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Ekkehart Schlicht:

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Department of Economics
University of Munich

Volkswirtschaftliche Fakultät
Ludwig-Maximilians-Universität München

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Consistency in Organization

Ekkehart Schlicht*

Internal organization relies heavily on psychological consistency requirements. This perspective has been emphasized in modern compensation theory, but has not been extended to organization theory. The idea is developed by starting from Williamson's discussion of idiosyncratic exchange. The perspective sheds new light on several topics in the theory of the firm, like the boundaries of the firm ("Williamson's puzzle"), the importance of fairness concerns within firms, the attenuation of incentives, or the role of routines. It implies a "perceptual" theory of the firm that is "realistic" in the sense advocated by COASE (1937). (JEL: B52, D02, L2)

Internal organization relies heavily on psychological consistency requirements. I shall develop this idea, starting from Williamson's discussion of idiosyncratic exchange. The view will shed new light on several topics in the theory of the firm: its boundaries, the importance of fairness concerns within firms, or the attenuation of incentives. It implies a "perceptual" theory of the firm that is "realistic" in the sense advocated by COASE (1937).

1 Small Numbers

Co-ordination in a well-matched team is typically characterized by specialization of the team members and the absence of relevant competition for each specialist. In such a setting, market co-ordination seems less useful. It would invite strategic behavior, and would necessitate protective measures to shield against such tactics. Each team member could threaten to block the gains from co-operation unless paid a larger share of the surplus. The potential conflicts and concomitant safeguards involve sunk costs, to be counted as transaction costs. Such transaction costs are quite different from—and more important than—the costs "of discovering what the relevant prices are," as there are many ways of splitting any surplus, and there is no clear-cut way for "discovering" any set of relevant prices.¹ The costs for settling disputes may be

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¹There are game-theoretic solutions to such problems, but these solutions leave the problem basically unsettled. The "folk theorem" would state that any distribution could be sustained in an infinite co-operative setting, whereas the core of such a splitting game will always be empty, implying that any successful co-operation would require a reduction of possibilities for bargaining. Both lines of thought would suggest the formation of a normative system to overcome those bargaining problems, as has been suggested by WILLIAMSON (1975, 30) early on. The quotation is taken from COASE (1937, 88).

considerable in any small number setting unless organizational features and firm-specific norms are implemented that reduce the costs of higgling and haggling.

Organizational features and firm-specific norms may curb rent-seeking activity by ruling out some alternatives, or rendering them more costly to pursue. A policy for example, that requires equal treatment of all employees according to certain principles restrains the individual worker from seeking an exception, because all concessions made to him will generalize to other workers. This renders it more costly for the firm to make such concessions, and less promising for the individual worker to request them. As a result, rent seeking activity and associated transaction costs are reduced, and the employment relationship becomes more efficient *ex ante* as well as *ex post*. We can expect organizational solutions to outcompete market solutions in such cases.² More generally, co-ordination within firms pertains to well-matched teams that entail, almost by definition, small-number problems, and firms that rely on non-market organization may obtain better results than the market could achieve. As a consequence, prices are rarely used within firms to co-ordinate the division of labor. Even if payments serve as incentives, they do not perform any market clearing function (SCHLICHT, 1998, 229-31).

2 Markets, Hierarchies, and Custom

Following Oliver Williamson, I assume that behavior within an organization is motivated and controlled differently from what occurs in the market, and I shall emphasize the importance of psychological consistency for internal organization. But before doing that, let me discuss briefly a position that denies the theoretical usefulness of distinguishing between markets and firms in terms of different modes of control. According to this view, all behavior, whether occurring in the market or within firms, is governed by incentives, and a firm is to be interpreted as a specialized market, rather than a categorically different organizational form (HOLMSTROM, 1982). As ALCHIAN and DEMSETZ (1972, 777) explain: “Telling an employee to type this letter rather than to file that document is like my telling a grocer to sell me this brand of tuna rather than that brand of bread.” According to this view, no useful analytical distinction can be drawn between command and free choice, even if people in real life happen to make such a distinction. People don’t change their nature when entering a firm. Whether inside or outside a firm, their behavior is controlled by the same behavioral tendencies. If they behave differently within the firm or in the marketplace, this is to be attributed to the different sets of incentives provided. Human behavior is always to be analyzed in terms of (given) preferences and constraints. I shall refer to this view as the the *principal-agent view* of the firm, and I am going to criticize it.

