, closely related to heat and disorganization, which is not time-reversible. The entropy- measure is always increasing in time¹ in an isolated, or so-called closed, system and never decreasing. Entropy is e.g. produced from friction. And as any real moving mechanical system involves friction, no isolated real mechanical system can behave as when we run the movie with it backwards.

We don't know much about the consequences for life of the first, quantum mechanical, exception to mechanicism, except that we learn that the simple, transitive logic behind mechanistic causation has no hegemony in the real world, and for the same reason can't have it in science. Engelsted has a qualified guess, however, with reference to Roger Penrose, that quantum mechanics lays behind the emergence of sentience as a universal capacity in animals.

But we know much about the consequences of the second, thermodynamic, exception to the logic behind mechanicism, where we learn that there is a quantitative limit to the explanatory power of summing proximal causations in chains, or rather networks. An example justifying holism, you could say.

As said, an isolated ensemble of interacting particles, or a closed system, always shows an increasing measure of entropy, i.e. increasing disorganization or disorder. However, an open system interacting with its environment, and exchanging energy and information with the environment, can "locally" show decreasing entropy and an increasing organization, order, and stable structure. This is inanimate matter's opening for life as a possibility. How life in fact emerges as response to the invitation is only partly understood, but that life has come to stay on these conditions is an existential fact. This means, that life as a phenomenon in nature only can be understood in its asymmetrical relation to its environment, that life *is* this asymmetrical relation with two "poles", a subject and an object, the organism and its food, or its external resources. And this new stable local asymmetry, within an ocean of interactions, is indeed a "qualitative leap" in nature.

At the same time this bi-polar unit is the elementary unit of analysis in Engelsted's work, its basic "cell", to use Vygotsky's term.

However, the stability of life's bipolar relation certainly has its limitations, not as a phenomenon, but in its individual realizations. No organism can in the long run withstand the entropic pressure on its little island of order and stability. Individual death is a universal condition for life. And then the story could be over. We must suppose this has also been the rule for many of the first examples of life. But, by accident or not, some organisms, by division or export of material carrying enough energy and information to start a replica, managed to reproduce a successor to continue the vital relation. Perhaps this copying or reproductive power started in inanimate matter and joined life, as we see with *vira*. We don't know.

¹ In terminal cases the entropy can reach a maximum, with no further increase.

We can conclude that life is a bipolar asymmetric relation, or rather two asymmetric relations, between a subject and its environment, i.e. one relation between the subject and its food, and one between the subject and its successors or progeny. The first relation is maintained by import of energy and information, the second by export of energy and information to the environment. And this is now the “expanded” unit of analysis or “cell”, already containing some tension between the two vital relations, one maintaining the individual, the other one maintaining the species.

The Logic of Life as the Unit of Analysis

This simple looking unit of analysis is followed the whole way up to modern human existence, and Engelsted shows that its potential is nearly inexhaustible, and that the consequences of this basic “logic of life” are dramatic.

To take an example, the reproductive relation of both plants and animals is becoming more complex by a new qualitative leap, and a new vital relation, with the emergence of sexual reproduction, which now ties the individuals to each other in new relations, defining new possibilities and tensions.

Such step by step additions of qualitative new relations between individuals and between individuals and their environment define the progressing evolutionary story told in Engelsted’s work. And the point is that this is not only a story about the past, it is a story about present human life. None of the relations in the story vanish, they are supplemented and complicated, defining new possibilities and new tensions in our life, but they are here still. The problem of the amoeba to get its daily food is basically the same as ours, although it is now embedded in another context of a multitude of relations, forming a network with a “twisted” logic not inferior to what we meet in quantum entanglement. And Engelsted gives us a lot of very convincing examples of these “twists”, coupling situations, properties, roles, and concepts indirectly or mediated to their opposites, illustrated with instructive figures, although traditional dialectical concepts used by Engelsted are not quite built for these apparently contradictory logics.² Perhaps our brains are neither. Perhaps they are too small?

² Engelsted does not compare the twisted logic of human relations with the ones in quantum mechanics, and presumably the similarities are also just formal and without any material couplings. But the formal similarities mean that twisted logic ought not to be ostracized a priori as “non-scientific”, with reference to its transgression of the logic of classical causality. Its formal similarity with quantum logic should not even be taken as evidence of its “weirdness”, but rather as a sort of “taming” or demystification of what at first sight may seem incomprehensible. The “weirdness” of quantum mechanics has unfortunately been much exaggerated in the public, and even by serious physicists. The fact is that figures or diagrams illustrating the twisted logic can be drawn on the flat blackboard without its audible objections and explained in ordinary language. There are beautiful and (classically) coherent mathematical models of all quantum mechanical interactions, and until now all observable interactions derived from the models have been empirically verified, and many even utilized practically. Basically quantum mechanics is conceptually and empirically transparent, and today it is just mainstream physics. In the present commentator’s view, there has been too much voodoo about quantum mechanics, detrimental to progression of science. So the problem with understanding quantum mechanics and twisted logic is perhaps rather a question of education than about the size of our brains, as rhetorically suggested above.

