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ABSTRACT

Methodological individualism is the doctrine that economic or social phenomena are ultimately grounded in individual knowing and choice. Recently numerous collective concepts have been introduced into our thinking about the firm - absorptive capacity, communities of practice, dynamic capabilities, social capital, organizational routines, and so on. As far as we can tell these are neither theoretically nor empirically well grounded. In this talk I consider what might be meant by the statement that 'only individuals can know'. I contrast notions of knowing as having and holding data, or a frame of meaning, or a skilled practice. I conclude that all manner of social entities can know in all respects save that of creating the knowledge that is then known.

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As one gets older one realizes that things change. Eventually you think you understand these changes and call it getting a sense of perspective. Twenty years ago when Jay Barney and I were colleagues at UCLA a new conversation was beginning as we thought about critiques of Michael Porter's work. The RBV grew out of that conversation. Ten years later I met the RBV coming round the other side of the mountain as the KBV, now a new conversation about knowledge oriented versions of the RBV. Today we have another new conversation; or rather we have two conversations I suspect are more or less the same – the micro-foundations conversation being presented here and the strategy-as-practice conversation driven primarily by scholars in the UK. I think this new conversation is paradigm shifting and has the potential to re-shape organizational, managerial, and economic thinking.

So one of the reasons I am here is that in recent months I have been debating Nicolai and Teppo on the micro-foundations mentioned in our conference's title. Actually, given the Strategic Organization paper they distributed to us, I should say I was their designated target, my 1993 two-by-two matrix of knowledge types seeming to advocate the methodological collectivism they wanted to attack. But as the Chinese tell us; be careful what you wish for. The debate led to an interesting PDW in Honolulu a few months back. Preparing for that drove me back to the world of the *Methodenstreit* and the 19th century battle between Carl Menger and Gustave Schmoller over the proper method for the social sciences. Though academic, that battle was vicious and bloody, and continues today as the struggle between the quantitative and qualitative methods. Careers are still being made or broken here. Thinking through this once more, as someone not known for quantitative work, led me to re-evaluate of my current view of the wobbly field of knowledge management and organizational learning. So I am here to tell you I am no longer the Durkheimian patsy Nicolai and Teppo took me for.

So what can I say about methodological individualism and Simon's much quoted comment that 'only individuals can know'? Or about 'organizational capabilities'? I have written much on this since our debate began, and anyone who wants to plod through my

stuff is welcome to browse. But since I have only a few minutes before we break into sessions and get to the conference's really interesting stuff, let me give you a short synopsis and make a couple of points. It is early in the day so I shall try and be light and not drown you in stodgy quotes and references, you will surely get sufficient later. But I am deadly serious about my conclusions.

Having agonized for several years over the questions knowledge management might be supposed to answer, I have arrived at a basic KM heuristic. Here it is.

> We know better what we are talking about when we have succeeded in removing the term 'knowledge' from our conversation.

Since we do not, and cannot, ever define knowledge, we obscure rather than clarify when we use the term. To talk about knowledge we assume what it is. Having done that, we use the term to hide those assumptions from view and criticism. So when Simon, or either of our hosts, suggests 'only individuals can know', so declaring their methodological individualism, we have no way of knowing what they can possibly mean by knowledge, or rather, they mean whatever they want it to mean and get to be right by assumption.

To get the conversation going let me try and prise this knowledge thing apart a little. That is what my two-by-two was supposed to do, but that is in the past and I now know it led me to miss much of the cheese I am now finding. If we look at what knowledge management writers mean when they use the term knowledge, there are clear tendencies; some mean data, some mean meaning, and some mean skilled practice. Of course, some of you sitting here are like me, greedy and trying to gobble all varieties, especially Paul Carlile, so I'd better say 'present company excepted'.