I accept the thesis that people do not change their nature when entering a firm, but I take them as norm-guided within firms to much larger extent than in the market.³ Firms use normative structures for purposes of internal co-ordination that are absent or strongly attenuated in markets, and this enables them to outperform markets.

²Similar constraints on bargaining may arise in markets as well, but will, as a rule, be less powerful. Such complications are discounted in the following in order to simplify the exposition.

³The view advanced here builds in part on ISAAC *et al.* (1991) who emphasize that institutions (and therefore firms) frame fairness perceptions which entail strong behavioral effects. See also SCHLICHT (1998) for further discussion.

Many writers have rejected the principal-agent view of the firm, often implicitly. Ronald COASE (1937, 54) has been outspoken, however. He draws a distinction between a principal-agent relationship and a master-servant relationship and cites BATT (1929, 6) to the effect “that which distinguishes an agent from a servant is not the absence or presence of a fixed wage, or the payment only of commission on business done, but rather the freedom with which an agent may carry out his employment.” From this he concludes that the employment contract differs from a principal-agent relationship. It is a “master-servant” relationship, involving “control” and “direction.” I take it that “control” and “direction” refer to normative control of behavior.

Herbert SIMON (1951) has re-iterated the point that the employment contract establishes an authority relation, and Oliver Williamson followed the lead. He drew a distinction between markets and hierarchies and pointed out that the market will select that mode of co-ordination that minimizes overall production costs—a view which I am going to accept in this paper.

The dichotomy between markets and hierarchies found in Coase, Simon and Williamson is to be complemented by taking account of duty and custom. LEIBENSTEIN (1957) has highlighted this when depicting the firm as a network of interrelated jobs. Each job is associated with duties and responsibilities, entitlements and obligations. The organization of work is achieved, in his view, by the way in which appropriate norms, attached to jobs, govern behavior.

A closely related argument has been invoked by NELSON and WINTER (1982). They start, like Williamson, with the observation that the market does not work well in settings of idiosyncratic exchange. There may initially be a quarrel among the team members for obtaining larger shares of the surplus at the expense of the others, but eventually a ‘truce’ will emerge which is maintained and defended by everybody because “each member strives to protect his interests by standing prepared to deliver a firm rebuff not only to actions by others that clearly threaten his interests, but also to actions that might be quite innocuous were it not for their possible interpretation as probes of his alertness or determination to defend his rights under a truce” (NELSON and WINTER, 1982, 111). For such reasons, everybody defends the firm-specific norms and customs even in cases where he is not personally affected.

3 Entitlements, Obligations, and Organizational Equilibrium

The above discussion can be developed as follows. In a first step, an organization could be interpreted as a set of conventions. But why do people obey these conventions? One answer would be to think of a set of self-sustaining conventions which everybody obeys because it is in everybody’s interest to follow these conventions provided everybody else does the same (KREPS, 1990). This view may be adequate for dealing with pure co-ordination problems, like driving on the right-hand side of the road. It is the easy case and does not involve any problem. Such a system would work automatically, and there would be no further need for governance, and hardly any need for a firm as we know it.

The small-number problems arising in teams give rise, however, to co-ordination problems of a different kind. They require a splitting of the surplus accruing from co-operation. They involve potential conflict. An organization must cope with these problems. A convention to split a surplus according to a certain rule cannot easily be self-enforcing because some team members may be first movers. They could try to increase their share in the surplus, knowing

that it would be rational for the others to accommodate with this step. The threat to cease co-operating would be irrational for the later movers. In other words, the idea of viewing an organization as a set of conventions which are maintained out of self-interest of the participants seems very problematic.

Yet evidence suggests that people actually do behave “irrationally” if they feel cheated. They try to defend what they perceive their entitlements, even if this involves substantial costs to them. Effective norms are defended in this manner. Strategic behavior is channeled by these firm-specific norms. If the firm adheres to principles of equal treatment of equals, for example, a worker will anticipate that any concession made to him will induce other workers to seek the same advantage. Hence he will rather look for fostering his own advantage within the given set of norms and principles. This channels his activity. In this way, improvements in governance can induce better performance.

