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The Creative Response in Firms

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Introduction

Economists are increasingly attempting to explain delegation and decentralization within firms. This area is no longer strictly within the domain of management literature. However, one element of decentralization has remained mostly neglected – fostering of *creative* responses among employees. This paper will discuss how delegation of decision-making in firms can bring about greater active creativity among employees.

It is becoming largely indisputable that decision-making within firms is increasingly decentralized. We are seeing increasing allocation of decision-making to lower tiers of the managerial hierarchy. There has been a lot of anecdotal evidence in support of this in the management literature over the years (most recently Malone 2004). But now we are seeing more concrete evidence of it as well. A recent article by Rajan & Wulf (2006) relied on a detailed database of job descriptions of top managers, reporting relationships, and compensation structures to find "that the flattening of the senior management hierarchy… is widespread in the United States among leading firms in their sectors." (p. 4) [1] They find that there are more managers reporting directly to the CEO, reflecting fewer positions between the CEO and the division heads.[2]

The authors examine whether this increasing CEO 'span' could be due to the natural growth of firms or mergers. They find that neither factor plays a role. They also examine whether the increasing CEO span could be due to profit center units becoming larger and more important and thus needing to report directly to the CEO. Again, the data does not support this hypothesis, as the average size of profit center divisions has actually been decreasing: "[E]ven though the structure of the division has not changed drastically over time, its head has moved nearer the top. The organization hierarchy is indeed becoming flatter." (p. 18) In addition, authority is being delegated down the organization. They find that middle management has been shrinking, just as the anecdotal evidence has suggested. And that means that decision-making has become more decentralized and less subject to oversight by higher rungs of management. As the individuals at lower levels of the hierarchy get more decision-making power and responsibility, they also get paid more: "[O]ne strong piece of evidence suggests that these changes are not all form

[1] The database consists of over 300 large U.S. firms, spanning multiple industries, tracked over a period of up to 13 years (1986-1998). The database comes from the largest private compensation survey to date, carried out by Hewitt Associates, a leading human resources consulting firm. In addition, the database consists mostly of large, established companies, belying the common perception that hierarchical flattening is mostly seen in start-ups and newer high-tech companies: "The firms in the sample are large, U.S. publicly-traded firms that are well-established and profitable with average size of approximately 47,500 employees, age of 85 years since founding, and return on sales of 19%. The typical firm in the sample is thus a large mature stable firm, not one whose organizational structure is likely to be in flux… The survey participants are typically the leaders in their sectors and, in fact, more than 75 percent of the firms in the dataset are listed as Fortune 500 firms in at least one year and more than 85 percent are listed as Fortune 1000 firms. These firms represent a significant fraction of the activity of publicly-traded firms in the U.S." (p. 9)

[2] "Our first finding is that the number of managers reporting to the CEO has increased steadily over time, from an average (median) of 4.4 (4) in 1986 to 8.2 (7) in 1998… Our second finding is that the depth, which is the number of positions between the CEO and the lowest managers with profit center responsibility (division heads), has decreased by more than 25% over the period." (p. 4)

without any function: they seem to be accompanied by systematic changes in pay." (p. 20)

The phenomenon is real - delegation and hierarchical flattening is on the rise. In order to explain why, we must be able to understand all of the benefits as well as the costs of decentralization. Though the emerging literature dealing with this topic has so far enumerated many of those benefits and costs, little attention has been given to the role of creativity. Creativity (in a sense of introduction of 'novelty') within the firm will be explained by relying on Schumpeter's conception of entrepreneurship. Schumpeter stated that "a study of creative response in business becomes coterminous with a study of entrepreneurship." (1947, p. 223) Much attention has of course been given to Schumpeter's theory of entrepreneurship, but it has so far not been applied in a way to help us understand origins of creativity *within* firms. This paper will consider the possibility that the entrepreneurial movement may originate with the employees of the firm in addition to the owner/manager.

<u>Delegation and Decentralization in Recent Economics Literature</u>

There is increasing interest in the issues of decentralization of decision-making in mainstream economics (Jensen & Meckling 1992, Aghion & Tirole 1997, Holmstrom and Roberts 1998, Hart & Moore 1999 [2005], Stein 2002, among many others). Most of the work on organizational flattening within firms has been focused on incentive and opportunism problems that a decentralized decision-making structure creates. Usually this is analyzed under the umbrella of agency theory and asymmetric information problems. An article demonstrating this approach is Jensen & Meckling (1992). The authors consider two different types of knowledge that can exist within a firm: general and specific. Following Hayek (1945), they explain how the "market automatically moves decision rights to the agents with the relevant knowledge" (Jensen & Meckling 1992, p. 252) when specific knowledge is difficult to transfer:

> "Because it is costly to transfer, getting specific knowledge used in decision-making requires decentralizing many decision rights in both the economy and the firm. Such a delegation in turn creates two problems: the rights assignment problem (determining who should exercise a decision right), and the control or agency problem (how to ensure that self-interested decision agents exercise their rights in a way that contributes to the organizational objective)." (Jensen & Meckling 1992, p. 251)[3]

[3] It is informative to contrast Jensen & Meckling with a passage from the recent book "The Science of Success" by Charles Koch, founder of Koch Industries, Inc.: "We should also expect decision rights to change over time, as our businesses and our comparative advantages change and we make good or bad decisions. This is a dynamic process meant to ensure that those with the best combination of values, knowledge, motivation, demonstrated capability and opportunity cost are making the decisions." (Koch 2007, p. 128) Also: "Those with local knowledge are often in a better position to solve the problem at hand. The ideas and creative energy of all employees should be leveraged… Decisions should be made by those with the best knowledge, taking comparative advantage into account." (Koch 2007, p. 133)

This article was among the first to explicitly set out the trade-offs of decentralization: costs owing to lack of use of available relevant information in the case of too little decentralization (recognizing the dispersal of knowledge within the firm) and 'agency costs' (principals' loss of control over agents) in the case of too much decentralization. The managers must weigh these two carefully in coming up with the optimal allocation of decision rights.

