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Intangibles, Un-Observables, and Developments in the Theory of the Firm.

JC Spender

This paper - completed only yesterday - is the latest in a series I am writing about management and the firm based on my recent thinking about the knowledge approach. It is untidy, too long and academic and somewhat muddled - but I hope it contains enough of interest to make it worth listening to. It should take about 35 minutes to read.

Its first sections are about research methodology, about how we think of firms and managers. I do a lot of logic-chopping and it can get really boring, so I should tell you that my intent is to critique the resource-based view for its methodological sloppiness. Aimless criticism gets boring too, so I must reveal my final conclusion that the RBV is symptomatic of a methodological malaise that afflicts our field in that we remain unwilling to consider the firm's entrepreneurial aspects. Absent a workable notion of entrepreneurship we have no managerially relevant theory of the firm, and we shall see the RBV is mere tautology. I shall appeal to Schumpeter and the Austrian approach and suggest some un-Austrian practical conclusions. Likewise I shall imply that neither transaction costs nor the monitoring of team production can provide such us a theory.

Now, before I insult everyone, I should say the theory I have in mind is not what you can find already in economics texts. That theory of the firm exists, with its particular puzzles and exam questions. But it is well known to be more a theory of markets than of firms. I am imagining a practical theory that informs managers about what they do, and researchers into management too.

ON CONSTANTS

When we go to the seaside we notice the tide level changes, it rises and it falls. Explaining and predicting this means knowing the motion and phases of the Moon. Explanation always depends on finding the relevant constants behind the change observed, and these become the basis for our predictions. When we observe a figure skater spin on the ice, drawing in her arms and accelerating, we see the consequence of the conservation of angular momentum, a constant behind what we first perceive as change. Natural science looks behind phenomena and reframes them with constants like the quartz crystal's vibration rate in our watches, axioms like the Conservation of Energy, or universal laws like $PV=MT$ or $E=mc^2$. These constants make prediction possible, enabling us to imagine other causally related but changed states that still fall within their reach. Absent these,

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prediction is not possible; we confess we have no knowledge or science of the phenomena in question. We observe but do not understand, just as we observe earthquakes but do not know them.

Assuming research is about explanations, thinking about how they hinge on constants helps us understand better what we mean by theory. The natural science paradigm is pervasive and leads researchers of organizational phenomena to look for similar constancy. Optimal spans of control, or the adoption of the M-form in the face of complex markets, are examples. The constants are there, giving us a possibility of explanation, even when not explicitly stated. In the case of the optimal span of control the constant is seven, plus or minus two, perhaps. Or for M-form theory, it is the limits to management's cognitive capabilities.

Part of the challenge is to know which things must be constant - or held constant - for a particular explanation to work. The *ceteris paribus* clause generally hides important stuff and exploring it normally deepens our understanding. For example, the pressure, volume, and temperature relationship of Boyle's Law presumes a closed system, no change in gas mass. Though I was once a nuclear engineer I do not know enough physics to comment on Einstein's work, but notions of closure, the Conservation of Mass, Energy, or Momentum, underpin most natural science. In economics it is equilibrium. But is this closed system approach right for theorizing management, especially if our focus is on change? Are there different modes of explanation that might help us go beyond constancy-based closure and consider change more fundamentally?

Evolutionary theory contrasts with the natural science model and proposes quite different constants, in particular the constancy of the variation, selection, and retention process. We know the species' genetic material changes forever as a result. Darwin's thesis is that the genetic variations are random, so the resulting theory, to use this term theory loosely, has little predictive power until we find some basis for closure. The point of introducing random variation is to deny the causality of a Lamarckian approach, to deny that evolution is teleological, a movement towards some final state, a becoming or a perfecting. Avoiding such mysticism, evolutionary theory says in a specific niche there will be competition for its limited resources and that only the fittest, those for whom the process of variation, selection, and adaptation works best, can survive.

But is this more than a tautology now that fitness is defined in terms of survival? Here closure is introduced obliquely through the notion of a closed niche, for if resources are not limited there will be no selection and, as Feyerabend might remark, anything goes and everything survives. But, even when limited, we cannot know the niche completely enough *ex ante* to predict any particular species'

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survival or even rule out the chance of a successful random variation. Nor can we ever know in full what is causing the niche conditions to change and eliminate the possibility that today's survivors are not wiped out tomorrow. Whatever evolutionary theory tells us we need to know it provides no predictions.

