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**The virus of management -  
A viral perspective on bureaucracy and  
scientific management**

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# The virus of management -

## A viral perspective on bureaucracy and scientific management

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### **Abstract**

The virus metaphor may be used in studies of management knowledge not only as a way of describing diffusion processes but also as a way of thinking about viral elements of knowledge production. In the present article, organizational viruses are viewed as ensembles of basic distinctions that are constitutive of concrete bodies of knowledge and which form mutable engines of organizational self-descriptions. Organizational viruses, we contend, are both characterized by stability in terms of their basic productive configuration, while at the same time allowing for a high degree of variation in terms of concrete management knowledge and practice. The article is structured as follows. After the introduction, we first develop the notion of organizational virus as into an analytical approach. Second, we discern in the work of Frederick Taylor on scientific management and Max Weber on bureaucracy, two quite distinct viral configurations that we claim have infected most modern management knowledge – both on a discursive level and on the level of concrete organizational self-descriptions and practice. Third, we discuss our findings and raise the question of how viruses ‘work’, how they interact, and why they become infectious.

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## 1. Introduction

*“Language is a virus” – W.S. Burroughs*

20 years ago Paul J. DiMaggio and Walter W. Powell published their seminal paper on institutional isomorphism “The Iron Case Revisited. Institutional Isomorphism and Collective Rationality in Organizational Fields” (DiMaggio and Powell 1983). Since 1983, the concept of isomorphism has set the agenda for much research, under the broad heading of “neo-institutionalism”, on the diffusion of organizational forms, organizational models and management knowledge. One particularly intense debate spurred by the isomorphism concept has been concerned with whether there is homogeneity – or, looking more closely, if there is in fact much more diversity than seemingly postulated by DiMaggio and Powell (e.g. Czarniawska and Sevón 1996).

We do not intend to adjudicate between these positions but rather that there might be a much higher level of isomorphism than hitherto imagined, while at the same time recognizing that the possibilities for variation are also immense. We do this via the metaphor of *organizational virus*. The virus metaphor is by no means new in debates on diffusion and isomorphism (see e.g. Rogers 1962; March and Olsen 1989, p. 59; Pastor, Meindl et al. 1998) where the metaphor has been used to describe diffusion processes as epidemics, i.e. how the spread of ideas, models, or technologies can be seen as a question of “contagion”. However, we intend to move attention away from the diffusion of already established social facts to the engines producing the social facts.

The debate on isomorphism has tended to focus on homogeneity on the level of already established social facts, either as formal organizational structure or as particular semantics. Thus studies of isomorphism have noted e.g. the spread of the multidivisional corporation as a formal organization structure and the spread of the vocabulary and associated technologies of e.g. Business Process Engineering or Total Quality Management as a ‘model’ or ‘concept’ of management (e.g. Røvik 1998, p. 149).

An organizational virus we define as a basic and productive configuration of distinctions around a problem to be solved. A virus is not an organizational form, a model or an idea but a mutable engine of organizational reflection that become part of managerial knowledge and practice. It is

nothing in itself but should be seen as a simple and infectious pattern that requires a host in order for it to function and reproduce.

We contend that most, if not all, forms of managerial knowledge are infected and hence produced by a limited number of highly productive viruses. Especially two viruses are almost universally disseminated in the modern world of organization and management: the virus of bureaucracy and the virus of scientific management. We choose to focus narrowly on these two viruses, leaving out other possible viruses for the time being.

The viruses of bureaucracy and of scientific management coexist in most forms of managerial knowledge and organizational practice thus opening a particular field of conflict, variation and paradox in the production of social facts. In other words, what we recognize as diversity and variation can to a certain extent be interpreted as the productive outcome of a limited number of organizational viruses that are capable of producing a great variety of organizational forms and facts. Hence we may suggest that the viral gaze – focusing on the productive – is able to analyze constitutive relations of isomorphism and variety.