But the point is that most of the KM literature and managerial interest is obviously about data – gathering it, moving it around, nailing it down, delivering it to where it is needed, and so forth. There is also the managerial urge to deskill professional work. The

discussion about meaning and sense-making and organizational leaning is quite different, and you all know – here we go again with that word – that we switch from a positivist to an interpretive frame as we switch from data to meaning. This is switching sides in the *Methodenstreit* and can get us into serious trouble intellectually and professionally. Nonetheless it means we see information as different from either data or meaning. Perhaps information melds data with meaning, by appeal, for instance, to practice i.e. we explain by saying information is that which informs practice and helps us plan.

Since we know there is no un-interpreted data, to speak of data is to treat its meaning as unproblematic, uncontested. Ackoff seemed to forget this in the 1989 article that for many KM writers popularized terms like data, information, knowledge, and wisdom. Some of us who studied sociology or ethnography know that to speak of meaning, which is meaningless unless we refer to some data, is to background the message's content and foreground the contest over its meaning. Practice, of course, remains a puzzle - unless its meaning is eviscerated by defining it as no more than the enactment of information, goal-oriented and rational, what Argyris might call purposive action.

Well, let's not get too deep into that, but rather get back to the micro-foundations thing. If we take out knowing and substitute data, or meaning, or practice, where are we? Our central question is 'Can things, socio-economic entities, other than individuals know data - I mean have or hold data?' Of course, our computers, holy books, newspapers, and so forth all hold data. Likewise groups of people, firms, football statisticians, and entire cultures can have or hold data. But what about meaning as distinct from data? Can a book hold meaning? Well, we certainly hope so, why else do we write them? Theory is just another word for meaning. But is the meaning in question in the book, or only in the mind of the reader?

Here the MIs, methodological individualists like Nicolai and Teppo, seem to have something going for them. But before wondering what it is let's touch on practice. Can a football team have a practice? Sure they practice a lot. OK, forgive me that one. But most

of us believe there is something about a successful team's play that cannot be reduced to the manager's or any individual player's information or skills, or any sum of them. So at this stage the methodological debate seems balanced, but with some clarification badly needed. If knowing is supposed to mean having and holding, then individuals can surely have and hold data, just as they can have and hold meaning, and practice, whatever that is. But our Proposition One is that ONLY individuals can know. In rebuttal we might report cultural anthropologists tell us a wide range of artifacts can act as repositories of data, and meaning, and practice - all three. Think of religious artifacts.

Likewise those of us interested in technology might argue a useful tool, through its affordances, shapes our practice and so holds any instantiation of that knowing much as a kitchen mold holds Jello. Hence Leigh Star's notion of boundary objects. Our spreadsheet software only lets us use it in particular ways and that determines our possible practice. Our technologies also hold data, that is an easy one, but do they hold or embody meaning? That seems more complicated. But are the MIs really saying our tools do not know the knowledge they embody?

Perhaps we should slice and dice this conversation in a different way – at the risk of getting a little more epistemology than we need this early in the day. To use having and holding as a metaphor for knowing is one thing, knowing as showing that we have some knowledge is quite another. That means instantiation, or perhaps it means mindful heeding – another of Karl's wonderful neologisms.

I think the ability to instantiate knowledge is really what MIs mean when they say only individuals can know. They do not mean having or holding. They want to tell us that no matter how complex or techno-intensive an organization, it all comes down to that single transaction and that single individual whose finger is on the button or on the lever – remember that image from Otto Lang's film 'Metropolis' with its Chaplinesque slave-figure matching the levers to the lights? It is one soccer player, not the team, who nets the ball. In this sense Commons and Williamson seem to have the right question in view.

Given a separation of mind from body, or language practices from bodily practices, these individuals instantiate or show their knowledge as either cognitive or behavioral skill. Now, the gaping hole in the MI defenses is that it is obvious that people's statements and practices are often determined by others, through power, isomorphism, social constructionism, or even media spin. The medium of influence is sometimes ostensive demonstration but most often language, and by definition this is intersubjective, a collective property. If we think of knowing as including someone making a statement that no-one else understands, we make nonsense of the whole discussion.