Another influential article in this emerging field is Aghion & Tirole 1997. Aghion & Tirole explained that the main benefits of delegation are greater "initiative" to acquire relevant information and "participation" in the organization, since the agent will get greater utility from making decisions rather than being ordered. They think of this strictly in terms of the asymmetric information problem: a principal can overrule the agent, but wouldn't want to if the agent is better informed. Another benefit of decentralization is the faster response in situations of urgency of decision-making: "It is sometimes observed that the need to adapt quickly to customer requirements has forced firms to decentralized decision-making." (p.24) They do not explain exactly why decentralized decision-making could be expected to bring about a quicker adaptation.

Following the precedent of Jensen & Meckling, Aghion & Tirole accept that the downside of decentralization is the standard loss of control by the principal. One other interesting downside of centralization is worsened communication due to the threat of selective interventions by principals, where principals will overrule the decisions made by the employees, though the decision-making was delegated to them. In such cases employees might hide relevant information in order to avoid selective interventionism. Aghion & Tirole discuss at some length different ways in which the principal can create the trust and/or credible commitment necessary to reduce the potential for selective interventionism and encourage proper communication. One interesting insight is that principals will intentionally remain somewhat uninformed in order to increase their credible commitment to abstain from selective interventions, which would harm the incentive of the agents to become better informed and make more decisions.

Ultimately, Aghion and Tirole conclude that centralization prevails if the principal has the superior information, while decentralization prevails when the principal is not as well informed as the subordinate and thus fears the possibility that forcing her decision on the agent will lead to a worse situation.

A more recent article to consider decentralization within firms is Stein (2002), which asks the question "what organizational form – decentralization of hierarchy – does the best job of allocating capital to competing investment projects?" (p. 1916) The main explanatory factor is the existence of 'soft' information "that cannot be directly verified by anyone other than the agent (the 'line manager') that produces it," in contrast to 'hard' information that is easily verifiable and communicable. Soft information cannot be verified by upper management or the CEO. It is somehow unique to the person that has it, even if that person is located at the lower levels of the hierarchy. (Notice the similarity to Jensen & Meckling's use of 'general' and 'specific' information, closely corresponding to 'hard' and 'soft' information here.) The CEO will want to ensure that this soft information is used for the benefit of the firm (and that the agent engages in further 'research' – that he continue to accumulate more information and generate more ideas) so he will allocate sufficient capital to the line manager in order for him to "lever" his expertise. The implication is that in the presence of soft information firms should attempt to align authority over capital with expertise – in other words, decentralize the decision-making. However, when the information produced by the line managers is 'hard,' Stein comes to exactly the opposite conclusion: "separating authority from expertise actually improves research incentives, as line managers struggle to produce enough information to convince their bosses that they should get more of the firm's resources." (p. 1893) Stein (2002) is an extension of Aghion & Tirole, with one key addition: a strong hierarchical structure will weaken incentives for the better informed agents to properly utilize their information only when the information is 'soft.' In the presence of soft information, "line managers are discouraged when they do not have full authority," (p. 1894) and will therefore engage in less 'research' and information generation. Finally, if the information can be 'hardened,' the relative merits of a hierarchy will increase.

The work on delegation and decentralization continues in the mainstream of the profession – see also Rajan & Zingales (2001), Sliwka (2001), Zabojnik (2002), Dessein (2002), Rivkin & Siggelkow (2003), Colombo & Delmastro (2004), Mookherjee (2006), and De Paola & Scoppa (2006). We have a much better understanding today of the benefits and costs of delegation and decentralization and the relevant trade-offs between the two. But there is one benefit of decentralization that has not been discussed in the above literature: the creative response within firms. In order to shed some light on this subject, we need to first take a look at the Austrian economics contributions to the theory of the firm.

The Austrian Approach Towards Decentralization Within Firms

Though there is no explicitly Austrian theory of the firm, there is a growing Austrian contribution to the field (Langlois 1986, 1992, 1994, 1995, Loasby 1989, Minkler 1993a, 1993b, Foss 1994, 1997, 1999, 2001a, 2001b, 2003, Klein 1996, Iaonnides 1998, Sautet 1998, Lewin & Phelan 2000, all the articles from Foss 2002). The one differentiating factor in the Austrian literature on the firm is the emphasis on the knowledge problem: the idea that economically important knowledge is always dispersed among the multiple individuals within a relevant institution (Hayek 1945). Austrian economists thus place much more importance on issues such as growth of knowledge, heterogeneity, and subjectivity of knowledge and coordination of plans (i.e. coordination of knowledge), especially when it comes to explaining the existence and evolution of institutions. As Garrouste (2002) put it:

> [W]hat distinguishes the Austrian approach of the firm and what cannot be integrated into the contractualist theories of the firm is, first, that knowledge cannot be reduced to information, and, second, that learning is a process. (p. 83)

Though the Austrian approach to the theory of the firm remains distinct, we see greater appreciation for the knowledge problem in the mainstream literature mentioned above. For example, as explained above, Stein (2002) explicitly differentiates between 'hard' and 'soft' information while Jensen & Meckling (1992) differentiate between 'general' and 'specific' information. These distinctions would both seem to adhere at least somewhat to Hayek's differentiation between tacit and personal knowledge of time and place and more straight-forward data-like, articulable knowledge. Rajan & Wulf (2006) also bring up the idea of heterogeneity of information, a key component of the knowledge problem, when speculating about the possible reasons why hierarchies are flattening:

> [G]reater competition may increase the complexity of the decisions that have to be made as well as the variety of data that impinge on the decision… Also, information may be hard to convey up a hierarchy with the necessary detail and color, thus reducing managers' incentive to collect it. (p. 23)

Seemingly paradoxically, as the mainstream of the economic profession discovers the Hayekian knowledge problem in the process of explaining the phenomenon of decentralization, a few of the more recent Austrian works in this field (Foss 2001, Foss & Foss 2001, Foss & Klein 2004, Witt 1998), have been emphasizing the importance of centralized control within a firm and de-emphasizing the benefits of a flatter managerial hierarchy. The fundamental idea is expressed well in this passage:

> Application of basic Austrian ideas suggests that the entrepreneur needs the relevant knowledge to organize the activities of his firm. In other words, the more important an individual's knowledge, the higher he should be in the hierarchy. (Garrouste 2002, p. 79)

The main question related to delegation and decentralization is who has the decision rights within the firm. The Austrian economists that have been making contributions in this area answer that the 'entrepreneur' (in a sense of the owner or the CEO) will be the one with the greatest - or at least decisive – information, and thus must have the decision rights. The conclusion is not that that the Hayekian dispersion of knowledge within the firm does not exist or matter, but rather that it is dominated by the benefits of conscious control and coordination of productive resources, both capital and labor, a self-consciously Coasian perspective. This is in contrast to the earlier contributions by Austrian economists in this field which tended to be highly supportive of intra-firm decentralization.[4]