More specifically, the ambition of the present article is to introduce the concept of organizational virus and, using this concept to elicit the viral elements of “bureaucracy” and “scientific management”, to discuss how these two viruses work, interact, and infect modern management knowledge.

In the following we first open up a field of ‘viral analysis’ by suggesting how management knowledge may be observed in terms of organizational viruses – and by describing the key elements of viral configurations. We then turn to a reading of the work of Max Weber on bureaucracy and Frederick Taylor on scientific management and try to ‘boil down’ these two bodies of knowledge to the most simple configurations of distinctions: the virus of bureaucracy and the virus of scientific management. We end our paper giving a short discussion of the two viruses and how they become productive, how they are both mutually dependent and in constant conflict, and why they are so infectious.

## 2. The viral gaze

The main challenge of the viral gaze is to observe productivity: to observe viruses as engines, establishing social facts. This challenge is to some degree taken up by constructivist strains within institutional theory (e.g. Hasselbladh and Kallinikos (2000) but also Fligstein (1990; 1996) and Kjær and Pedersen (2001)). However, in general the interest is on *what* social facts are produced and disseminated, more so than on *how* social facts are produced. In order to observe the productivity of viruses, we will supplement institutional theory with concepts taken from discourse analysis and autopoietic systems theory. These are both theories, which focus on communication. Just like Burroughs, they build on the assumption that ‘language is a virus’: we are infected by it and cannot escape it. The way we are and the way we see ourselves is infected by language. Indeed, both discourse analysis and systems theory radicalize the statement of Burroughs by stating that the social is basically communication: Social facts are communicative facts.<sup>1</sup>

Studying organizational viruses, we choose to raise the question of how organizations become facts for themselves. Organizations, we view as specific orders of communication. Organizations are, in our view, characterized by being basically reflective. This means that however an organization may be organized, it holds the property of reflecting upon itself. This reflection may be rudimentary, but often it is both explicit and developed. This basic reflectivity implies that organizations develop self-descriptions, and that self-descriptions are constitutive<sup>2</sup> for the ongoing recreation of the organization. This is where organizational viruses enter organizations: organizational viruses form the self-production of organizations by enabling and giving directions to self-descriptions of organizations (Luhmann 1984, ch. 11; Luhmann 1988).

Organizational viruses, we understand as a set of distinctions, tied together by a (general) problem to which the organization is an answer. Thereby the organization becomes object of management in a specific way, as the organization emerges for itself as a horizon of ways to handle the problem. At this point, the viral gaze differs from institutional studies of isomorphism: where institutional

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<sup>1</sup> In both systems theory and discourse analysis, generative or productive mechanisms are stressed. However, there are also examples, where either of the two perspectives are used to analyze or conceptualize what is generated. For an overview see Andersen (2003).

<sup>2</sup> That self-descriptions are constitutive is not to say that they are determining for the specific organization.

studies typically focus on isomorphism in the horizon of possible solutions, the viral gaze focuses on isomorphism in the general and horizon-producing problematizations.

The viral gaze on organizations hereby implies a functionalism. However, this functionalism is not located on the level of a general theory of organizations, such as theories suggesting that organizations are formed to solve efficiency problems or problems of coordination. Rather, the functionalism is located at an analytical level: The viral gaze observes how organizations observe themselves as functional solutions to specific problems. Common for viruses is hence that they infect organizations with functionalist self-descriptions.

An organizational virus, we suggest, is a set of distinctions, held together by yet another distinction, formed as a problem. This composition of distinctions makes it possible for the virus to figure at societal, discursive levels as well as at organizational levels. The problem is, in other words, both constructed as a general societal problem, and at the same time constructed in a way, which makes it easy for organizations to adopt viruses as part of their own problematization. Viruses may hence spread both directly from organization to organization or via societal discourses.