The Logic of Evolution

The point is that we do not live the complicated and conflicting lives we do because of our big brains. It is the other way around. Our big brains are a desperate attempt to catch up with our human life. To understand this, we may ask how and why these big brains developed. The answer is not just hidden in a reference to natural selection. Natural selection itself can't explain the development of anything new, it can only select between something, which is already there. You could refer to natural biological variations, perhaps helped by random mutations, which made some brains bigger with a marginal survival advantage, compared with smaller ones, and thus step by step natural selection selected the bigger ones. This explanation has the big problem, however, that if big brains in general were an advantage, why do all animals not develop them? The answer is that big brains in general are a disadvantage. Compared with any other organs, including muscles, they use huge amounts of energy and bring a severe threat of starvation. After the hominids became bipedal with upright walk, the female pelvic floor further acquired a geometry that did not allow the passage of the baby's big head unless squeezing its soft skull out of shape, with great danger of lethal complications for both mother and child.

Despite all these disadvantages, there must, however, in the specific human case, have been very strong reasons for big brains still having a marginal advantage on which could be selected. And the advantage is hidden in the very special human form of life, in Engelsted's words, the special business of man, demanding handling of a lot of extremely complicated social and instrumental relations in societal life. This is an example of a general logic of evolution from earliest life forms to modern human. It is not the anatomical changes, including brains when they arrive, that drive evolution. Neither is it changes in environmental conditions in themselves. It is the individuals' responses to the conditions, changing or not, which define new forms of life, i.e. new species-specific forms of life, actively chosen by the individuals and defining what is to be selected as advantageous. In this way, Lamarck was right. Acquired behavior is transferred to the offspring, not directly, but mediated by selection. Here Engelsted follows Lamarck and his scientific successor the late Russian psychologist A.N. Leontiev.

Activity Theory and the Leap to Animal Life

Placing self-initiated activity in front of evolution is in line with an understanding of animal and human life going back to Aristotle and running like a thread through the history of ideas and science, with German idealism and romanticism as an important station, continued by Marx and Engels, and later the Russian tradition of Activity Theory, represented by L.S. Vygotsky, A.R. Luria, and especially A.N. Leontiev. Engelsted finds this Activity Theory conceptually unfolded already by Aristotle, not with the modern understanding of evolution, but still with the main stages of life in plants, animals, and humans, with their essential characteristics. So what is needed today is to catch up with Aristotle.

The move (conceptual in Aristotle's understanding and further evolutionary in Engelsted's) from the life of plants to life of animals is paradigmatic here. Plants, as

a rule, are stationary although in some cases being moved passively by wind, current or animals. They receive water and minerals from their surroundings, but the source of energy, making their vital life-relation possible, is the radiation from the sun hitting their surface and driving the process of photosynthesis. In this respect the “world” of the plants stops with their surface, their immediate and proximal 2-dimensional interface with the surroundings. The reproductive life-relation of the plants is, compared to this, 3-dimensional and a little more active. There are cases of reproduction by growth of suckers and other extensions, but most common is the reproduction by spread of spores and seed, and in many cases, the reproduction is sexual, which means that some distal exchange of material between individuals is needed. Although reaching out in space, this process is, as a rule, passive, using wind, current, or animals as vehicles of transportation.

The situation of animals is qualitatively different from this, because the vital life-relation between the organism and its food (energy source) is quite different. Animals are in the unhappy situation that they have no access to the free and abundant photosynthesis. There is in most cases no immediate proximal contact (some parasites untold) with a food source. The subject’s object, the food source, is distal and has to be found. First it has to be searched for, and if there is no proximal trace of the object this search is a matter of luck or failure. This means, that the life-defining relation between subject and object is not always there as a material interaction.