The primary work in this area has been done by Nicolai Foss (one of few Austrian economists to do any work on decentralization within firms). In his recent work Foss has been emphasizing the role of the entrepreneur in the ideal-type or 'promoter' sense as originally defined by J.B. Say and Herbert Davenport[5] and later adopted by Knight

[4] Foss (2001a): "[M]any of those who have addressed economic organization in the knowledge economy have explicitly drawn upon Austrian – more precisely, Hayekian – ideas on the need for decentralization fostered by the presence of dispersed knowledge. They have used such Austrian ideas to argue that hierarchy and planning methods are as problematic inside firms as they have proved to be outside firms, that firms need to harness the ability of markets to utilize, exchange and build information rapidly in response to changing contingencies, and that extensive delegation of decision rights and the use of high-powered incentives to support this are imperative…." (p. 4-5)

[5] Schumpeter ascribed the original source of the term entrepreneur to French Physiocrats, and from them to J.B. Say: "Cantillon's work… introduced the term 'entrepreneur.' It is worth our while to note that Cantillon defined this entrepreneur as the agent who buys means of production at certain prices in order to

(1921) and Mises (1949). In this interpretation, entrepreneurship consists of determining the employment of the factors of production within a firm. Thus, entrepreneurs hold the role that the 'CEO' takes in the mainstream economic models discussed above.

In contrast to Foss 1997 and 1999, Foss 2001a, 2001b, and 2003 question the logic of decentralization by employing the above definition of entrepreneurship. In this series of articles Foss attempts to show the benefits of authority and the corresponding hierarchical organizational structure and the problems with 'hybrid' organizational forms (i.e., those combining aspects of markets and firms, such as decentralized firms with much delegation of decision-making authority). In Foss 2001a[6], Foss makes the claim that the 'pro-decentralization' literature is basically Hayekian, in the sense that there is an emphasis on the Hayekian knowledge problem. But according to Foss the problem is that the Hayekian knowledge problem has been *over*emphasized while the Misesian point on the key role of an entrepreneur-leader with ultimate authority has been *under*emphasized: "I agree with Mises that '[t]he function of the entrepreneur cannot be separated from the direction of the employment of factors of production for the accomplishment of definite tasks. The entrepreneur controls the factors of production' (Mises 1949, p. 306)." (p. 5)

Foss is interested in showing that even when applied in 'knowledge firms', decentralization does not work nearly as well as the proponents would make it seem. Knowledge firms exhibit an internal situation that Minkler (1993a) defined as 'asymmetric *knowledge*', and that Foss describes in the following way:

> One reason why authority is (allegedly) waning in importance is that it is becoming increasingly more difficult to monitor and direct workers, because of the specialist nature of knowledge work…. [The principal] may be ignorant about members of the set of possible actions open to the agent, or the agent may be better informed than the principal with respect to how certain tasks should (optimally) be carried out, or both. (2001b, p. 4)[7]

He goes on to say that "even in such a setting, it is possible to provide efficiency explanations of authority." Foss questions the logic of delegating decision-making rights for two reasons: 1) there are several reasons why the entrepreneur, i.e. person with

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combine them into a product that he is going to sell at prices that are uncertain at the moment at which he commits himself to his costs… J.B. Say only continued the French tradition by developing this analysis further… With him, then, the entrepreneur is the agent that combines the others into a productive organism." (1949, p. 254) And again: "There is in particular the well-known [definition of entrepreneurship] that goes back to J.B. Say: the entrepreneur's function is to combine the productive factors, to bring them together." (Schumpeter 1934, p. 76) Herbert J. Davenport, one of the leading economists at the turn of the century, held the view of the role of entrepreneurship similar to Cantillon and Say. He first defined an entrepreneur as "the independent, unemployed manager; the one who carries the risks and claims the gains of the enterprise," (1913, p. 67) and then goes on to claim that "all employers of labor or of instrumental goods for hire are entrepreneurs." (1913, p. 139)

[6] For a more thorough critique of this article, see Pongracic (2004).

[7] The asymmetric knowledge condition is akin to what Sautet (2000) refers to as the 'double knowledge problem,' a situation where "the entrepreneur-promoter may not only be ignorant of his/her ignorance with respect to profit opportunities in the market, but also with respect to what his/her employees know." (Sautet 2000, p. 99)

ultimate authority,[8] *should* have and keep her decision-making rights; 2) the entrepreneur can never make a credible commitment to not engage in selective intervention, thus distorting the incentives faced by the agents. A full discussion of the second point is beyond the scope of this paper, but it is worth noting that the mainstream work on decentralization has been increasingly explaining how the persons with ultimate authority *can* create a credible commitment to tie their hands and forego intervention in delegated decision-making (for example, see Aghion & Tirole 1997 or Malone 2004).

Concerning the first point, Foss makes an important contribution with his discussion of the benefits of centralized decision-making. It should be emphasized again that Foss carries out his analysis within the implicit asymmetrical knowledge setting, where the employer in fact does not have superior knowledge compared to her employees. Even then Foss shows that there are four factors why the decision-making within firms should still be centralized. The first rationale for centralized or authoritarian decision-making can be summed up as 'the need for urgent coordination,' a situation "when it is important to make *some* urgent choice (possibly highly inefficient, because doing nothing is worse." (2001a, p. 12, italics in original) The second rationale is the possession of 'decisive information' by one person, which could trump any local information. The third rationale is 'economies of scale in decision-making', which refers to lower "effort costs of negotiating, learning about potential suppliers, etc." (2001a, p. 13) The fourth and final rationale is 'defining incentive systems.'