As mentioned the virus is composed by a set of distinctions. Probably the most important is the distinction is that of problem and solution. The virus gives a general formulation of what problem is to be solved by organization. However, the answer is left open. This openness is central to the productiveness of the virus: The virus produces organizational facts by directing the organizational attention to certain problems and producing a seemingly endless horizon of possible solutions. However, there is also a commonality between the solutions, namely in how the organization is made observable. To reiterate: by posing a specific problem, the organization is made an object in a specific way. Hence the two first questions asked by the viral gaze is how organizational viruses

- define a general problem to be solved by organization? and
- how the organization thereby can become an object for itself?

The latter question is important, because it sheds light on how the organization becomes manageable. Only by becoming object for themselves, organizations can manage themselves, and the way it becomes object for itself, conditions how management can manage.

The virus also has implications in terms of power and expectation. Power has to do with force, and designates the energy making the ongoing constitution of organizations possible.<sup>3</sup> Needless to say, power in modern organizations rarely takes the form of sheer violence. Rather, power is transformed. Our argument is that this transformation is central to the productivity of viruses: The way the organization problem is posed transforms power in such a way that power is capable of contributing to solutions to the problem. The same goes for expectation. Any organization, indeed any societal order, may be characterized by the form of expectation (Luhmann 1984, p. 436 ff). In general terms this expectation may either be normative or cognitive. The two forms of expectations differ with respect to what happens if the expectation is not met<sup>4</sup>. If the expectation changes, we call the form of expectation cognitive. In this case, expectation is adjusted and we may talk of learning. However, often when expectations are not met, the expectation is still upheld, e.g. when we observe a car driving in the wrong direction, against traffic. It is unexpected, yet afterwards, we still expect cars to follow the direction of traffic. This form of expectation is normative. The form of expectation is central to the virus, because expectations provide organizations with structure. Hence by configuring expectation, the virus also configures the organizational possibilities of structuring itself. Seen together, power and expectation are the conditions of organizational creation and stabilization, respectively.

Hence the viral gaze asks how organizational viruses

- specify how power is to be related to this organization? and
- specify a general orientation of expectations in this organization?

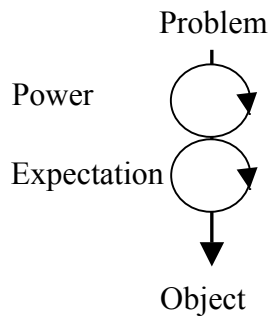
By asking these four questions, we intend to shed light on the four elements of organizational viruses. Organizational viruses may hence be illustrated as follows.

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<sup>3</sup> Needless to say, here we are deeply inspired by Foucauldian conceptualizations of power, emphasizing power as a productive force.

<sup>4</sup> This may also be termed 'disappointment'. However, disappointment is here to be understood as a technical term, and not as a term for the sensual, often unhappy, reaction to unmet expectations

## The organizational virus:



It seems to us that ‘scientific management’ and ‘bureaucracy’ are the two most widespread viruses. Viewed as viruses, bureaucracy and scientific management are as prevalent today as they are unfashionable and infamous. The two viruses incubated under these names have indeed caused epidemics so encompassing that they hardly are perceivable anymore. When almost all management and thinking of management is infected, it becomes very challenging to make apparent how encompassing the infection is and with what effects. We believe this challenge can be met by focusing on the early formulations of ‘scientific management’ and ‘bureaucracy’. The temporal distance and the distance to current management thinking, make it possible to distance ourselves from the viruses we are infected by, and hence reaching a diagnosis. This is what we pursue in the following section.

### 3. Analysis

#### 3.1 Weber

Max Weber condensed encompassing studies into a relatively brief text on bureaucracy (Weber 1971, pp. 105-158). The text is sparse in terms of references. It is rather the systematic and familiarity than the load of academic references which makes the article convincing. Counter to what is sometimes postulated, Weber is not an advocate of bureaucracy, rather he intends to diagnose the organizational form he found widespread in public and private organizations (see Byrkjeflot (2000) on (mis)readings of Weber). He termed this form of organization ‘bureaucracy’ because it was centered on paperwork in offices. In spite of it being a fairly well known form of organization, we shall briefly recap Weber’s analysis in order to answer the four questions raised above.