Evolutionary theory has become popular and now reaches well beyond the study of species in isolated niches like the Galapagos to embrace organizational phenomena. It holds considerable appeal for those management researchers and economists theorizing growth and change. But without any predictive power, it is a rhetorical device for constructing a story *ex post*, a way of describing an organization's development than a way of forecasting its changes.

One way of thinking of theory is as a statement that things could not have been otherwise. The Conservation of Momentum, as embodied in Newton's Cradle - that popular toy with five steel spheres hung just touching in a wire frame - tells us the motion of the last sphere cannot be other than a mirror the motion of the first.

The problem with evolutionary theory, so to speak, is it does not provide sufficient constants or closure to deny things could have been otherwise. To say an environmental change causes some species to flourish and others to decline is not a theory. To reach that finding we would need actuarial statistics for Nature's entire population of species, or know why every species flourishes or declines. We see the randomization at the core of evolutionary theory permanently denies the closure necessary for such predictions.

I began promising to critique the resource-based view (RBV). As we know, this spins on the resources making up the firm and argues sustained competitive advantage (SCA) derives from the special value of one or more of these resources brings to the firm. Nelson and Winter's evolutionary theory makes a similar point, focusing on evolved organizational routines as such special resources. But their emphasis is not on where routines come from, for that remains hidden behind the black-hole like screen of randomization, rather it is on the way the emerging proto-routines, once conceived, get selected and institutionalized into the firm's genetic fabric or pool.

Their point is routines are embedded in practices as well as in rules, they are tacit as well as explicit, and they cannot be completely explained within the narrow framework of rational decision-making. As a result, their work is not about predicting the direction of organizational change, it is about better understanding the firm's process and dynamics. Most of all their work is a methodological attack on rational decision-making and on economics' inability to deal with uncertainty and bounded rationality.

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But why should we treat this as knowledge? Where is the science? Where are the constants that convince us something useful has been revealed?

Some constants are external. To assert a routine has strategic value at time T_2 is to assert the firm's circumstances are strategically equivalent to those which shaped the routine's selection at time T_1 , so the constancy behind the routine's value is no more than a comment about the firm's context. Hard-line natural science sets out from the assumption that Nature is stable - a universe of constant energy or momentum, and of unchanging universal laws - which is why so much of science turns on predictability. But should that apply to our field? Clearly management theorists cannot and do not make the same constancy assumptions about the markets or the production and consumption functions which all seem to change. But they do presume such changes are mostly gradual and to a degree anticipatable. Were they random the theory would fail, so routines are useful to the degree the firm's operating and competitive context is not fully random.

There are important internal constancies too. Since the firm's evolving body of knowledge is subject to random variation it is clearly not constant, but we must still presume significant continuity. Some speak of path-dependency, others of absorptive capacity, the idea being that the variations which become part of the evolving firm are those that leverage its existing body of knowledge effectively, given the selecting context. The variations might be random, but the selection and retention process is not. That is the point of path-dependency and the momentum and constancy it suggests. Indeed, absent constancy we cannot make much sense of the firm.

BASHING THE RBV

With these notions in mind let us go back to the RBV and puzzle about the constants underpinning its knowledge content. First, the theory, to use that term loosely again, is clearly not evolutionary; it lies within the science paradigm of full rationality. The firm of the RBV is (a) changeable and (b) located in a predictable context. Barney tells us its core propositions are resource heterogeneity and immobility. But the resource inventory is of interest only because it can be changed, albeit with difficulty. The RBV is not only intended to explain *ex post* why this firm succeeded and that one did not, for that would be no more than a working-through of the different firms' initial resource allocations. Why these allocations differ lies beyond the RBV, in luck and politics perhaps, plus analyzing their working-through would require a complete knowledge of all the various competing firms' circumstances.

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The RBV's core assumption is every firm's bundle of resources is heterogeneous in the sense that some are more valuable, rare, inimitable, and non-substitutable than others - the VRIN model. It stands on heterogeneity within the bundle, less on heterogeneity between different firm's bundles. Crucially, these resources are defined as constant in the sense of holding their VRIN value as they enter and are integrated into the firm. The theory's goal is strategic, to explain how to generate SCA - sustained competitive advantage - in the process of identifying and acquiring high-VRIN resources. It claims to offer insights into valuing resources in terms of their eventual contribution to the SCA. It presumes contextual continuity to ensure their continuing value, hence Eisenhardt and Martin's comment that the RBV 'breaks down' in 'high-velocity' markets.