However, the central role of the entrepreneur within an organization does not prevent entrepreneurs from delegating their own decision-making rights to agents. Foss discusses Mises' explanations of this phenomenon:

> The reason that firms can thrive even though their internal organization exemplifies Hayekian settings is that they have recourse to delegation. As Mises (1949, p. 303) emphasized, 'entrepreneurs are not omnipresent. They cannot themselves attend to the manifold tasks which are incumbent upon them.' Mises (p. 305) clearly recognized that in many firms decision rights are allocated by the entrepreneur (and the board of directors) to lower levels, presumably in order to better cope with distributed knowledge, an insight that is not present in Coase (1937). He perceptively recognized that delegation leads to agency problems, but argued that the system of double-entry book-keeping and other control measures may partly cope with such problems. Mises also understood that delegation of decision rights is circumscribed in an attempt to cope with the control problem that follows from delegation. (2001a, p. 14)

So, Foss shows that Mises was aware of inherent trade-offs associated with organizing a firm: delegation (or decentralization) has the benefits of relieving the entrepreneur from carrying out many tasks that others can do just as well, and thus allowing her to focus on just those tasks that she is uniquely qualified to carry out; but it comes at a cost of

[8] Foss thinks of the 'principal' in the firm relationship as the entrepreneur in the Misesian definition, someone who engages in speculation, that is ultimately in charge of a business venture, that hires the managers and employees, makes the expansion and contraction decisions, and has ownership over a firm's key assets. Agents, of course, are either lower-level managers or ordinary employees.

creating agency problems.[9] But Foss reads Mises as saying that the costs of delegation will be higher than the benefits in most cases, leading to a situation where relatively few, and mostly unimportant, decisions can be delegated. Thus, Foss concludes that firms must have explicit and direct direction of resources within them by an entrepreneur with ultimate decision-making authority and that delegation will be rare. Entrepreneurs with ultimate authority in firms are a key component of any firm's organizational structure, and cannot be dispensed with, as decentralized firms appear to wish to do.

Foss makes an ultimately empirical point, and the best current evidence does not support it: delegation is on the rise. The benefits of entrepreneurial authority are being overcome by the benefits of decentralization, usually thought of as greater coordination and better use of dispersed knowledge within a firm. This paper argues that another important benefit of delegation is improved creative responses by employees. Survival of firms in today's world of increasing globalization and greater competition may depend on introduction of *new* knowledge rather than simply better use of existing knowledge.[10] Schumpeterian definition of entrepreneurship as innovative action consisting of introducing novelty can help us understand how an entrepreneur-promoter could attempt to increase the total amount of active creativity within a firm by giving up some of his authority.

Entrepreneurship and Creativity

Discussion of elements of creativity within firms remains mostly neglected, even by Austrian economists. Creativity in action is best understood as innovative behavior that results in introduction of new knowledge. That new knowledge can take the form of new products, new production processes, or new markets. Coordination and use of *dispersed* knowledge and creation of *new* knowledge are not the same thing.

Decentralized firms seek to generate the greatest amount of creativity and creative problem solving in addition to best coordination of dispersed knowledge. In a world of intense competition, it is simply too costly *not* to take advantage of people's creative problem solving, since firms need to be as responsive to changing market conditions as possible. Successful decentralized firms are able to 'extract' greatest creativity from their employees. In other words, human capital is taking center-stage in many modern businesses. Rajan & Wulf speculate that current flattening is due to human capital becoming more important relative to physical capital:

> [A]s the development of financial markets has increased access to physical capital, and as human capital becomes more important to a firm's comparative advantage, tall hierarchies may lead to top management losing the residual rights of control… If physical assets become relatively unimportant, ownership becomes less effective as a means of organization

[9] See also Mises [1944] 1983 on this point.

[10] Rajan & Wulf speculate that this is one possible explanation for the increased flattening of firms: "Deregulation and increased trade has enhanced product market competition over the last few decades. Not only has the required speed of response for firms increased, it has put a premium on employee competence and creativity. The tall hierarchies of the past may no longer be as effective." (2006, p. 22)

> control. Tall hierarchies become less viable. Instead, [top management builds up control] by establishing direct contact with lower level managers (i.e. flattening the firm) and getting them to make human-capital specific investments vis a vis top management. Thus the human-capital-intensive firm is held together by a web of human-capital-specific investments, which are made possible by the flatter hierarchy. (p. 24) [11]

As workers accumulate more business-specific human capital their decision-making abilities increase, becoming more creative or innovative. In fact, their decisions become more *entrepreneurial* according to Joseph Schumpeter's famous conception of entrepreneurship.[12] Schumpeter said that "…when we speak of the entrepreneur we do not mean so much a physical person as we do a function…" (1949, p. 268) That entrepreneurial function is simply the introduction of 'novelty.' Novelty in the economic world consists of 'carrying out of new combinations' – innovations: "Seen in this light, the entrepreneur and his functions are not difficult to conceptualize: the defining characteristic is simply the doing of new things or the doing of things that are already being done in a new way (innovation)." (1947, p. 223) This definition seems of special significance when it comes to explaining creativity within firms. Contrary to Foss, under this definition entrepreneurship is no longer restricted to the heads of companies, but can potentially take place at all levels of the organizational hierarchy.

This is entirely in keeping with Schumpeter's conception of entrepreneurship, as we can see in this quote:

> …we call entrepreneurs not only those 'independent' businessmen in an exchange economy who are usually so designated, but all those who actually fulfill the function by which we define the concept, even if they are, as is becoming the rule, 'dependent' employees of a company, like managers, members of boards of directors, and so forth… [The concept of entrepreneurship] does not include all heads of firms or managers or industrialists who merely may operate an established business, but only those who actually perform that function. (1934, p. 74-5)

Schumpeter's 'functional' theory of entrepreneurship implies that no person is always an entrepreneur; instead, a person, *any* person, can only *act* entrepreneurally: "everyone is an entrepreneur only when he actually 'carries out new combinations,' and loses that character as soon as he [ceases to carry out new combinations]." (1934, p. 78)

[11] We observe increasing human capital investment in most sectors of the economy, much of it either subsidized or even fully funded by employers, such as in many cases of firms paying for lower managers to acquire an MBA degree. This could be the case of firms establishing credible commitment to decentralized decision-making by paying employees in advance to invest in greater decision-making ability.

[12] Much analysis has been devoted to Schumpeter's theory of entrepreneurship, but this paper will not address this large body of literature. It should be noted that the apparent tensions in Schumpeter's theories could be problematic to the thesis of this paper, in particular his controversial claims about the eventual obsolescence of the entrepreneur and the routinization of innovation in large corporations (Schumpeter 1942). In addition, Schumpeter often spoke about entrepreneurs in 'heroic' terms that are at odds with the above quotes. This paper will be self-consciously selective in use of Schumpeter's concepts and will not attempt to reconcile Schumpeter's seemingly contradictory statements.