Further, effective norms shape compliance. They induce entitlements and obligations. Entitlements are rights, as perceived by the individuals. They are, however, not abstract legal rights. Rather, they denote the subjectively perceived rights that go along with a motivational disposition to defend them. Obligations are the counterparts of entitlements. They refer to claims by others that are subjectively accepted by the individual, and go along with a motivational disposition to respect these claims (SCHLICHT, 1998, 24). Both entitlements and obligations are brought about by a set of established rules. They derive from regularities perceived in the past and in the group and bring about norms and customs.

Given a set of norms and customs within a firm, and a preparedness of the members to defend the entailed entitlements and honor the implied obligations, we may view behavior in analogy to the simple co-ordination problem, but on a higher level. Conforming to firm-specific norms may be individually rational if everybody expects everybody else to defend these conventions. However the behavioral impact of such rules can not be reduced to incentives. Rather the rules *generate* incentives because they elicit entitlements and obligations and induce behaviors which will mutually be taken into account. The resulting organizational equilibrium, as governed by entitlements and obligations, may be viewed as a “truce,” as Nelson and Winter have proposed. It seems to me, however, that this parlance wrongly invokes the idea that organizational equilibrium is built on latent conflict.⁴ It suggests that mutual entitlements and obligations are only obeyed because they are backed up by threats. This is, I think, a misleading way of looking at organizational equilibrium because truce is usually short-lived, both within organizations and between nations, and prone to transform either into peace or into war after a while. It seems thus more appropriate to describe organizational equilibrium as “peace,” where conflicts have settled down and a possible initial truce has engendered a mutually accepted arrangement that is defended by everybody, similar to the way in which hierarchies or territorial claims are defended after settlement.

An analogy can be found in the way in which pecking orders and territoriality are established among animals. Consider the establishment of a pecking order among hens. There may be initial fights, but after a while a pecking order is established and only rarely put into question. The hens generalize apparently from the outcome of one fight to the outcome of the next one

⁴This holds true for the radical theory of the firm as well, see MARGLIN (1974). Oliver WILLIAMSON (1980) has commented on that.

and avoid unnecessary fighting. Or consider territoriality. There may be an initial fight, and the stronger individual might occupy a certain territory. It will defend its territory and will chase away potential intruders, but once the territorial boundaries are established real fights will be rare. The “ownership effect” will induce the owner of a territory to win almost any fight—even against more powerful intruders. It has obtained, so to speak, an entitlement in the territory, which induces it to defend it more fiercely than it would fight as an intruder, and the intruders’ aggressiveness is muted by the partial recognition of the territorial rights of the owner.⁵ In this way, ownership *generates* preferences, as well as incentives. Regarding preferences, it renders the owner more aggressive and the intruder more yielding. As both the owner and the intruder will take this effect into account, this changes their incentives for maintaining the territory, or invading it. The tendency is strengthened among social animals by the way in which the members of a group maintain or change alliances, and a similar social amplification must be expected within any social organization.⁶

4 Consistency

Yet a firm’s internal organization is not fully reducible to routines, norms, and firm-specific customs. The element of command—emphasized rightly by Coase and Williamson—is of great importance as well. A firm is neither reducible to custom and norms, nor to hierarchy and command. All elements interact strongly, and monetary incentives play a role as well. In the remaining part of the paper I shall comment on the nature of this interaction.⁷

My main thesis is that the actual working of an organization depends strongly on aspects of psychological consistency. The term refers to an overall match between various organizational features, principles, and tacit understandings. It plays an important part in modern compensation theory, but has much broader significance with regard to organizational matters (MILKOVICH and NEWMAN 1999, BARON and KREPS 1999). It bundles command, incentives, and custom together and implies a strong interaction between command, firm-specific norms and incentives.

Consider the starting point of COASE’s (1937, 35) discussion of the employment relationship. He notes correctly: “If a workman moves from department *Y* to department *X*, he does not go because of a change in relative prices, but because he is ordered to do so.” The foreman is well advised, however, not to issue arbitrary orders, even if they remain within the limits set by the employment contract. He must be entitled to order the workman to move, and it will be his duty not to issue inappropriate orders. The authority of the foreman and the obedience of the worker will be hurt if the foreman gives incoherent orders. The consistency of his behavior is tied up with his competence, as perceived by his subordinates, which is an important element in eliciting authority. He must, for instance, issue similar orders under similar circumstances.