Many critiques of the RBV have emerged, the most serious being that it is no more than a tautology. By 1993 Peteraf was asking if the RBV added anything to managers' understanding, and Priem and Butler's 2001 attacks are widely known. The central doubt is whether the SCA-value of the scarce etc. resources is known to management ahead of their acquisition and application or not. If not, either because their value is un-observable or not knowable, or because the management team does not know the knowable value of the resources their firm has acquired, then the theory is purely retrospective, non-predictive, a variation of the initial resource allocation problem and tautological on this account. But if the managers do know the value ahead of time, we must ask how come? How come they know this better than the managers of competing firms? Given a knowledge gap the SCA then results from the gap rather than from the resource, which is simply an instrument for extracting value from the knowledge gap - and this amounts to yet another difference in initial resource allocation, at which point the theory collapses into a tautology again.

These arguments are widely appreciated - to the point we puzzle about why the RBV continues to be so popular - something that is really interesting but not for this morning. Adapting to criticism and our gut feelings about its weakness, the high-VRIN RBV model can morph in two rather different directions - towards a greater focus on intangible resources, or to a dynamic capabilities argument. Though analytically distinct these two directions often turn up together. When resources are tangible and resource markets are efficient there will be no knowledge differentials and the value of the high-VRIN resources will be evident to all, denying the possibility of SCA. But when resources are unobservable and/or intangible they cannot be priced and there will be no markets, so one must look to non-market sources.

It seems odd that few RBV-*istes* seem prepared to extend the idea of the firm's tangible and intangible resources into the firm's context. If the firm can possess intangible resources, such as

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human capital, customer loyalty, or goodwill, like resources must also be present in other firms and in the environment. They are not immobile by definition, as those accounting for goodwill know all too well. That there is no efficient market for unobservable and intangible resources does not mean they are not present or available to others. Both the firm and its context comprise a mixed pool of tangible and intangible resources.

One way of getting into this is to pay more attention to the public goods on which every real firm depends. The conventional theory of the firm is a theory without a recognizable economic background. Real economies are mixed in that they comprise both private and public goods. Likewise we can argue that the firm's intangible resources are those that seem public to those within the firm, such as its culture, discourse, identity, history, *esprit* and so forth. The RBV literature seems confused on whether these are resources or not. But if they are, they are important in the firm's context too. I am reminded of Marshall's 'mysteries of the trade being in the air'. More generally we can point to the economic, legal, and educational infrastructure of the firm's context. Given this is available to all firms, an extended RBV might spin around a firm's superior ability to make use of these public or infrastructural resources. Inasmuch as this is not a theory of institutions and politics, it brings us back to absorptive capacity and to the initial resource allocation argument. But it might also begin to show us where we really need to go.

THE RBV's SELF-ANNIHILATION

We need to come to terms with limits. The idea of a firm implies its limits and that its markets contains something too. My point is that a firm is only one part of an economy; it is a selection from what is available in that economy. Being finite, the firm must lack something that is in the market, and so not have the ability to absorb some things. If firms are defined as identical in terms of what they already contain and can absorb, there can be no SCA problem, nor need for the RBV. I am getting at the RBV's logical requirement to see firms as different to begin with. But then the SCA question is either to do with the working-through of their initial allocation differences - or it is to do with their different developmental trajectories. I am groping towards the conclusion that the conventional definition of the RBV is self-annihilating in that it leaves itself no problem-space, and this is the root of its tautology. If firms are unique, any explanation of their origins and differences immediately takes us beyond the RBV.

This is not to say that there is no point in pondering the impact of resource heterogeneity. On the contrary I believe management is very much tied up with this. As a result the RBV implies an attractive and powerful theory of management, one that reaches way beyond the blandishments of

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rational decision-making. But we need to position it in a different methodological framework, one that presents a different problematic to SCA. To do this we need to turn the entire apparatus upside down and propose strategic managers as those struggling to overcome resource heterogeneity, to make up for the high-VRIN resources they lack, and to generate competitive performance from resource bundles they know to be strategically deficient.

Let me leave this hanging for a moment and touch on the dynamic capabilities (DC) argument. Its boosters argue the firm's internal discovery and learning, or learning-by-doing, leads to new resources and skills - especially when the firm is in a changing competitive environment. The innovations might be new technologies, new products, etc. or even new ideas about how to integrate resources into the firm more effectively. Grant, in particular, argues for a knowledge-based RBV based on integrative skills rather than on acquired high-VRIN resources. The DC-ers presume that when the RBV's initial presuppositions of constant resource value and environment are no longer appropriate, the whole apparatus can be dropped into a dynamic frame, what engineers might see as dealing with the first differentials rather than the functions themselves. This is the origin of the popular single and double loop distinction, of course.