Schumpeter's functional definition of entrepreneurship leads him to an important insight into the operation of large corporations. As we see in this insightful passage, Schumpeter understood that entrepreneurship within large corporations is usually *not* found in the figureheads of the corporation, and he thus in some ways anticipated the decentralization developments:

> …the entrepreneurial function may be and often is filled cooperatively. With the development of the largest-scale corporations this has evidently become of major importance: aptitudes that no single individual combines can thus be built into a corporate personality… In many cases, therefore, it is difficult or even impossible to name an individual that acts as 'the entrepreneur' in a concern. The leading people in particular, those who carry the titles of president or chairman of the board, may be mere co-ordinators or even figure-heads… (1949, p. 261)

Schumpeter differentiates between the official leaders of a company – the very persons that Foss singles out (in the form of a 'promoter' figure) – and those that *actually* carry out the entrepreneurial function. In many cases, the real entrepreneurs within a company, those who introduce creative change, remain anonymous and are *not* the well-known promoters. According to Schumpeter, this is especially the case in large corporations, where there is no single person that we could label *the* entrepreneur, though there will almost always be one person that fulfills the function of the Fossian promoter-entrepreneur. For the purpose of economic change and progress, the introduction of novelty through creativity in action is often accomplished by those other than the promoter-entrepreneur, and may in fact, as Schumpeter himself points out, be carried out *cooperatively.*

An important element in Schumpeter's conception of entrepreneurship is that introduction of novelty can only come about as a result of creative *action*. Creativity is necessary for introduction of novelty, but not sufficient. Just imagining something new is *not* entrepreneurship. Something new must be *actually done*[13] to be considered entrepreneurial. The *action* component in 'creative action' is absolutely key. New combinations must be carried out within a productive process in order for the action to be *innovative* rather than just inventive. Schumpeter's differentiation between invention and innovation is well known: invention is not entrepreneurship – only innovation is: "The inventor produces ideas, the entrepreneur 'gets things done…'" (1947, p. 224) It is not enough to sit on the sidelines and think up brilliant insights. Entrepreneurship can ultimately be summed up as creativity *in action.*[14]

[13] Schumpeter: "Now, it is this 'doing the thing,' without which possibilities are dead, of which the leader's function consist." (1934, p. 88)

[14] This vision of entrepreneurship is mostly consistent with Mises' basic definition of entrepreneurship as action in the face of uncertainty. It is only when we are acting in creative, new ways that we are fully confronted with uncertainty. Otherwise, we are acting according to the routine, the consequences of which are mostly (though never absolutely) certain.

The Process of Entrepreneurial Decision-Making and Judgment Derivation

An owner or CEO of a firm obviously must expect to benefit when her employees engage in entrepreneurial behavior (in the above Schumpeterian sense). The potential benefits should be clear: greater innovation, greater flexibility and better ability to cope with market change. There are two important, related questions here: what is behind creative action by employees, and why can employees in some circumstances act more creatively than the owner/CEO? The answers lie in a series of articles by Richard Ebeling on the Austrian theory of expectations. (1994, 1995a, 1995b, 1995c, 1999)

In this series of articles Ebeling attempted to explain how people form expectations about the actions of others in a society. We observe a great amount of mutual orientation among social actors due to the existence of a shared set of meanings those actors assign to their own actions as well as the actions of other individuals. The meanings are shared in a sense that they are not private and unique to particular individuals. We learn to assign proper meaning to actions through the influence of other individuals in the society and through our social experiences. These meanings become 'ideal types' which are subject to constant reconsideration and flux. But, as impermanent as they may be, these ideal types (or alternatively, typifications) "emerge out of social interaction and become formalized into *structures of intersubjective meaning*" (Ebeling 1995a, p. 84, italics in the original), or meanings which we all share in common.

These structures of intersubjective meaning allow us to understand other people's gestures, their inflections of words, purposes of different products, uses of resources, etc. They thus bring about a greater social coordination. The structures themselves are not objective in a sense that they are permanent and uniform from person to person; rather, they change, and we all may have slightly different interpretations of their meaning. Nevertheless, we each individually act as though they are objective to us in the *here and now*. These structures of intersubjective meaning can be thought of as tacit or informal institutions of the web of social relationships. As Ebeling explains it, "for the human actor in the social arena of everyday life, it is the structure of intersubjective meanings, as captured in ideal typifications, that incorporates and envelopes the 'reality' of mundane action." (1995a, p. 87)

As part of the discussion of structures of intersubjective meaning, Ebeling deals with *differences* in subjective interpretations of events or actions. At the same time that employees can share a core of intersubjective meanings which permeate all social entities, they all also differ in their perceptions of other meanings, events and actions. The cause of this is the simple fact of the differences in individuals' experiences. As men experience different events, they learn different facts which they apply to their total meaning structure, resulting in multitudes of at least slightly differentiated individuals. It is the actions that men take (which are based upon the subjective meanings that they ascribe to events and others' actions) that are the ultimate source of "modifications in the structures of intersubjective meaning themselves." (Ebeling 1995c, p. 49) People 'test' their interpretations of events and actions of others in the markets, and modify their interpretive schemas accordingly, which ultimately results in modifications to the structures of intersubjective meanings.[15]

So, different people faced with the apparently exact same objective circumstances make different decisions, based on their differentiated structures of subjective meanings. A good example of this phenomenon within the economic realm is a price. Economists often explain a price of a good as an example of market-generated objective information. But that does not account for the fact that different people may derive very different information from that same price. The numerical value of the price may be objective, but the information that a businessman derives from the price is anything but. Ebeling explains it in the following way:

> A seller finds himself with unsold inventory of a product in excess of desired levels at a particular price. But what exactly is the market telling him at this price? That he needs to relocate his store? That he has failed to advertise the existence or availability of the product sufficiently? That the price is 'right' but the quality or characteristics of the product is 'wrong'? Or that the quality and characteristics are 'right' but the price is 'wrong'? What the price has conveyed is information that *something* is wrong, that the seller's plans and expectations are inconsistent with those of others. It has not unambiguously told him in which direction the error lies. The price's information, in other words, needs *interpretation as to its meaning* concerning the preferences and plans of others. (1995b, p. 143)

That interpretation can partly be generated by the structures of shared meaning within which we are submerged, by applying the right ideal types to derive the common conclusion about the information contained in that price. But each one of us will also use the purely subjective elements of our interpretive schemas, the elements that result from the basic Hayekian division of knowledge. As a result of this division of knowledge, we all have "accumulated a stock and structure of knowledge of specific 'ideal types'… that other people in the division of labor do not possess." (Ebeling 1995b, p. 148) In other words, some people possess ideal types about situations, actions, objects, etc. (which Ebeling defines as persons' 'typifications') that are more specific compared to other people; moreover, people can hold several sets of typifications (based on different interpretive schemas) without knowing with certainty which one is the correct one.