The main mark of bureaucracy is formalization, i.e. “the reduction of modern office management to rules” (Weber, Shafritz et al. 2001, p. 81). This goes for the employment of people, the division of work, the levels of hierarchy, the areas of responsibility and competency as well as procedures. ‘Formalization’ points us to the problem to which the organization is a solution. In some respects the solution is namely formalization. The problem, which rings through the pages of Weber’s analysis, is arbitrariness, e.g. “individual privileges and bestowals of favor” (Weber, Shafritz et al. 2001, p. 81). Arbitrariness is a problem because it makes rational action difficult, not to say impossible. Arbitrariness is incalculable, whereas rationality requires calculability. Hence the formalization of organization is to establish a calculable frame, which enables rationality. Arbitrariness is also a problem insofar as it implies change or instability. Hence formalization is to be relatively stable, and thereby provide a frame for rationality over time. Rationality does not only imply that something is calculable *now*, it should also be possible to do the same calculation at another point in time. Hence formal rationality, as described by Weber, is characterized by *detemporalization* (Luhmann 1982). Temporal context should be secondary in questions of rationality.

Formalization obviously makes the organization object for itself in a quite specific way, namely as rules and rule-based action. More specifically we may talk of *decisions*. By emerging for itself as decisions, the organization becomes manageable: It manages by decision, and it manages how decisions are taken. Decisions are here characterized by being visible and explicit selections. Decisions are documented, and documents are given a flow, which links various parts of the organization.

When power is taken into consideration from the bureaucratic point of view, it becomes a problem exactly because it is arbitrary. Power typically becomes visible e.g. in decisions, which are not expected outcome of a calculation.<sup>5</sup> One of the important tasks of bureaucracy is hence to transform power and make it calculable. This is done by making power itself calculating: power becomes authority, and authority is formally assigned to positions in the bureaucracy, having authority in certain areas and according to certain procedures. Compartmentalization of authority does not only

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<sup>5</sup> In this perspective power often becomes visible as a deviance from rationality: when a decision taken seems irrational, it may be asked whom the decision favors, and hence what actors have ‘flexed their muscles’ to make the decision turn out that way.

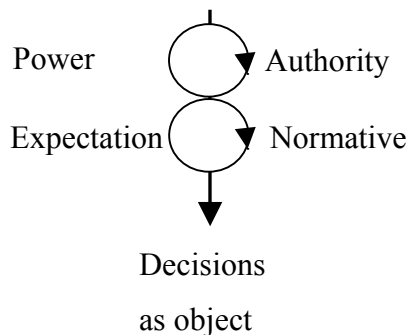
delimit the possibility of the inferior positions in the hierarchy to abuse authority. It does also delimits the possibility of superior positions to arbitrarily overrule decisions taken by inferior positions. In other words: the compartmentalization of authority at the same time imposes restrictions and provides (specified) autonomy for each position in the organization (REF).

When it comes to expectation, formalization as solution to arbitrariness clearly favors normative expectation. Normative expectation is at the heart of establishing calculability. When unexpected decisions are made, it is to be inquired whether the decisions are made according to the rules (i.e. other decisions). Of course, cognitive expectation does also play a role. The inquiry may e.g. show that the decision is not in breach with the general rules of the organization, and hence that the general rules are to be understood in new, unexpected ways.<sup>6</sup> However, the normative expectation plays the central role, as confidence in the general rules must be restored if in jeopardy.

We may summarize our first analysis with the following illustration.