But is the outcome really any different, in spite of its fancier terminology? We must ask immediately where learning capabilities come from and at what price, and so set off the tautology discussion once again. Boring. Likewise there is no reason to think that the focal firm is the only one able to learn. I suspect the DC-ers have lost sight of the fact that it is not the ability to learn that matters but rather the inter-firm gap, the possibility of a predictably greater ability to learn more, better, or faster - and whence this second order ability and at what price? Is it really constant or is it contingent on a constant context? At bottom Eisenhardt and Martin do no more than advise managers to attend to the firm's learning. Right. But it all seems highly imitable, indeed there they are writing about it, so how come some firm gets to learn faster or better, and so on?

BRINGING IN ENTERPRISE

Lest I bore you stiff with this logic-chopping I better point the way out of these circularities. It goes back to the notion of constancy. The strength of the RBV approach, and of Nelson and Winter's organizational routine as a critical resource, is that it pushes the concept of resource beyond the tangible limits of the neo-classical view. The RBV is a critique, an attempt to cope with un-observables and intangibles the conventional paradigm ignores by assumption. Barney argues it is an attempt to 'bring managers back in'. But this is not the same as abandoning constancy. Referring to managers just dodges the issue if we do not know what is meant by 'manager'. What is the

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relationship between the high-VRIN resources and the managers? Are managers themselves just a resource of a novel type?

Clearly the analysis pivots on whether the RBV's imagined universe of resources is constant and closed - or not. If closed we have adopted the natural science paradigm that looks to constancy. Energy and knowledge are conserved and we chase our tail endlessly. This is as true of the DC variant as it is of the initial model. The manager brought in is never more than intendedly rational, shuffling pre-existing resources between the firm, its competitors, and their markets. Often the theory is overtaken by concern with title, appropriability, and on possessing more resources than the other firms - rather than on strategic performance *per se*.

But if the resource universe is open - a pretty realistic assumption in this era of high-velocity markets, high-rate technological change, and high-response globalization - then the challenge is to theorize how managers actually deal with it. Given there are no answers within the RBV I hope you forgive my using it so lengthily to pose this question. Schumpeter, Kirzner, Shackle, Lachmann, and others frame the question within microeconomics. But the RBV discussion is important in giving us novel ways of talking about entrepreneurship as the creation of new resources, new intra-firm heterogeneity, and new modes of integration. It takes us beyond talking about creating firms as integrated entities or about enterprise as an idea without either components or processes. It gives us a new vocabulary in which we can mix tangible resources with intangible and unobservable ones - and with public goods. But we still need constancies.

If we go back to Nelson and Winter, who warmly support Schumpeter and the Austrian approach, they imply a key role for managers in the selection and retention process, as well as in energizing the variation process. But they are not clear about this role or what managers must bring to it, nor about whether managers are a resource or a constant. Recall the basic proposition of the Austrian methodology. Hayek argues our bounded rationality renders forecasting and equilibrium economics irrelevant to explanations of socio-economic behavior. Absent certain knowledge of the future we act on our subjective expectations not on the facts which is why the approach is also known as 'radical subjectivism'.

Our expectations are highly heterogeneous - the problem of utility again - so the economists' problem is not how to survive until equilibrium, nor even to maximize performance under competition, rather it is to study the occurrence of order. Given our heterogeneous expectations, utilities, and values, how do orderly markets arise? The Austrian answer is it is due to our social

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institutions, free markets in particular. Explanations of economic activity is first, at the level of the individual - methodological individualism - second, how we are shaped by social institutions - a research topic in their own right - and third, by their constancy. The firm is but one of these institutions, distinguished as that in which our heterogeneous productive abilities and private goals are aligned to a broader purpose, so relating the division of labor to a *Gesellschaftlich* institution, as Grant notes.

But similar questions arise when considering the alignment of the firm's non-labor resources. The RBV is based on the assumption the value of the high-VRIN resources is constant and knowable before they are brought into the firm and applied. We may think such value is revealed *ex post*, but there are at least two problems here. First, the complexity of the firm's production function. Without a specification of how the full set of resources - including the public goods - gets to be integrated and of how all the alternative explanations of the outcomes are eliminated - such as unobserved causes and environmental peculiarities - we can never tease out the special contribution made by the resource whose value the RBV assumes is knowable.