Ebeling introduces an important new element to the analysis when he defines the individual's choosing between alternate typifications, attempting to select the 'correct' one (from the perspective of the market), as 'the *entrepreneurial element*' of the decision-making process:[16] "each trader will have a stock of experience-generated specific

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[15] Harper (1996) is similar to Ebeling's explanations. Harper discusses entrepreneurial learning, and explains it as a sequence of continuous cycle of conjecture and refutation, with the market ultimately subjecting "the entrepreneur's creative imagination … to critical control." (p. 6) Compare this to Ebeling (1995b): "The market test inherent in rivalrous competition is, therefore, a competition between interpretive schemas about the message conveyed by the market price signals." (p. 149)

[16] It is a short step then to define rivalrous market competition as actually "a competition between interpretive schemas about the message conveyed by the market price signals" (Ebeling 1995b, p. 149), or more generally "a clash of different interpretations of meanings in men's actions." (Ebeling 1999, p. 133)

typifications which he will draw upon to decide the possible meanings of the price change or excess supply might have in the particular circumstance." (1995b, p. 149) This is a way to gain a deeper understanding of an ultimately indeterminate phenomenon -- entrepreneurial decision-making.

The related question that this paper will explore further is, can *verstehen* come as a result of a collaborative effort in interpretation? If we accept Ebeling's explanation of the 'entrepreneurial element of the decision-making process' then it is possible that a collection of people engaging in the interpretive process will have a greater chance of arriving at the winning solution.[17] If the role of interpreting the meaning of a price change (or any other market event) is not exclusively held by upper management but also by some part of the workforce of a company, the chances of coming up with the 'right' interpretation may be much greater. Similarly, management meetings can be understood as a way to consider several different interpretive schemas of the same situation, and then choose the seemingly most correct one. CEOs seeking advice from their subordinates is another example of this phenomenon. In a situation of an extended division of knowledge, employees may sometimes in fact be in the best position to judge the meaning of a price change or some other market event. Having a group of employees engage in individual interpretation of a market event by approaching it with their own different ideal types may bring about a more successful situation than having only a few managers do this. Through decentralization firms can tap into the specific ideal types of all the actors at their disposal – in effect, obtaining a large pool of *non-shared* specific knowledge – while still being able to achieve coordination partially through the existence of predominant structures of intersubjective meaning and partially through some remaining conscious coordination by a promoter figure.[18]

Creativity and Imagination

Interestingly, the process of entrepreneurial decision-making and judgment derivation as developed by Ebeling is entirely in harmony with Schumpeter's understanding of these same phenomena (though Schumpeter does not discuss it in nearly as much detail). To Schumpeter innovations are created through *imagination,* which is simply a creative

[17] Alternatively, a firm could allow several teams to compete against one another by testing their interpretive schemas in the market; this could effectively reduce the risk of failure by 'not putting all of one's eggs in one basket.' This has become a relatively common practice among decentralized firms.

[18] The organizational culture and specific, subjective ideal types will usually be of different orders of magnitude, such as the organizational culture encouraging creative and individual problem solving on one hand, and the subjective elements applied as part of the creative and individual problem solving on the other. If they are ever in conflict (for example, a situation where the organizational culture establishes that a team must agree upon or approve particular creative solution derived from some subjective typification, but the team shoots down the solution), it is for the managers to find ways to balance them. That may entail allowing the creative individual to work outside of his team, or form his own team.

'vision' of a better way to use the existing resources or information.[19] De Vecchi effectively summarizes Schumpeter's views on the role of imagination in entrepreneurship:

> Moreover, because he tries something new, the entrepreneur adds something to the facts, he gives them new forms and contexts and uses his 'imagination,' i.e. he detaches himself from the present, opens up to the world of possibilities, identifies 'a real possibility' in the new production combinations and sees the future he wants to create, as clearly as the present… The entrepreneur is a creator, but his creativity is neither instinctive nor irrational, but founded on knowledge of the present situation and of feasible future situations. (1995, p. 18-19)

So, the creative component of entrepreneurship consists of taking the 'knowledge of the present situation', detaching oneself from the 'objective' facts of the present and trying to imagine an alternative situation. The process of entrepreneurial imagination is thus akin to the process of *interpretation* of the present situation. Ebeling's phenomenological conception of entrepreneurial creativity is strikingly similar to DeVecchi's description of Schumpeter's conception of entrepreneurial creativity:

> The entrepreneur, however, stands apart from other men and their routines and existing patterns of 'facts.' The entrepreneur holds the facts of daily experience and the events of yesterday and turns them in his hands. He sees possibilities, meanings, and new 'essences,' that is, new principles of order and arrangement and direction that others around him have failed to possess the intuition to see. The entrepreneur stands as the philosopher of the market place searching for eidetic relationships among the facts of everyday life. Where others experience only the 'facts' of plan frustration, the entrepreneur sees patterns of coordination. When the new relationships, patterns, and structures take shape under the guidance of the

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[19] See G.S.L. Shackle (1988): "[E]nterprise is the daring, and desirable, pursuit of imagination, not merely or mainly reason; that enterprise is *imagination in action*." (p. 161, italics in the original) My interpretation of Schumpeter's and Ebeling's explanations of entrepreneurial creativity is very similar to Shackle's theory of entrepreneurship. To Shackle entrepreneurs imagine possible opportunities, and then work to create them ex nihilo. According to his radically subjectivist perspective, available resources are never objectively given, but rather depend on our ability to imagine their alternate uses. Imagining new possibilities, requires entrepreneurs to form subjective projections of the future. As Ricketts (2002) explains it "Shackle's entrepreneur has perhaps a greater affinity with that of Schumpeter than with that of Kirzner. The emphasis on innovation on the one hand (Schumpeter) and the creative imagination on the other (Shackle) are closely related." (p. 70).