The deeper question, of course, is what does it mean to know or have learned as a result of language, of being told something? This is where we must engage the epistemics behind the notion of knowing, probe what the MIs might mean when they talk of knowing. A naïve realist, for whom knowledge corresponds with reality, sees language as a conveyor-belt for facts. To know is to have the facts Ma'am. It is the same when we professors think we are filling the empty minds in front of us. But is this a useful way to talk about what is going on?

Now I would not want to speak for Nicolai or Teppo, but I <u>know</u> ... hmm ... whatever ... that Simon was no naïve realist. The point is that if we give the Skeptics their due – and I do not see they are to be denied - we know there is some kind of dreadful and fundamental discontinuity between the signals we receive and what we make of them. Between what someone may try to tell us and what we hear. Bounded rationality is a metaphor for this discontinuity. What can we do about it? Or more precisely, can anything other than individuals do anything about it?

Maybe some of you participate in the SETI grid and help search for extra-terrestrial intelligence, but there are lots of others doing signal analysis and pattern recognition. I think this a bit like Jim March's notion of learning, we make whatever sense we can and then test the result against further evidence, hoping to improve the correspondence

between what we know and what is out there. Or we can invoke Popper and falsificationism. There is a curious paradox here - we have to <u>know</u> there is a reality before we can be convinced this is the appropriate way of dealing with the Skeptics' point. And since we cannot know there is a reality - beyond all possible doubt – the whole conversation is simply about expressing a belief, which may become justified as true if there are enough believers around.

Now we have a double constraint on what Simon could have meant by saying only individuals can know, i.e. that (a) they had to believe what they know is a reflection of reality, and (b) there is a community of others who think the same way. So although the individual knows, this statement does not mean anything unless there is a supporting community of believers. And in this sense is it the individual who is doing the knowing? Social construction again perhaps, though we seem to cut a little ground from under the MI position.

But maybe I risk irritating you. Plus you may be wondering what I might be trying to say about the micro-foundations of organizational capabilities or micro-economics. Bear with me a little longer. Like you I believe economics and organization theory to be the study of choices made on the basis of the actors' knowledge. If we think of knowledge as 'nothing but the facts Ma'am', we are into realism. That is fine, but it also means organizations can know too, because organizations and computers can have the facts and the decision criteria too. I know, in a previous life I used to sell expert systems to real organizations. It is when we problematize facts, as did Simon, that the whole conversation gets more interesting. It gets more useful for theorizing knowledge and its relevance as a concept for organizational and economic thinking.

If we get back to knowledge-as-meaning, note the question of meaning does not arise until we abandon the assumption that whatever we know merely mirrors the real. If that is what we think, then we define the meaning of something as fixed by its place in the real. But following the Skeptics, Descartes and Vico, and Kant too, told us we make everything

up, that our senses do not connect us to reality. On the contrary they separate us from whatever there is, or is not, 'out there'. We only see what we are able to see, or want to see. Beyond this kind of realism what can knowing mean? The point about sense-making is not the sense made; ideas are ten-a-penny and tumble through the mind like so much dishwater. The burden of explaining meaning shifts onto the processes by which we warrant our imaginings, given the Skeptics have destroyed the touchstone of certainty.

When it comes to warranting in business and economics we can usefully stay a few moments with the Pragmatists. They told us to forget looking for the certain and real, to look instead for what works, given our prior goals. It means limiting what can be known to one's experience - here in the world, or the experience of reliable others, and thereby hangs another tale of course. But experience is good. We can be pretty clear about knowing where Copenhagen is because we experienced coming here and being here. Whether here is the same for each of us is really not important compared to the certainty of our individual knowing, and being able to use that knowledge to get back home.