But even if this could be overcome, the Austrian view is limited rationality renders the theory useless. In their view the resource's value is not hidden, lying there waiting to be revealed. There is no *ex ante* value there to be known. Such value as is revealed is actually created - less by the resource as a knowable cause than by the entrepreneurial process of applying it. The explanation of why managers chose to use a resource in one way rather than in another does not lie in the resource's essential properties. On the contrary it depends on the management's expectations of using it. The analysis shifts radically - from valuing resources *ex ante* to managerial creativity and enterprise. The question then is whether managerial creativity should be treated as yet another resource that can be brought into the RBV or DC analyses.

I see Penrose as a closet Austrian, like Keynes, committed to a disequilibrium economics rather than the constancies of equilibrium analysis. She gives us a way to think about this with her famous sentence that it is the services that matter not the resources themselves. The gap between a resource and the services it provides is precisely that between the facts, were they knowable, and management's expectations. The resource's value to the firm, little or nothing to do with its possible value to others, lies in these expectations rather than in the constant value the RBV presumes. Nor need these expectations be evidence of the learning capability sought within the DC model - another resource. It is important to see that Penrose does not provide a theory of learning, even though she

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suggests these expectations, the knowledge of her management team, emerge only from their experience of using the resources in question.

At this point we seem to have several ways of developing the argument. We can see management's knowledge and expectations as contingent on the uniqueness of the situation experienced; in which case the knowledge gained is of no further value to the firm. Or see some constancy of context, as with the routines earlier, so what is learned in one period retains its value for another. Or we can argue managers must have the capability to learn from any kind of experience - which we can then treat as a resource in the RBV framework. Or we can argue - along the lines of absorptive capacity - that managers can only learn from experience when it relates to some prior experience and so treat their prior experience as a resource.

All of these miss the Austrians' point. It is not just about tying experience and expectations together. The universe of knowledge may be open but can the universe of experience be? Since our experience is as limited as our rationality, it seems closed, path-dependent perhaps. We have simply switched from the universe of thought to that of practice without methodological change.

HUMAN AGENCY

The Austrians go beyond engaging bounded rationality and theorizing the implications for rational decision-making. They intend to re-introduce human agency as a distinct mode of being in economics. Centuries ago John Locke argued absent complete understanding we apply our ability to form a judgment, to project our imagination into the situation and so supplement our reason. Knight's uncertainty, a parent of the Austrian approach, is similar. Human agency is about our freedom to choose and so change the world. It is the basis for our responsibility for what we do in and to the world, and is at the core of democracy.

One issue is the learning relationship between the imagination and experience, so the hypothesis in the previous section is that human agency is shaped by experience alone. This is widespread in our literature and presents us as experiencing entities. While relevant it misses the deep richness of agency. We need to let our imagination fly beyond the bounds of our limited knowing and experience. Only then, with the broadest notion of our human agency in place, finally, do we have a methodologically open theory of the firm in sight, based on the entrepreneurial creativity of its management. Yes, the RBV is about bringing managers back in, but as entrepreneurs, not as mere experiencing entities. But this is simply a skirmish in the wider struggle to re-introduce human

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agency into the socio-economic discourse from which it was expelled a century ago with our discipline's move into marginalism and mathematical theorizing.

With a rich idea of human agency in hand we can come from behind the screen of total rationality that prevents managerial theorists from grasping why firms exist and how they operate. We redefine the firm as a locus of creative activity rather than as a closed system for transforming assets tangible, intangible, dynamic, or otherwise. Rational decision making is a powerful notion, but the Austrian argument is it is only useful in contexts the human imagination has created and in which it seems an appropriate expectation. It is not as if we know that reality is inherently rational and are struggling to appreciate its workings.

As David Hume remarks about causality, whatever rationality we find in the universe is no more than what we have first put there. The managerial problem is to confront the experience of the world created and develop an appropriate set of expectations on which to act. In this sense I am arguing the firm - like all social institutions - is evidence that we lead with our imaginations rather than with our reason, one reason why institutions seem more emergent than designed.