If the worker in department *Y* is idle each afternoon, but helpful in department *X*, the foreman will be bound to send the workman each afternoon to department *X*. After a while, such an

⁵See the discussion and references in SCHLICHT (1998, 111-15, 172-5). Biologists describe the “ownership effect” as rendering the owner more aggressive than the intruder; see MAYNARD SMITH (1978).

⁶See DE WAAL (1983) on the importance of forming alliances in groups of chimpanzees, and DUNBAR and SCHUTZ (2007) for the “social brain” thesis.

⁷See also SCHLICHT (1998, 227-33).

order will appear redundant. The workman will know and go by himself, and he might fear reprisal if he does not help in department *X* in the afternoon even if not explicitly ordered to do so. He will begin to see it as his duty.

Authority is in this way tied up with job roles and responsibilities. Every order and each decision creates a precedent. It molds entitlements and obligations and strengthens or weakens authority. As a consequence, *every order and each decision must be seen as both directing resources and shaping firm-specific customs*. While a command entered into the keyboard of a computer may be issued without affecting the basic response of the computer to other commands, this does not hold true within a firm. Within a firm, every command creates the expectation that similar future situations will be handled in a similar manner, and weakens behaviors which appear inconsistent with the command.⁸ This learning by generalization is obviously of productive advantage in so far as it automatizes certain adaptations, but may be a disadvantage in case some generalizations are unwarranted.

5 Williamson's Puzzle

Oliver Williamson has emphasized the “chronic puzzle” about the limits of the firm (WILLIAMSON, 1985, Ch. 6). Two firms *A* and *B* can do together whatever they could do separately—and *more*. There is thus no inefficiency to be expected if firms *A* and *B* integrate; we could rather expect some efficiency gains achievable by selective intervention. The puzzle is that we do not find firms getting larger and larger. Sometimes it is successful to downsize or split. It must, therefore, sometimes be cheaper to organize the sets of activities of *A* and *B* separately rather than jointly. As WILLIAMSON (1985, 138) put it, “the integrated firm *cannot* wholly replicate outside procurement in ‘business as usual’ respects. Instead, there are *unavoidable side effects*.”

The aspect of consistency contributes to understanding some of these unavoidable side effects: While firms *A* and *B* can each develop a specialized set of customs which are fine-tuned to their particular needs, firm *AB* cannot handle similar things differently in its departments *A* and *B*. This would hurt consistency. It may still be possible to differentiate between departments, but in many cases (such as compensation policies) this is very difficult and costly to sustain. It is a frequent occurrence that certain activities are outsourced for the simple reason of making it possible to pay the outsourced workers differently from what they would receive as regular employees. Janitors are outsourced in order to save on wage payments, computer specialists are outsourced in order to make it possible to pay them more.⁹ The consistency requirement works as a constraint, and disintegration may permit removing this constraint. Conversely, integration induces the consistency constraint, along with the side effects mentioned by Williamson.

⁸Some authors take the more extreme view (not to be followed here) that command is *entirely* bound to the situation and therefore rule-based and ultimately dissolved by situation-specific requirements (FOLLETT 1940, p. 59, BRADY and WALSH 2008).

⁹See MÜCKE (2002) for some illustration.

6 The Perceptual Theory of the Firm

I have interpreted the firm as an organizational unit that relies on norms and customs for coordination, rather than on market incentives. For such a system to work, the boundaries of the firm must be recognizable for its members because they must know whether the firm-specific norms are valid or not. This implies a *perceptual* theory of the firm: The firm is what the firm members perceive as a firm. This perception frames and thereby triggers their behavior. Or, in the terminology of ISAAC *et al.* (1991), firms and other institutions provide institutional frames which activate certain behaviors rather than others.