**The bureaucratic virus:**

How to avoid arbitrariness by formalization



It is remarkable that the bureaucratic virus spurns of organizational self-descriptions, according to which the organization is not so much the result of rationality (rationalization), but rather a precondition of rationality. Formal rationality, in focus here, is namely characterized by requiring a spatial view of the organization. By detemporalizing and compartmentalizing the organization in

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<sup>6</sup> This is typically a local phenomenon: one office in a hierarchy may hence generate knowledge of how specific rules are to be interpreted.

positions, offices (bureaus), jurisdictions, *Vorgesetzter* (all spatial concepts) the organization draws a spatial image of itself.

### 3.2 Taylor

Taylor is well known for advocating for ‘scientific management’ as a specific way to make organizations efficient. To Taylor the efficiency issue was not something that just concerned industrial managers but something that involved individuals, companies and society at large. Thus the problem was formulated as a general problem of waste – amendable to a host of concrete instances. In his introduction to ‘The Principles of Scientific Management’, Taylor elaborates on the problem of ‘waste’ in consonance with President Theodore Roosevelt:

“We can see our forests vanishing, our water-powers going to waste, our soil being carried by floods into the sea; and the end of our coal and our iron is in sight. But our larger wastes of human effort, which go on every day through such of our acts as are blundering, ill-directed, or inefficient, and which Mr. Roosevelt refers to as a lack of ‘national efficiency,’ are less visible, less tangible, and are but vaguely appreciated.”  
(Taylor 1998 [1911])

The general problem spelled out here is waste of human effort. The problem of waste thus has to be dealt with to attain efficiency. However, the answer to the problem of waste – what has come to be known as scientific management – is not simply a technical solution. Taylor specifically underlines that scientific management

“... is no efficiency device, nor is it any group of efficiency devices. Scientific ... It is no one of the various elements by which it is commonly known, by which people refer to it. It is not time study nor man study. ... Scientific management does not exist and cannot exist until there has been a complete mental revolution.” (Taylor 2001 [1916])

This revolution is one of how to *observe* work and work organization. It is to be a scientific observation. One famous example of such scientific observation is the ‘science of shoveling’ (Taylor 2001 [1916], p. 67f), a science which entails close examination of shovels and shovel techniques. The traditional method of shoveling is contrasted with other possible methods for shoveling, the traditional shovel is contrasted with new forms of shovels etc. By experimenting in

such ways, comparisons are created, and the actual way the work is done, is contrasted to possible ways to do the work. Hence we arrive at the more specific problem, set by the scientific management virus, namely *how to avoid waste by comparing actual to possible forms of organization?*

As already pointed out, the organization hereby becomes object for itself as ‘human effort’, i.e. ‘work’. Taylor discusses ‘work’ predominantly as physical work, as in the shoveling example above. However, ‘work’ can encompass an endless list of physical as well as mental activities.<sup>7</sup> Indeed, we may even ask how a specific organization works? Hence, organizations can become object for themselves as work in a great variety of ways.

This ‘scientific observation’ is closely linked to cognitive expectation. When scientific management e.g. compares traditional (actual) ways to work with possible ways to work, knowledge “in the heads of the workmen” (Taylor 2001 [1916], p. 65) is to be recorded, ordered, analyzed. The knowledge is to be made explicit and tested in experiments. It is, in other words, systematically tried to test expectations in order for the organization to learn, i.e. a systematic utilization of cognitive expectation. Of course, normative expectation does also play a role. The predominant cognitive expectation is to spurn of (preliminary) ‘best ways’ to do e.g. shoveling, and these best ways are to be formed into rules.