UPENDING THE RBV

At this point our entrepreneurially modified RBV theory of the firm is beginning to take shape. The RBV suggests the challenge is to acquire high-VRIN resources by luck, initial allocation, seller's ignorance, but most probably by creating them internally. It sets out from the idea their value inheres in and reflects the pre-existing world. Once identified, it presumes the resources retain their VRIN-value as they are brought into the production function - to which they ultimately contribute quasi-monopolistic power. SCA arises because the resources' value is perpetuated or regenerated, which RBV-*istes* take to be one of the high-VRIN resource's essences.

The analysis seems plausible and it lets us retreat from theorizing our own position and agency in this world. Actually it lets us define the world as a place provided for us to plunder as we satisfy the desires and ambitions we generate - clearly it is not a green metaphor or methodology. The Austrian approach upends this completely asserting the only world and future we can ever know is the one we create. Our most fundamental creative acts are our social institutions, and firms and markets are among these. Economic competition takes place within them, but not as a given like the Darwinian struggle between the species within a closed niche. Competition is what we create and allow in our world.

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So what assistance might we give managers charged to compete? How can SCA be gained? I have suggested there is nothing to be gained by trying to find SCA through the acquisition or generation of exceptional resources - for resources never have value in and of themselves. Penrose shows the value that emerges is the consequence of managers acting on their expectations. So strategic advantage lies in better expectations not in better resources. The natural science paradigm gulls us into thinking the best expectations are those that correspond to Universal truth, that perfect constancy lying at the fringes of our knowledge. The Austrians know better. Even if Truth is there, it is forever hidden from us.

As we turn the RBV upside down the focus shifts from acquiring more or better resources to acquiring or creating more effective expectations. Expectations are what we humans create in the absence of certain knowledge. So the Austrian variant of the RBV is about how managerial creativity must be harnessed to the absence of resources. And to define this as a resource misses its most important feature, one that requires close attention to our methodology.

In short, the RBV is not about the management of rent-yielding resources rather it is about the management of the firm's creativity when managers see rents being earned by other firms, not theirs. To put this differently, the RBV should focus on how to overcome the lack of the expectations which enable those others to gain SCA. It is a bit like the military strategist who understands the way to win is to think like the enemy. We also see a new theory of entrepreneurship, one that goes beyond the creation of new business ideas or new businesses. It is an entrepreneurship that spins around the creation of new services from what others see only as resources.

EMPIRICAL ISSUES

This is easy to say but does it have any empirical content? The lack of empirical support for the RBV is widely remarked, and I would ask 'What else should we expect of a self-annihilating and tautological theory?' But is our up-ended RBV, with its focus on firm-oriented creativity, any more likely to be supported empirically?

Paradoxically, I think it can - and quite easily too. The first aspect is how managers can draw forth the creativity assumed by the Austrian's methodological individualism. No question motivating creativity is important, but no less important than persuading employees to bring their reasoning and logical gifts to their work. There is a wealth of empirical work on this matter so I shall skip over this quickly and wind up my talk with some comments on the second aspect - of managers might channel the creativity encouraged forth towards the firm's *Gesellschaftlich* objectives.

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The easiest way to set this up is to distinguish creativity - which is always in the world and evidence of our agency - from the imagination, our raw human ability. Our creativity is evidence of our agency i.e. our ability to make a difference in the world, and so make the world. While the imagination can fly free, creativity is situated in the world it impacts. It is where the imagination meets the constraints of practice. Some constraints are the creations of other people and institutions; others are what we find as the limits of the natural world. I can mention the Second Law of Thermodynamics - though we might imagine perpetual motion machines, they cannot exist in the world.

It is not difficult to gather empirical data on how organization members apply their imaginations once we have identified the constraints over their creative process. We can then use these as metrics of their creative practices. In fact managers are the first to recognize the difference between managing by command and managing by manipulating the constraints over others' creativity and agency.

The key here is the work that must be done to precede any understanding of these constraints to creativity. Thinking outside the box is only meaningful for those that know the box, and have discovered or learned, experientially and cognitively, its constraints. In fact without these learned constraints the whole notion of agency, as distinct from the imagination becomes meaningless.

To conclude. The RBV is terminally tautological if one presumes a closed universe of resources or things to be learned. Most of the field does this inadvertently by adopting the scientific paradigm. That is clear. But the RBV nonetheless tries to reach inside the firm and thus portend a managerially useful theory, as Conner suggests. But to deliver against that promise we must move into an open framework, such as the Austrians offer. This shift is not easy and will strike many theorists as uncomfortable. But it finally brings our theorizing closer to practicing managers who have never thought, even for a moment, that their world was anything but open to the next Bill Gates.