From this point of view, the boundaries of the firm relate to perceptual boundaries: A firm is what people identify as a firm. This notion of the firm is “realistic,” in the sense advocated by COASE (1937, 54): It “closely approximates the firm as it is considered in the real world.” The relevance of the “perceptual,” or “realistic,” notion of the firm derives from the fact that people base their actions on their perceptions. This renders their perceptions economically relevant.

If a theorist argues that the perceptual view of the firm is too fuzzy and vague, and a more clear-cut definition, such as the firm as a “nexus of contracts,” or the firm as a “collection of assets,” is analytically more convenient or fruitful, they must assume *a priori* that the notion of the firm entertained by the economic subjects themselves does not carry behavioral implications (JENSEN and MECKLING 1976, MOORE 1992). In contrast, the consistency argument advanced here emphasized the behavioral entailments of perceptions, and implies that the notion of the firm would actually be superfluous if it *did not* carry such behavioral implications.

7 Low-Powered Incentives

WILLIAMSON (1985, 140) has contrasted the prevalence of low-powered incentives within firms with the high-powered incentives prevalent in markets. While no a-priori reason can be given for firms not to deviate from markets in the other direction and offer super-powered incentives, several reasons for the attenuation of incentives within firms have been advanced. The consistency view adds some further arguments for attenuation.

According to the consistency view, firms rely on norm-guided behavior. The set of entitlements and obligations which regulates co-operation cannot be mixed easily with incentives, because the provision of incentives changes entitlements and obligations. Once a worker receives performance pay, this removes his obligation to work fast on order. The presence of performance pay creates the entitlement on the part of the worker to choose his own pace of work, and weakens or removes his obligation to work as being told.¹⁰ The theoretical argument relates to the theory of self-attribution (SCHLICHT, 1998, Ch. 9). It suggests, for instance, that incentives may reduce cooperation, and this has been confirmed experimentally (FALK and FEHR 1998, FEHR and GÄCHTER 2002). As firms must rely on norm-guided co-operation,

¹⁰This thought may help to understand the difference between incentives and command and may contribute to resolve CLARK's(1984) puzzle that incentives that must be considered optimal from a principal-agent perspective have been replaced by authority in many capital-intensive factories in the late nineteenth century. Only if authority works differently from incentives, these findings make sense.

and wage compression and an attenuation of incentives may improve the workings of duty of command, such features are to be expected.

8 Fairness

The thought that norm-guided behavior is important within firms may also be re-phrased in a different way by building on SIMON's (1951) theory of the employment relationship. Consider two different tasks, *A* and *B*. Assume initially that the worker is indifferent about whether to perform the one or the other. An exchange contract would specify under which conditions the worker would perform which. An employment contract would leave that unspecified. The firm would be free to decide, according to the situation, which task the worker is to perform. As long as the worker is indifferent between the tasks, he will be indifferent between the exchange contract and an employment contract. The firm, however, will prefer the employment contract, as this permits postponing the decision about which task to perform. It permits greater flexibility. The employment contract carries an option value, just as the holding of money rather than some illiquid asset entails liquidity. This is, in a nutshell, Simon's explanation of the employment contract.

Consider now the case that the worker is *not* indifferent between tasks *A* and *B* but prefers task *A*. An employment contract faces the difficulty that the worker may be hesitant to agree on entering a contract that leaves the choice between *A* and *B* entirely in the hands of the firm, as he may fear of becoming exploited by being ordered to work exclusively on the dreary task *B*. In order to render an employment contract viable, the firm must credibly commit itself to compensate the worker for additional toil. By offering extra payment for task *B* (working at night, working abroad), the worker can be made indifferent between the tasks, and the employment contract can serve the function of postponing the decision about performing task *A* or task *B*.

From this point of view it is no coincidence that business men talk about "compensation" rather than "pay." Practitioners aim for a "consistent" wage structure that offers rewards in proportion to the time needed to perform a task, and to the strain and attention required, rather than to bribe workers to perform the one rather than the other task. This would undermine the possibility of directing workers by command. Command requires that command is accepted.