This does not mean, that the life-defining relation is not there at all, but rather that the animal now is living in relation to an object to be, in a hope, to an ideal object, in Engelsted’s words. When there is no immediate object to re-act towards, the animal has to initiate its own acting, to be pro-active, not only being hopeful but also courageous. This “ideal” aspect of the animal’s activity, this reaching out towards existence as uncertainty or as a question, is what Engelsted defines as psyche, a transgression of the immediate material interaction. The animal has “intentionality”, a distal relation going beyond causal interactions. It is not only living in an “interface” relation with its proximal surroundings, it is also living in an “interspace” relation with distal objects. Here Engelsted follows Aristotle, for whom the self-initiated movement, or locomotion, of the animal was its specific “psyche”, but Engelsted goes somewhat further, with echoes of existentialism.

If lucky, the animal gets some proximal trace of the distal object, and is now able to re-act to traces and stimuli from the object, and eventually to reach proximal contact also. Next the challenge is to handle the object, which besides being a suitable object for the subject, also is an object of its own, with an infinity of properties irrelevant for or even resisting the subject, a “Gegenstand”, standing or turning against the subject. If in luck once more, and clever enough, the animal at last consumes the object, and the sequence can after some time start again.

This reaching out in a pro-active movement, spending or investing energy in hope of later compensation, and also some surplus energy, is essential for animal life, but re-active interactions with the material object are also necessary to reach final consumption.

And still the animal, as also the plants, has to invest much energy, taken from the surplus and never returning to itself, to secure reproduction through strenuous mating behavior and production of offspring. With mammals, this takes another

qualitative leap when the mother not only feeds her offspring with collected food, but makes herself a food object for it.

The leap to Human Life, A New Beginning

The story is repeated in humans, but now with a lot of complications in the relations between the sexes, between adults and their children, between subjects and objects mediated by tools, artifacts and technology, between different classes in society, etc. This is the story of early societies, hunters and gatherers, the invention of agriculture and slavery, the emergence of civilization, and the transition from feudalism to capitalism, told with great clarity, humor and wisdom by Engelsted, and with convincing illustrations of how these different societal formations form our mentality and our political and moral ideas, etc.

The pivot in Engelsted's conception of the qualitative leap from animal to human life is, however, not the immense quantitative increase of complication in human relations, compared with pre-human hominids, forcing our big brains. It is not either, as in many traditional versions of the anthropogenesis, the invention of language or tools and technology, and other such instrumental improvements in mastering and creating our life conditions. It is rather a qualitative change in the basic logic of life, found all the way back to the first animals, and therefore also much more fundamental and dramatic than in the traditional version of the anthropogenesis.

The new logic in human life is a shift in the fate of the surplus remaining after the animal has used the energy, gained after consumption of its food, to maintain its own life. In animal life, this surplus is used to secure its reproduction. In societal life, in Engelsted's conception the same as the specific human life, this surplus is increased so that there is also enough to be given away to members of the population other than the individual's offspring. This is the qualitative leap and the turning point, starting human history.

From then on societal forms are defined by how this surplus is distributed and applied, or invested, in common wealth, starting a new accumulation of common goods, monuments, institutions, and in the most general sense, culture. In other words, this is the economy of societies, and it determines societal ways of life, mentality, ideas, politics, moral, religion, etc., in short, the specific human consciousness. This also is beautifully and convincingly unfolded by Engelsted, a piece of the way following Marx, but also with many new contributions, especially about the different roles of men and women in society.

The latter is also in Engelsted's anthropogenesis the explanation of why this new application of surplus originated at all. The astonishing is here, that Engelsted's scenario, as a dramatic condensation of what happened, is an almost verbatim reproduction of the Adam and Eve myth, the fall of man and the loss of Paradise, now told with reference to the social, but still pre-societal, and pre-human life on the threshold to early human hunters and gatherers. The point is that in the beginning it was females who produced this new surplus. This is further corroborated by a lot of anthropological evidence, presented by Engelsted.

The consequences of this drama of human genesis are twofold. One is a new consciousness, forced by ambiguous and conflicting layers in the relations between

male, female, and child, a human consciousness. The other one is a new social order, born as a consequence of the appearance of new surplus labor, not any more reserved for the offspring but earmarked to be given away. This new social order is the societal order, and defining of human life.

Engelsted follows the evolution of the societal order through its historical formations, and the corresponding further leaps in human consciousness and ideas, up till now. Every formation has had its severe contradictions, and every formation had called for a new social class to take over. Today the fate of mankind is dependent on us saving the world from war, hunger, pollution, and climate catastrophes. This makes caretaking and the fight for preservation of our natural resources most important, and Engelsted concludes that this is primarily the responsibility of women, but also that men have to join women's enterprise, if it is to succeed.