Now, as it happens, Simon was not a pragmatist, he was a card-carrying positive realist. Why else would he build the General Problem Solving machine with Alan Newell? To know on the basis of experience seems pretty much like Popperian positivism, but there is a big difference between positivism, which presumes reality, and pragmatism which says 'forget it'. Rorty brings this out by pointing to the deep futurity of James's ideas about why we need ideas. Knowing is to act mindfully in, and improve, the world. Pragmatism, as Rorty tells it, flows from our human optimism, our sense of agency and the widely-shared assumption that we can, must, and do change the world, precisely because it is not, as positivists assume, independent of us. The world of business and economics is not fixed or equilibrating like the Natural universe. It is what we make through our choices – not entirely, of course, because Nature has her say.

So pragmatism focuses on the way we experience the workings of the broader buzzing confusion of natural plus social world. This world is clearly changeable. We are malleable

too. So to say you know, in the pragmatist sense, is to say you know how to change the world, hopefully for the better - but that too is another story. Groups of people, rent-seeking firms, and political parties are often in the business of changing the world, not just individuals, and we must surely say they too can know.

Thus we come to the difference between the MI's assertion and these collectivist metaphors about knowing. We are biologically distinct. But from the pragmatists' point of view our ability to attach meaning to what has happened, especially to talk about it, presupposes the social context in which we are embedded. So while it may be true to say that our knowing is individual, in the strictly biological sense, the only things that can be known, beyond our awareness of our own thoughts, are social. This kind of metaphor irritates the MI folk, who say their main point is about the discreteness of our minds – that there are no USB cables inter-connecting our fleshy computers. We compute alone.

But if we think more about knowing as acting in and on the world, we know through language and that is social and inter-subjective. So it is all very well to record the isolated computations of the mind, but if they are to change the world the knowing must be inter-subject-ivized before it can be called knowledge. OK, enough of this word-play. This kind of talk misses the most fundamental aspect of the question we are tangling with, and to speak to this I must reveal myself as a sort of convert to the Nicolai / Teppo camp, though not exactly because of anything they said. Well, maybe a little.

If we think about responding to the Skeptics and what it might mean to know, I do not see it is really about any external warranting of what is or is not knowledge. Absent Divine Intervention, we are dragged immediately into social constructionism of one sort and another, and I think the MI attack on that position fully justified. For absent Divine Intervention all forms of warranting are appeals to our knowledge of the social, our assumptions about that, and thus tautological and dismissible.

The deeper point, surely, is that whatever we know is only what we have created in our heads. We have to come to terms with the fact that only individuals can create knowledge, irrespective of the epistemology we use to define it or how we warrant it. This conclusion derives directly from our appreciating what we mean by knowing is, by definition, something going on 'in here' and not 'out there', that knowledge is in the universe of mind, not in anything beyond it. And mind is clearly granted us in individualized handy packages, ready for consumption.

Heraclitus and Vico made this the key of what we now call constructivism. Bringing the knowledge we have created into the world through language, persuasion, or skilled practice is merely instantiating it and demonstrating it. And this hides the key to our knowing. To know is neither to have and hold, nor even to show by instantiation. Knowing means to have created. Creating is how we deal with the Skeptics' point – and here I go back to Locke and Hume. We create, period, sometimes on the basis of the signals we receive. But what we create is never a mirror or simulacrum of anything out there, and thus it is absolutely not determined. In Luhmann's phraseology, the signals we receive merely irritate us into our practice of creating what we then know. The constructivists insist the first thing we create is our own consciousness.

The critical difference between constructivism and pragmatism lies in this notion of consciousness. Pragmatism takes consciousness for granted, though Dewey's theory of learning and experience argues it is malleable. Constructivism goes even further, insisting we are informationally closed, as the autopoietics say. There can be no external causation of what we know. There is only our acceptance of what we have created.