The experimentation and gathering of information requires a division of work, and this brings us to the power question. Simply put, one part does the shoveling, whereas another part observes, analyzes and organizes how the shoveling is to be done. However, it is important that this division of work between worker and superior is not seen as a hierarchical structure, where certain (more or less arbitrary) tasks are assigned to the specific worker. It is rather seen as a way to organize scientific enlightenment of work processes, an organization to the benefit of all parties, and hence not a question of power or authority, but of rationality. The “Boss” is to be converted to a “teacher”

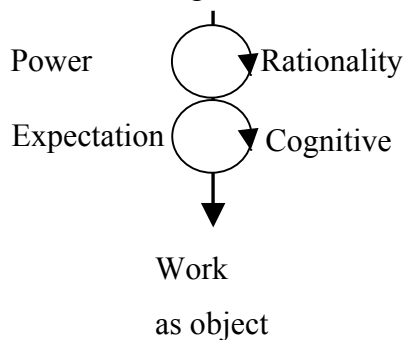
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<sup>7</sup> In an interesting correlate to his initial posing of the problem of waste as general social problem, the principles of scientific management were also seen as: “...applicable to all kinds of human activities, from our simplest individual acts to the work of our great corporations, which call for the most elaborate cooperation.” Taylor, F. W. (1998 [1911]). The Principles of Scientific Management. Mineola, New York, Dover.

who “is not an enemy, but a friend” of the worker. “He comes there to try to help the man get bigger wages ...” (Taylor 2001 [1916], p. 70). What we find here is not power primarily in the form of violence, nor primarily in the form of authority, but in the form of rationality. The virus transforms power into rationality. The scientific management virus is illustrated below.

**The scientific management virus:**

How to avoid waste by comparing actual to possible forms of organization?



It is remarkable that the scientific management virus spurns of organizational self-descriptions, which focus on activity, work, processes, sequences. Such self-descriptions may take the form of time studies, where physical work processes are analyzed by decomposing them to basic units of actions. However, the virus opens up for temporal images in general, and hence for self-descriptions focusing on intellectual work processes, organizational work processes, symbol manipulation work processes etc. And all these temporal self-descriptions can become ‘scientific observations’, i.e. observations where actual organization is compared to possible organization.

**4. Discussion**

Research on management knowledge may benefit from using the virus metaphor – in at least two different ways. On one hand, the metaphor may be used to describe diffusion processes as a process of contagion. On the other hand, the metaphor may be used to describe the basic configurations of knowledge that form mutable engines of organizational self-descriptions. In the present article we attend to the latter aspect by outlining an analytics for the description of organizational viruses. Organizational viruses, we contend, are ensembles of basic distinctions that are constitutive of

concrete bodies of knowledge, and which can be characterized in terms of their fundamental definitions of organizational problems, objects of attention, power and expectation.

In our analysis of two dominant viruses of management knowledge, we found that bureaucracy as first described by Max Weber, and scientific management as propagated by Frederick Taylor, could be characterized as two distinct viral configurations. Bureaucracy, being organized around a problem of arbitrariness, makes decisions a key object of organizational attention, and works by making power into authority and favoring normative expectations. Scientific management, being organized around a problem of waste, makes work an object of attention drawing on a conception of power as rationality and favoring cognitive expectations. Taken together, bureaucracy produces spatial conceptions of organization (a space for rationality), whereas scientific management produces temporal conceptions of organization (a process of rationalization of concrete operations or work processes).

At this juncture our viral analysis allows us to raise at least three issues for further debate:

*Stability and change.* Initially we claimed that the two viruses infect most management thinking. In saying this we want to highlight how they are not to be seen as organizational models but as “drivers” in the production of knowledge permeating almost all developed organizational self-descriptions – and broader managerial discourses. As students of TQM, BPR and similar organizational recipes have noted, there are strong remnants of scientific management (Hagedorn-Rasmussen 2003) – and bureaucracy in both, but even notions of career development, corporate social responsibility etc. involve problematics of waste and arbitrariness. However, while we thus claim that - at this particular level of analytical abstraction - both viruses have remained quite resistant to change over time, they should not be seen as determining what can be thought, said or done in any concrete organizational setting. By calling organizational viruses engines of management knowledge we have simply emphasized how both configurations generate descriptions or representations of organization and management but also that they are open to a great deal of variation in terms of the concrete social facts that emerge. There is much variation in terms of how the problem of arbitrariness is resolved, there are a multiplicity of concrete ways in which authority may be organized and a multiplicity of possible normative expectations. At the same time the bureaucratic virus, once having entered organizational self-descriptions tends to set things in motion