The Journey and Its Goal, Once More

Engelsted's history of evolution is coherent, plausible, and extremely relevant for the understanding of the present situation of mankind and its (possible) future, and a general psychology has to take it as a premise. A general psychology should have the psyche as its subject or domain, and according to Engelsted, psyche is intentionality, qualitatively different from causality, and here is told the history of intentionality as a journey towards general psychology. However, there might still be a problem of distinguishing the journey from the goal. We have premises for a general psychology, but has it been established as a scientific discipline, as a precise figure on a sensible ground, which we perhaps now have for the first time?

I think the story has to be supplemented with another history running in parallel, but perhaps with the same roots. Let us start from the concept of surplus labor and the resulting surplus, which first takes form of extra time for producing value, and then some surplus product to be distributed for consumption or investment in common wealth, institutions, etc. This defines a flow of value in society, a societal metabolism, in other words, an economy. The goods produced have their specific utilities, but economy is about their non-specific value, expressed in their so-called exchange value, or in short their price. This is about circulation of quantities, not of specific qualities. In the economic perspective, what could be exchanged is equivalent. Engelsted is right, that economic relations define the consciousness of its agents. But it certainly does not exhaust it!

The Missing Dimensions

Let us take an example, where Engelsted talks of a woman being given as a productive resource and as a gift from one male to another. Engelsted writes (p. 80) that "The giver remained in control of the gift". The woman was in fact not quite given away. There still was an unbroken thread to the giver. She was not a pure gift but more a pledge, linking the giver and the receiver to each other.

This is not an exception. Personal gifts are not supposed to be sold or handed over immediately. They are not just exchange value, cf. that it in many contexts is not suitable to use money as presents. They are rather vehicles of links between people. And more important than their exchange value or their instrumental utility

is in most cases what we call their affective or sentimental value, linked to this specific individual object and its history, i.e., its unbroken trajectory in space and time between people, and not just a link to its properties.

When defining ownership to objects, this is also not a matter of quantity or properties. Another wedding ring may have exactly the same properties as mine, but that does not make it mine.

Our relations to each other are core examples of this. Our solidarity and love are directed to a specific person, not to anybody else having equivalent properties or capacities.

Humans not only live in a world of quantity or resources, but rather in a world of threads in time and space, with another more discrete and discontinuous logic than the equivalence logic of economy or of utility and affordances, based only on objects' instrumental interactions. Our cultural world of artifacts becomes meaningless without a "historical depth". The artifacts carry their history of production, telling what they were "meant for", and the ones we have acquired tell us what we needed when we did it, and perhaps also from whom we got them. The objects have "societal meaning" and "personal sense", with Leontiev's concepts, and these historical categories go far beyond the objects' physical properties and immediate utility or "affordances", and also their exchange values. The latter is of course also a historical category, as far as it reflects the amount of work used for their production, but that is only one single "abstract" dimension out of a rich historical context, defining the object's meaning and its personal sense.

In human life the basic relation of intentionality, the human psyche, is transformed qualitatively compared to animal intentionality. Intentionality is not any more just defined by its reaching out towards a distant object. The object is multiplied, as the object in itself with an infinity of properties, the object in its possible instrumental relations to other objects, the object "for me" (its personal sense), and the object "for others" (a Chinese box of societal, cultural and sub-cultural meanings). And intentionality is multiplied accordingly, with a multitude of possibilities and tensions.

The object is embedded in a network of physical interactions, defined by its inherent properties, and at the same time in a network of historical threads, not tied to its properties but to its existence as a particular piece of matter, and defining its personal, social, and societal meaning (Mammen 1993).

Our ability to investigate changes in nature, to make experiments, etc., is also dependent on our ability to follow the same particular objects through time and space, independent of their changing properties, and at the same time notice these changes or even metamorphoses of properties (Mammen and Mironenko 2015). In fact, Engelsted already opens for this duality, between identification and securing of particulars, and description of their properties, when he (p. 74) writes: "The double sense renders the object *a part of me* and something *apart from me*, my thing and a thing of its own; a duality precisely carried in the equivocal term 'object'. Objects do have this dual existence in nature as explained in the chapter on intentionality, but until the human being, animals could have no awareness of this. Only we can keep the object inside the hand (subjectively) and at the same time look at it from an outside position (objectively)."

Our moral problems, and our psychic troubles and pains, are most often related to problems of binding or breaking threads, of solidarity and love, of faithfulness or deceit, and not only in relation to economy.

The two sides of human existence in a world of interactions, including economy,³ and in a world of threads, should be theoretically combined, and their coupling or merging described with precise analytical tools (Mammen 2016). This will perhaps bring us closer to the goal of the journey: A general psychology as a mature scientific discipline.