> entrepreneur, those with less imagination frequently say, 'Why did I not see that?,' in the same 'facts' of the situation. (Ebeling 1995c, p. 47) [20]

Entrepreneurs provide the creative spark for introduction of 'new essences' and 'new principles of order and arrangement,' or, in Schumpeter's words, they carry out new combinations. It should be clear that Ebeling and Schumpeter are describing the same process.[21] By joining Ebeling's phenomenological perspective with Schumpeter's conception of entrepreneurship we get a deeper understanding of entrepreneurship. The mystical 'creative moment,' while unlikely to ever be fully understood, or certainly predicted, can at least partially be explained as a person's interpretation of the current facts in different, more appropriately contextual and meaningful ways. This unique interpretation is the result of one's own different knowledge and experiences, as explained above, and can never be known ahead of time, as Ebeling explains in the following passage:

> …creativity, innovation, and change ultimately cannot be predicted. Creativity, innovation and change arise out of modifications in people's conduct, i.e., out of new and different choices they make and the actions they undertake. And these choices, as we have seen, emerge out of the fantasizing processes of the human mind; but those human minds do not know ahead of time what their choices and actions will be until they have run through their own projecting processes of imagined possibilities and alternatives. (Ebeling 1999, p. 126)

In light of this discussion, entrepreneurship can be defined as action within some institutional structure (for example, a market or a firm), consisting of introducing something new into that structure. The 'novelty' is the result of the creative process driven by that individual's eidetic imagination, i.e. having a greater variety of typifications due to particular greater specific knowledge and/or more appropriate experiences, and being able to make better sense of those typifications - and ultimately

[20] Ebeling adopts the term 'eidetic' from Husserl, who defined 'eidetic reduction' as "an attempt to uncover the *principles* in concrete, actual experiences in the world. One takes an example or a set of examples drawn from experiences and through one's mind tries to discern what are the invariant, or generic, qualities or properties exemplified in each. What it is, in other words, that binds them together as forms of a common phenomena and once discovered will be found to be essential and ever present in *each* and *for* each to take on the particular concrete configurations they display. It is this unearthing of general principles that Husserl viewed as discovery of the 'essence' of a phenomena." (Ebeling 1995c, p. 44-5, italics in the original) Basically, 'eidetic reduction' allows a person to put his imagination into a context where action is possible, as can be seen in this passage by Kohak: "…one person may experience the world as a realm of endless possibility, while another person may experience the same or even better equipped world as a meaningless context into which he feels, in Heidegger's term, 'contingently thrown.' Ordinary usage distinguishes between the two reactions by speaking of a person either having or lacking imagination. But that is not strictly correct. Both individuals have imagination – what the second person lacks is eidetic imagination. He cannot… imagine possibilities, or more exactly, he can imagine a possible fact but not a possible eidos, capable of giving meaning, direction and the dimension of possibility to the facts at hand…. Imagination grows far more with seeing the same thing in many perspectives and contexts." (1978, p. 21-2, quoted by Ebeling (1995c, p. 46-7))

[21] In fact, Ebeling recognizes it himself: "Herein lies the secret of the Austrian emphasis on the entrepreneur. And in this context it is only fair to include Schumpeter with Herbert Davenport, Mises and Israel Kirzner." (1995c, p. 47)

being able to choose the right one. This is the Schumpeter/Ebeling vision of the 'entrepreneurial element.' Entrepreneurial creativity according to this explanation is a basic human characteristic, and it can be exercised by anyone. Novelty can emerge both in terms of products and services offered by the firm, but also in the way the firm operates, usually consisting of changes in the routines (informal rules) and sometimes even the formal rules of the organization.

Creativity, Judgment and Delegation

The above conception of entrepreneurship is particularly compatible with Foss & Klein (2006) and Foss, Foss & Klein (2006), two recent articles that are making an important contribution in the field of entrepreneurship within the firm. In Foss & Klein (2006) the authors follow Knight's (1921) lead in thinking of entrepreneurship as exercise of *judgment*. Judgment is defined as "business decision-making when the range of possible future outcomes, let alone the likelihood of individual outcomes, is generally unknown." (p. 8) In other words, judgment is action in the face of uncertainty (see Mises 1949). Judgment primarily involves making decisions about employment of firm resources, and is continuous and often mundane, but absolutely necessary for a firm to operate. But, facing uncertainty, entrepreneurs can never know all possible attributes of the available assets. Thus, "an important function of entrepreneurship is to *create* or discover [new productive attributes of assets available to the firm]." (Foss & Klein 2006, p. 14)

Asset ownership by entrepreneurs is necessary for exercise of judgment, though. Since, they claim, the facility of judgment can't be contracted for or bought on the market, entrepreneurs need a firm to carry out their function. Ownership will also provide the incentives to create or discover new attributes.

Within this basic context, Foss & Klein see benefits from delegation, somewhat contrary to Foss. (2001a) They recognize that recent evidence shows that granting employees at least some decision-making rights 1) motivates them to be creative, and 2) directly benefits them, as most employees value having at least some control over their jobs. The benefit of delegation to the firm and the entrepreneur is that employees will have "opportunities to exercise their own, often far reaching, judgments" (p. 20), or, as Foss & Klein define it, to engage in 'productive' entrepreneurship. Ownership will give employers the ultimate authority to ensure that delegation is at a level where productive entrepreneurship will be maximized relative to 'destructive' entrepreneurship – various opportunistic methods used by employees to benefit themselves at the expense of the firm.

Foss, Foss & Klein (2006) extends this discussion of delegation by differentiating between 'original' judgment and 'derived' judgment. Original judgment is exercised by the firm/resource owners, even in the cases of delegation, since they must make a judgment about how much delegation should be granted and to whom. Derived judgment on the other hand is exercised by the employees who hold the delegated decision rights. Thus, all exercise of employee judgment is derived from the original judgment of the owners. As Foss, Foss & Klein explain, "such employees are expected not to carry out routine instructions in a mechanical, passive way, but to apply their own judgment to new circumstances or situations that may be unknown to the employer." (p. 3) This will allow the entrepreneurs to take advantage of employees' specific knowledge, though they do not elaborate whether this would result in greater knowledge coordination or actual creation of new knowledge. One way or another, employees are given more control over the firm capital and face reduced constraints with the ultimate purpose of encouraging them to "create or discover new attributes of productive assets." (p. 10) Thus, employees act entrepreneurially when exercising derived judgment under conditions of uncertainty.