- in a particular direction. Similarly, scientific management is amendable to variation in terms of what problems of waste are formulated, what (scientific) rational arguments come to govern debates, what issues one learns about - but once one begins to compare actual activities with possible activities in a organization, a particular engine is set in motion.

*Inter-viral relations.* The two viruses stand in a paradoxical relation to each other. On one hand, they seem to imply each other, in the sense that bureaucracy is thought to produce a space for rationality while assuming that rational rules have already been produced. In contrast scientific management produces temporal conceptions of organizations, i.e. as work processes and as on-going rationalization. while always assuming an organizational space in which such a process unfolds. On the other hand, scientific management as a virus always implies a search for the potentials for improvement, thereby constantly threatening to set off new processes of rationalization, without regard for established and formalized rules, while bureaucracy will emphasize the avoidance of arbitrariness even at the cost of the rationality of particular rules. In fact, while Taylor dreamed of a final optimum, a perfected organizational space as the ultimate outcome of rationalization, today organizations are often judged as irrational and rigid, almost per se, if they are not able to imagine ever more efficient alternatives in an on-going and never-ending quest for improvement (e.g. Olsen and Brunsson (1993)). Most organizational self-descriptions are infected by both viruses thereby creating on-going strain and conflict between two possible fundamental directions of communication, conflicts that cannot be resolved without – for the time being or at a certain level – giving precedence to one or the other.

*Contagion.* The analysis of the two viruses allows us to speculate about the question of contagion. What, one may ask, makes a virus contagious, and what has made these two particular viruses so contagious? Institutional analysts have emphasized legitimacy and uncertainty as two major preconditions for contagion, i.e. that some managerial ideas may have strong affinity with dominant notions of social order and progress, and that uncertainty makes it tempting for certain organizations to let themselves become infected by available ideas. Several researchers have also emphasized how modern management models are often open and relatively non-binding bodies of ideas (Røvik (1998, p. 47 ff) for an overview). Our analysis radicalizes this latter explanation. A virus is not an idea, i.e. a meaningful entity in itself, but rather constitutes a procedure that is not only amendable to almost any kind of issue, but also so void of content that it requires only a

minimum of attention and legitimization. While few may view bureaucracy as a legitimate solution as such, in normal situations it is "cheap" to challenge arbitrariness, and while few may want Taylorist time studies today, it is hard to argue against improvement per se.

Many issues remain to be dealt with in future studies of organizational viruses. One issue is the question of other viruses – besides the two analyzed above. We have suggested that bureaucracy entails spatial conceptualizations while scientific management entails temporal conceptualizations. Thus could be taken to suggest that that the two exhaust the logical possibilities of basic problematizations of organization (time versus space). However, new viruses could perhaps also be found in particular intersections of time and space, most notably what one could preliminarily describe as the virus of adaptation. The problem of adaptation, e.g. as found in stakeholder models, seems to operate in both dimensions simultaneously. However, it is still too early to make any more precise suggestions the basic distinctions involved in that virus.

The terminology in itself may raise new issues to be dealt with. In some ways the terminology of organizational virology is as questionable as it is tempting in the sense that it also conjures up images of health, of immunization, of sickness and death. In other words, besides offering a fruitful ensemble of concepts for empirical analysis and discussion, the metaphor also seems to imply a host of normative issues. The most problematic related image is probably that of health, since it seems to imply, in its most simplistic form, healthy (sovereign) self-descriptions and organizations that have not yet been invaded by foreign viruses infecting, immediately or gradually, all parts of the organizational body. This is not the time nor place to address this complex issue, but suffice to say that we see viruses as necessary and constitutive of self-descriptions and not as something that can be done away with in some simple sense. Viral analysis may help us identify and discuss organizational viruses and may also enable us to see the openness of individual viruses, discern relations among viruses and consider explanations of contagion. However, it would seem to us that even a program of immunization contains viral elements (perhaps a virus of “hygiene”), and then in some sense the cure may be more dangerous than the disease.