The Human Mind

What was just said above was aimed at the specific human societal consciousness. Engelsted has, however, also brilliantly shown in detail how we as humans are repeating and containing the life forms of our remote non-human ancestors, their sentience, intentionality, and mind. The latter we share with all mammals, and according to Engelsted, already Aristotle pointed to its essence by referring to imagination and nocturnal dreams. Mind is the ability to simulate situations and possible actions, without the situation necessarily being present, and without the actions actually being performed. We find this in animals when they make a pause before solving problems, and as modern research in REM-sleep has confirmed, all mammals also dream. Engelsted on this basis develops a very plausible theory of the importance of a “pause-mechanism”, both explaining development of the emotional limbic system in mammals and of some defensive mechanisms that lead to depression, when getting out of normal control, a theory with important perspectives for clinical psychology and psychiatry.

In this way, the mind can be compared with a theater where things can happen, with reference to the world outside the theater, but without interfering directly. We share that with all mammals, but that is not to say that the same plays are performed. The reference to the world outside demands they are different. As Engelsted himself tells us, nearly all screen plays are family dramas, often merged with economic dramas, we can add. However, the core in human dramas is first of all threads of love and solidarity, and their being bound and cut, and only to a lesser degree about distribution of a surplus.

Engelsted sees some relation to cognitive science and its use of computer-models to understand the human mind. Computers also simulate human problem solution, according to cognitive science. The computer does so because it represents external events internally, and thus turns intentional relations to the world into internal relations in the computer. This, however, is a misunderstanding, shared with most mainstream psychology. Computers as such simulate and represent nothing. As little as a book knows what is written in it, the computer knows nothing about what

³ Economy is a “hybrid”, as it on one side is about the quantitative exchange value of goods, their equivalence interactions with other goods, appearing as an inherent property without a history, and on the other side, more hidden, is rooted in the history of production of the goods, their historical “threads”. However, this kind of merging is pervading all our intentional relations to the world (Mammen 2016).

objects in the real world it is mapping. It does not even know what is written on top of the keys on the keyboard. It has no intentionality whatsoever and cannot acquire it through mechanical input-output interaction with the environment. All relations to the world, all “aboutness”, are provided by the human user. The computer can assist us as a tool, but all reference to the world comes from us as users. Perhaps there is also that sort of tool in our brains, although our brains cannot only be a computer if we follow Engelsted’s proposal for an understanding of sentience. And perhaps such a “computer-tool”, carefully instructed, can assist with the set piece work, even if it can’t play the drama in the mind’s theater.

It is, however, an open question if the triangular relation between user, computer, and world can be transferred to the brain, at all, as supposed in cognitive science. In any case, it is hard to see what is theoretically gained by Engelsted’s reference to computers, with the risk of importing the bad habits of cognitive science into an otherwise sound and rich theory about the human mind, and “the mind’s theater”.

Political Epilogue

Engelsted’s book is not only a necessary premise for a general psychology. It also has political implications, and explicit ones. One example is the twisted triangular relation, described in the book, behind capitalist production of goods and the worker, whose wage should be held low to maximize the surplus, and the consumer, whose wage should be held high to be able to buy the goods, and thus provide the surplus. The problem, and the twist, is that the worker and the consumer in a global long-term perspective is the same in the world as a closed system. They can’t be separated in the long run. This defines a contradiction, making capitalism impossible in the long perspective, but also making capitalism, and politicians defending it, fight desperately to maintain the present imbalance, keeping poor workers and rich consumers apart, although the situation is explosive for peace in the world.

Another political implication is, as mentioned above, Engelsted’s concluding appeal to classical female caretaking to save the world from destructing its natural resources for ever, and the necessity that males join the caretaking preservation project.

Introducing thread structures describing affective links to concrete and not interchangeable places, persons, objects, monuments, etc. as a supplement to the more instrumental interactions between people as producing resources and consuming goods defined as quantities, could perhaps throw some light upon many contemporary societal problems of alienation and protest. People not only feel cheated economically. They feel reduced to tools with no respect for their human motives and defining intentions, which are only seen as noise and friction in the circulation sphere. Genuine motives for work are being replaced with measures and registrations, depriving persons of meaning. As a reaction, we see a desperate search for “replacements objects”, in many cases leading to nationalism, etc., also threatening peace in the world. With appropriate analytical tools, we could perhaps understand these phenomena better, and prevent repetition of a catastrophe, which this time could be terminal.

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