The above explanation is probably one of the most significant recent developments in explaining delegation, but it is missing one essential factor: explaining why employees can be expected to hold knowledge which will in at least some cases be superior to the knowledge of the employer. It is certainly possible to explain this with Hayek's conception of dispersed knowledge, but it is important to also consider the importance of employee creativity. The knowledge that employees may hold could take the form of different typifications which will allow a different interpretation of the current market conditions – or, in Foss, Foss & Klein terminology, a different interpretation of the possible asset attributes. In fact, the difference between judgment and creativity is rather nebulous and it is probably impossible to separate the two. Most judgment involves, paraphrasing the above quote by Ebeling (1995), adding something to the facts and giving them new forms and contexts. The ultimate purpose of granting the freedom to form judgment to employees is to tap into their unique typifications and interpretations, and bring about creation of something new – an innovation.[22] Foss, Foss & Klein show some awareness of this, when they write that decision-making on employees' part can involve "imagination, creativity, leadership and related factors." (p. 5) Granted, some if not many judgments may in fact be relatively unimportant, or even mundane, but that should not detract from their 'novelty,' as Schumpeter explained when discussing entrepreneurship:

> It is but natural, and in fact it is an advantage, that such a definition [of entrepreneurship] does not draw any sharp line between what is and what is not 'enterprise.' For actual life itself knows no such sharp division, though it shows up the type well enough. It should be observed at once that the 'new thing' need not be spectacular or of historic importance. It need not be Bessemer steel or the explosion motor. It can be the Deerfoot sausage. To see the phenomenon even in the humblest levels of the business world is quite essential though it may be difficult to find the humblest entrepreneurs historically. (Schumpeter 1947, p. 223)

[22] Charles Koch is the CEO of world's largest privately held company, Koch Industries. In his new book (2007) he credits the company's success to Market Based Management, a management method that he created and relied on for the past forty years, which is largely based on decentralization of decision-making throughout the company. Mr. Koch champions the benefits of employees' pursuit of creativity and innovation, or what he calls 'discovery,' as these quotes demonstrate: "To build a culture of discovery, we must encourage, not discourage, the passionate pursuit of our own and others' hunches." (Koch 2007, p. 42); "Leaving the particulars to the person doing the work encourages discovery. It also enhances adaptation to changing conditions." (Koch 2007, p. 78); "Expectations must also be open-ended and challenging enough to expand an employee's vision of what can be contributed to an activity. This encourages experimentation and innovation." (Koch 2007, p. 130); "Since the future is unknown and unknowable, those contributing to innovation must be given every possible encouragement and a latitude consistent with their performance and capabilities." (Koch 2007, p. 166)

Combining the Foss, Foss & Klein conception of derived judgment with the above explanations of entrepreneurship and creativity by Schumpeter and Ebeling gives us a considerably deeper understanding of the benefits of decentralization and delegation of control over capital goods to employees. It also explains why profit-sharing, stock options, and various bonus and reward systems have been instituted in many modern firms. There is greater recognition that the entrepreneurial function may be carried out by employees at lower levels of the hierarchy, and entrepreneurial contributions must be fostered – and rewarded.[23]

Conclusion

Over the last fifteen years a more complete list of benefits and costs of decentralization in firms has emerged. The benefits are increased knowledge coordination and innovation. They result from better alignment of decision-making power with the employees holding the most appropriate knowledge *and* typifications. On the other hand, the costs arise from increased opportunism, incentive misalignment and institutional instability. Ludwig Lachmann summed up the problem in this way:

> In our view the central problem of the institutional order hinges on the contrast between coherence and flexibility, between the necessarily durable nature of the institutional order as a whole and the requisite flexibility of the individual institution. (1971, p. 13)[24]

So, the trade-off is between 'coherence' of the firm on one hand and 'flexibility' of the firm on the other. As a firm becomes more participatory, a greater number of individuals will be acting according to their own thoughts, interpretations and desires, leading to a potential splintering of a firm's purpose and capabilities. In other words, a firm may lose 'coherence': there might be less coordination of the actions of the employees, and therefore firms might be less stable and ultimately less durable. But greater access to dispersed knowledge and, maybe more importantly, *dispersed innovation* could potentially overcome the loss of coherence. Economists have traditionally focused on transaction-costs-reducing properties of firms at the cost of neglecting to examine firms' need for flexibility to rapid market change. That seems to be changing today with a greater emphasis on the potential benefits of delegation and decentralization. It appears that we might be arriving at the point where we finally have a more dynamic understanding of institutional efficiency, as Langlois called for over twenty years ago:

> One implication of [a flexibility-efficiency trade-off] is, in effect, that efficiency is not an absolute concept: it can't be defined independently of

[23] See Koch (2007) again: "Polanyi believed that discoveries best occur in a system of spontaneous order, of mutually adjusting individual initiatives… To begin creating such a system of discovery based on spontaneous order, employees' roles must include making and encouraging innovations. This requires an environment in which people don't blindly follow marching orders; rather, ideas are encourages and challenged but not destructively criticized." (p. 164-5) Also: "The principle that should guide the implementation of all financial incentives is that they encourage the innovation and creative destruction necessary to maximize long-term sustainable profitability." (p. 147)

[24] Lachmann was talking about the extended market order, not firms, but the quote remains applicable.

> the organization's environment. A firm in a very rapidly changing environment may have very bad transaction-cost properties but be far more efficient – far better able to survive – than a relatively less flexible organizational structure with good transaction-cost properties in equilibrium. It's not clear how important this problem is in practice, although I conjecture that it may be quite significant in situations of rapid technical change. In any event, it's far from clear that one can't do comparative-institutional analysis in a way that accounts for these dynamic considerations. Most current analyses do seem to assume that the criterion for the organization's survival is efficiency in the allocation of resources rather than flexibility or something like it. (1986, p. 20-21)

Firms must have an appropriate structure for their particular competitive environment. And it may in fact be the case that today's competitive environments are changing in such ways that more firms will have to become more decentralized in order to survive. Ultimately the proper extent of decentralization in a firm is an issue that cannot be decided by economists but rather by the firms themselves.

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