## Bibliography

Andersen, N. Å. (2003). Discursive Analytical Strategies: Understanding Foucault, Koselleck, Laclau, Luhmann. Bristol, Policy Press.

Brunsson, N. and J. P. Olsen (1993). The reforming organization. London, Routledge.

Byrkjeflot, H. (2000). "Fortolkningen av Webers byråkratiske idealtipe i organisasjonsteorien." Nordiske Organisasjonsstudier 2 (2): 5.

Czarniawska, B. and G. Sevón (1996). Translating organizational change. Berlin, Walter de Gruyter.

DiMaggio, P. and W. Powell (1983). "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." American Sociological Review 48(2): 147-160.

Fligstein, N. (1990). The Transformation of Corporate Control. Cambridge, Massachusetts, Harvard University Press.

Fligstein, N. and I. Mara-Drita (1996). "How to Make a Market: Reflections on the Attempt to Create a Single Market in the European Union." American Journal of Sociology 102(1): 1-33.

Hagedorn-Rasmussen, P. (2003). Forandring som vare - Ledelseskoncepber, konsulenter of forandringer i arbejdslivet. Frederiksberg, Forlaget Sociologi.

Hasselbladh, H. and J. Kallinikos (2000). "The Project of Rationalization: A Critique and Reappraisal of Neo-Institutionalism in Organization Studies." Organization Studies 21(4): 697-720.

Kjær, P. and O. K. Pedersen (2001). Translating Liberalization: Neoliberalism in the Danish Negotiated Economy. The Rise of Neoliberalism and Institutional Analysis. J. L. Campbell and O. K. Pedersen. Princeton, Princeton University Press.

Luhmann, N. (1982). World Time and System History: Interrelations between Temporal Horizons and Social Structures. The Differentiation of Society. N. Luhmann. New York, Columbia University Press: 289-323.

Luhmann, N. (1984). Soziale Systeme: Grundriss einer allgemeinen Theorie. Frankfurt a.M., Suhrkamp.

Luhmann, N. (1988). Organisation. Mikropolitik : Rationalität, Macht und Spiele in Organisationen. W. Küpper and G. Ortman. Opladen, Westdeutscher Verlag: 165-185.

March, J. G. and J. P. Olsen (1989). Rediscovering Institutions: The Organizational Basis of Politics. New York, Free Press.

Pastor, J.-C., J. Meindl, et al. (1998). The Quality Virus: Inter-Organizational Contagion in the Adoption of Total Quality Management. The Diffusion and consumption of business knowledge. J. L. A. Alvarez. New York, St. Martin's Press: 201-219.

Rogers, E. M. (1962). Diffusion of innovations. New York, Free Press of Glencoe.

Røvik, K. A. (1998). Moderna organisasjoner: Trender i organisasjonstenkningen ved tusenårsskiftet. Bergen, Fagbokforlaget.

Taylor, F. W. (1998 [1911]). The Principles of Scientific Management. Mineola, New York, Dover.

Taylor, F. W. (2001 [1916]). The Principles of Scientific Management. Classics or Organization Theory. J. M. Shafritz and J. S. Ott. Orlando, Harcourt College Publishers: 61-72.

Weber, M. (1971). Makt og Byråkrati. Oslo, Gyldendal.

Weber, M., J. M. Shafritz, et al. (2001). Bureaucracy. Classics or Organization Theory. Orlando, Harcourt College Publishers. 5th ed.: 73.