It the same when we are skiing. We cannot receive such skill by transfusion. On the contrary it is seriously hard work, and we eat a lot of snow using some kind of native capabilities to teach ourselves the skill that we then call knowing. No amount of watching planes take off and land, even from inside the cockpit, is going to make one a pilot, even though one can be mindful and heed to what is going on. We can only know what we

have created. Only individuals have the ability to create, even in organizations, as Barnard suggested, which may be no more that technologies for channeling our individualized creativity and human agency to chosen ends.

So how does this kind of talk inform our discussion of organizational capabilities and organizational knowing? If organizational capabilities are data such as routines, they are evidence of our having created. They can be held and they can be instantiated by firms. Indeed they can be regarded as the root of the on-going-ness or the genetic micro-foundations of the organization as its people come and go. But they are not created by the organization. So parsing cognitive knowing from behavioral knowing, separating data from meaning, or from praxis, does not get us anywhere. The important question is about how these got created and by whom. In spite of cognitivist excitement about neuro-biology and the millisecond delays as the mind rummages through long-term memory, and loads an appropriate program, computers still cannot do it.

So to my closing comments. Rationality presumes the created, and the consciousness doing the computing, and the data and meaning being computed. All their creating is dismissed to the past. So if our conversation is bounded by the assumption of rationality the MIs are dead wrong. Machines, actor-networks, firms, and football teams can all know. But what if the MIs stand on creativity?

As it happens, economists have been sharply divided on this topic for several hundred years. That is what theorists like Schumpter, or Shackle, or Lackmann, or even Penrose, are actually struggling with, the *Methodenstreit* between an economics of rational allocation and the choices that open up in that pre-ordained reality, or an economics of creation in an unmade world, the economics of the Wealth of Nations or National Gain, springing up like the Green Giant's beanstalk from the accumulated creativity of legions of solitary pin-makers.

If we think dynamic capabilities are something already known, possessed, to be found empirically or brought from memory into instantiation when the competition heats up, we define the individualistic processes of creation out of our analysis, we push them into the past like the Big Bang. On the other hand if we say, hey, wait a minute, we really want to think about our ability to create something from nothing, not just remix what we already know, then that is a quite different matter - and I say 'good luck' because now we are talking about trying to explain our imagination – and that itself requires an act of imagination.

We discover we are trapped in a self-referencing world, the one we have created. This, of course, is exactly where we are, as Wittgenstein and Gödel told us. Spaceship Earth-mind. We can ignore knowing this already of our own experience and look around for the escape hatch of universal organizational and economic laws suggested by the positivist tendencies of our A-journals. Or we can reach out to our more enterprising fellow-travelers, folk whose epistemologies are more pragmatic and constructivist than ours, who believe that we have agency in our world, can make a difference in the here and now, and act on our expectations of how we and others can change it. The former thinking denies the changes in the world, the latter is grounded in them.

At bottom I am saying we do no more than confuse ourselves by trying to explain change with conceptual tools that have already pushed creating the world of our future out of the analysis. If we want to explore our agency and the change it effects in our world we need tools that admit of change. So if organizational capabilities and knowledge processes are about moving around and re-mixing what was created in the past, the MIs are wrong, firms can know. But if they are using our cultural disposition to individualism as a metaphor of a methodological commitment to human agency, imagination, and the resulting ethical responsibility, they are surely correct – but only by assumption, of course.

So where are we? Well, we are at the end of this introductory session and back in the same informationally closed and self-referencing never-never land the Skeptics introduced

us to. And if we are to respond to the Skeptics with our agency, how can we try explain the native creativity we must actually assume? This is simply a corollary, another version of trying to know the external reality that the realists simply assume, and several centuries of Western philosophizing has told us this enterprise is not worth the time consumed nor the trees destroyed.

Better we focus on channeling our creative powers in the ways Rorty suggested, into how we can make this world, or this or that firm, a better place. That is knowing. And organizations, and whatever they might contain, are never more than artifacts to that knowing - as Nicolai and Teppo are telling us.

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