Another way to maintain the viability of the employment contract in cases where workers are not indifferent between performing different tasks is to implement practices that fix the share of the various tasks while maintaining the flexibility of timing, *viz.* maintaining the shares of task *A* and *B* while leaving it to the firm's discretion *when* to ask the worker to perform task *A* or task *B*, respectively. A worker who has been assigned to the strenuous task *B* for some time would obtain the "right" for being compensated by being assigned preferentially to task *A* for a while, *etc.* This would, again, make the workers ultimately indifferent between performing the different tasks. Such practices relate obviously to fair treatment of the workers. Such observation of fairness requirements is a fundamental prerequisite for rendering the employment contract viable, and enabling its superior efficiency features.

Fairness in the employment contract—in the sense of offering compensation for more exerting tasks, in one way or the other—contribute to efficiency by bringing about product

prices that reflect social costs. All this is quite remote from concerns about those kinds of incentives that are in the focus of the principal-agent paradigm. Such incentives may play a role in cases where observability is a problem. Within firms this seems to be less important, as you cannot compensate or incentivise what you can't observe. You can, however, render the performance of tasks more attractive by offering performance pay, especially in cases where problems of observability do not arise. It is, therefore, not surprising that incentives are usually framed as a fair share in the value that has been created by the worker to the benefit of the firm. Such payments are much smaller than principal-agent theory would predict (FRANK, 1984). Well-known phenomena like the attenuation of incentives, wage compression, or selection wages would not be observed if the principal-agent view of the employment contract were correct.

To phrase these thoughts in still another way: Within markets, prices co-ordinate various economic activities. Within firms, co-ordination is achieved by the assignment of duties and responsibilities, and by direct control and supervision, and by supplementing all this by fair and consistent compensation structures.. These mechanisms of co-ordination within firms are rendered viable by normative structures that ultimately build on perceptions of fairness and legitimacy.

9 Routines and Change

The evolutionary theory of the firm emphasizes the function of routines to co-ordinate the division of labor within firms. The emphasis on routines, although in many ways quite relevant, hides the fact that the various routines to be found in a firm are tied together by consistency requirements. Similar cases must be treated similarly. Otherwise, entitlements and obligations will not match, and co-ordination cannot work smoothly. Further, the evolutionary view tends to conceive change as brought about by blind trial and error. This is misleading. COASE (1978, 244) has pointed this out nicely: “The firm, the market, the legal system are all social institutions and are the result of purposeful human activity. . . . natural selection has an IQ of zero. The IQ of businessmen and politicians may not be high, but it is not zero. Natural selection produces its results by trial and error over long periods of time. Economic systems, such as the structure of an industry, may be transformed within a single generation.” Economic change is neither blind nor fully rational.

It seems to me that this “intermediate” character of economic change—neither blind nor prescient—can be analyzed fruitfully from a consistency perspective. Firms respond to changing conditions by changing or enlarging their repertoire of action, and they seek improvements by building on their competencies. All this must be done in a piecemeal way and using the means at hand while maintaining overall consistency, even in times of change. The firm is not re-shaped optimally in response to each and every change in the environment; rather the existing routines are kept, or modified, or extended, and aligned with each other.¹¹ It would

¹¹ALCHIAN (1984, 47) takes the principal-agent view to the extreme and concludes: “It is *not* silly to consider the entry of a new stockholder to be the creation of a new firm.” This neglects the costs of setting up a system of rules which co-ordinate interaction. Once this is taken into account, any change (like the entry of a new stockholder) must be integrated into the existing set of routines, customs, and firm-specific norms, rather than

not be “rational” to start anew at each point in time; rather it is reasonable to respond to new exigencies, or find new solutions, by starting from the prevailing set of routines, norms and customs, and by extending and changing them to meet new exigencies. As the prevailing set of routines is tied together by consistency requirements, organizational change is channeled by these requirements, just as biological change is channeled by physical and genetic conditions SCHLICHT (1997).

10 Concluding Remarks

The consistency view of organization highlights some often neglected aspects of organizational performance. It requires transcending the standard assumptions on human behavior used in economics, as epitomized by the principal-agent view. The above discussion was intended to introduce this thought and to relate it to some selected topics in the theory of the firm. What has been left out here is a more detailed examination of possible empirical predictions and a more systematic discussion of the underlying model of man.

References

- ALCHIAN, A. A. 1984, “Specificity, Specialization, and Coalitions,” *Journal of Institutional and Theoretical Economics*, 140, 34–39.
- ALCHIAN, A. A. and H. DEMSETZ 1972, “Production, Information Costs, and Economic Organization,” *American Economic Review*, 62, 777–95.
- BARON, J. N. and D. KREPS 1999, *Strategic Human Resources*, Wiley, New York.
- BATT, F. A. 1929, *The Law of Master and Servant*, Pitman and Sons, London.
- BRADY, M. and A. WALSH 2008, “Setting Strategic Direction: A Top Down or Bottom Up Process?” *Business Strategy Series*, 9, 6–11.
- CLARK, G. 1984, “Authority and Efficiency. The Labor Market and the Managerial Revolution of the Late Nineteenth Century,” *Journal of Economic History*, 44, 1069–83.
- COASE, R. H. 1937, “The Nature of the Firm,” *Economica*, 4, 386–405.
- 1978, “Economics and Biology: Evolution, Selection, and the Economic Principle: Discussion,” *American Economic Review*, 68, 244–5.
- DE WAAL, F. 1983, *Chimpanzee Politics: Power and Sex Among Apes*, HarperCollins, New York.
- DUNBAR, R. I. M. and S. SCHUTZ 2007, “Evolution of the Social Brain,” *Science*, 317, 1344–1347.

creating a new firm from scratch.

- FALK, E. and E. FEHR 1998, "Contractual Incompleteness and the Nature of Market Interactions," Discussion paper, Institute for Empirical Research in Economics, University of Zürich.
- FEHR, E. and S. GÄCHTER 2002, "Do Incentive Contracts Crowd Out Voluntary Cooperation?" Discussion paper 34, Institute for Empirical Research in Economics, University of Zürich.
- FOLLETT, M. P. 1940, *Dynamic Administration. The Collected Papers of Mary Parker Follett*, Harper and Brothers, New York.
- FRANK, R. H. 1984, "Are Workers Paid their Marginal Product?" *American Economic Review*, 74, 549–71.
- HOLMSTROM, B. 1982, "Moral Hazard in Teams," *Bell Journal of Economics*, 13, 324–40.
- ISAAC, R. M., D. MATHIEU, and E. E. ZAJAC 1991, "Institutional Framing and Perceptions of Fairness," *Constitutional Political Economy*, 2, 329–70.
- JENSEN, M. C. and W. MECKLING 1976, "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure," *Journal of Financial Economics*, 3, 305–60.
- KREPS, D. M. 1990, "Corporate Culture and Economic Theory," in: J. E. ALT and K. A. SHEPSLE (eds.), *Perspectives on Positive Political Economy*, Cambridge University Press, Cambridge.
- LEIBENSTEIN, H. 1957, "The Theory of Underemployment in Backward Economies," *Journal of Political Economy*, 65(2), 91–103.
- MARGLIN, S. 1974, "What do Bosses Do? The Origins and Functions of Hierarchy in Capitalist Production," *Review of Radical Political Economics*, 6, 33–66.
- MAYNARD SMITH, J. 1978, "The Evolution of Behavior," *Scientific American*, pp. 136–45.
- MILKOVICH, G. T. and J. M. NEWMAN 1999, *Compensation*, 6th ed., Irwin/McGraw-Hill, Boston.
- MOORE, J. 1992, "The Firm as a Collection of Assets," *European Economic Review*, 36, 493–507.
- MÜCKE, P. 2002, *Unternehmensgrenzen und Arbeitsmärkte*, Metropolis, Marburg.
- NELSON, R. R. and S. G. WINTER 1982, *An Evolutionary Theory of Economic Change*, Harvard University Press, Cambridge, Mass.
- SCHLICHT, E. 1997, "Patterned Variation. The Role of Psychological Dispositions in Social and Economic Evolution," *Journal of Institutional and Theoretical Economics*, 153, 722–36.
- 1998, *On Custom in the Economy*, Clarendon Press, Oxford.
- SIMON, H. 1951, "A Formal Theory of the Employment Relationship," *Econometrica*, 19, 293–305.

WILLIAMSON, O. E. 1975, *Markets and Hierarchies*, Free Press, New York.

— 1980, “The Organization of Work,” *Journal of Economic Behavior and Organization*, 1, 5–38.

— 1985, *The Economic Institutions of Capitalism*, Free Press, New York.