The Corruption-Virus: Intertwining theories

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Introduction

Corruption within organisations is frequently referred to as a type of virus, a concept that undoubtedly is used to shine light on its perceived destructive nature. More recent work on corruption has put emphasis to the notion of how corruption spreads and escalates in severity within organisations. The spreading and escalating corruption phenomenon goes well in hand with the notion of corruption as a virus. When most of us think of viruses it is hard not to think about epidemics like the SARS-virus that spread from Asia and threatened to become a pandemic in early the 2000s. Or take the more recent Swine Flu that hit the western countries with its rapid spread killing hundreds of people. Within popular media many books and movies portray stories of how a new deadly virus spreads in such a rapid pace that it threatens to annihilate the human race from the face of the earth, or indeed even viruses that turns people into flesh eating zombies. In other words, the use of virus as a metaphor becomes a powerful tool to demonstrate the destructive power of corruption.

We have taken great inspiration from Kjell Arne Røviks paper "From fashion to virus: An alternative theory of organisations' handling of management ideas" (2011) as well as Morgans classic book "Images of organisation" (1986). Both authors concerns themselves with the complexity of the metaphor within organisations and Røvik, just as us, uses virology to make his case. Metaphor, in general, is the process of taking a concept from a source domain to a target domain which hopefully leads to the creation of novel insights and inferences about the target domain (Røvik, 2011). Organisational theorists who are looking to illuminate metaphors are often "playing on foreign ground" when encountering source domains outside their own field, they usually possess only a superficial knowledge of the chosen metaphors and their respective domains (e.g. the machine, the brain, organisms or in the case of corruption theorists, virus) thus most of the metaphors imported from a source domain to a target domain suffers from a chronic knowledge imbalance. (Ibid.) We have a rare advantage when dealing with the virus metaphor in being trained micro- and molecular infection biologists. On the other hand we have suffered from a reversed imbalance of knowledge domains were our understanding of virology initially greatly surpassed our knowledge and understanding of corruption. We have thus striven to dig as deep as possible into the field of corruption theory in an attempt to bridge that gap and further our knowledge as much as possible. Our focus has been mainly on more recent corruption theories describing a dynamic processual spread and escalation of corruption, not just since it is the most current advances but also because we believe it correlates well with the nature of virology.

When reviewing features of virology we focused our efforts mainly on literature that we have come across in our own undergraduate studies as biologists. Scientific articles within natural sciences tend, naturally, to have a deeper and highly specific focus in their attempts to describe the world of viruses more focused on claiming new findings on specific molecule binding sites rather than, on a more general level, describing virology. An introductory but still detailed text book on the other hand, is most of the time considerably more basic and puts concepts and theories into a context which aims to build a foundation of understanding towards the subject at hand. We have tried to keep our descriptions of a virus as uncomplicated, general and straightforward as possible still highlighting what we regard as the most salient features and while aiming to avoid the problem of knowledge imbalance (Røvik, 2011).

The aim of the paper is then threefold; first we try to unfold the notion of the virus by giving an holistic description of its nature. Secondly we cross scholarly borders and connect the theory of the dynamic, processual spread and escalating corruption to our description of the virus, this to explore some similarities and differences that might unfold. Thirdly we speculate what implications the notion of the virus has had for corruption theory.

Structure of the paper

In the first part of the paper we provide the reader with an introduction on how prevalent the virus metaphor (or simile) is as well as how and in what way scholars have used the concept of virus to make statements about corruption. One important dimension with the use of virus as a description of corruption seems to be about the phenomenon of spread. Thus, the second part is a review on corruption theory that discusses corruption as a dynamic, processual and escalating phenomenon. This is followed by an holistic description of what the notion of a virus actually contains. In the third and last part we cross the scholarly boarders of corruption theory and virology to demonstrate some novel features that unfolds by this merger.

Virus in corruption theory

According to Morgan (2006) metaphors are paradoxical in that they create insight, which at the same time become misrepresentations of the very thing one seeks to explain. Some things will inherently be left out, seeing through metaphors is also a way of not seeing. In his own words *'...metaphors always produces ... one-sided insight*', by '*...highlighting certain interpretations it tends to force others into a background role'*. Metaphors frame our

understanding in a distinctive yet partial way. Metaphors are common linguistic tools but, according to Cornelissen (2005), have been given less attention in organisational theory during recent years. Both in lay as well as in scientific discourse the metaphor of the virus seem to be widespread when referring to corruption. To explore how common the virus metaphor is within corruption theory a literature review was conducted, shown in table 1. Looking at the table it becomes clear that the virus metaphor is seldom used in any consistent manner among articles concerning corruption. However, there seems to be two somewhat common ways in which the concept of virus is applied by scholars: first of all as a metaphor to shine light on the destructive nature of corruption, and secondly the mechanism of a spreading virus is used as a simile to illustrate how corruption propagates *like* a virus or virus infection. In other words, there appears to be two contracting ways of using the notion of virus: one labels corruption as a virus, a metaphor to paint a colourful picture of how corruption spreads and escalates in severity, the others use the concept of virus as a simile, or elaborated label, to illustrate the destructive power of corruption by *comparing* it to a virus.

Author(s)	Quotes from articles	Links virus to corruption in the following manner
Huberts (1995)	*"Italian politics appeared to be penetrated by structural corruption and in a short period of time the traditional party political system was destroyed by the corruption-virus", "The awareness of the presence of the corruption-virus is growing, and in public and expert opinion there is some anxiety about the strength of the virus", "Political parties in a lot of Western European countries might argue that their negligence is justified by the absence of the corruption-virus in their societies", "Nations will have to develop methods to combat the corruption-virus and to prevent its spreading."*	Can grow in an organisation, can be weak or strong, destroyed a political system, can also be absent from a society, nations need some kind of method to combat the virus to prevent its spread.
Yadong Luo (2005)	"*The cell of virus exists when guanxi and corruption are highly intertwined but the level of power abuse is relatively low", "It seems hard to find a panacea to remove virus in this cell since it requires maturations of both formal structures and social norms", "Compared to the cell of virus, the incidence of moth is*	The corruption-virus is inside a cell/organisation, hard to combat the corruption-virus, virus as a comparison to a moth.

	likely to be less rampant and less widespread because a moth will fear the damage of his or her family reputation due to his or her act"	
Nlerum & Okogbule (1993)	"*Additional legislative measures in tackling corruption in Nigeria. It suggests the strengthening of these mechanisms and a re-orientation of social values as the best strategy for dealing with the corruption-virus in the country."*	A need to take legislative measures to combat the corruption-virus
Stephen (1989)	*"While these practices were disclosed at the beginning, the sequence of events shows how rapidly the virus of corruption can breed in the wake of reform."*	The corruption-virus can breed in the wake of a reform
Nieuwenboer & Kaptein, (2008)	*"...assists managers in gaining a better understanding of the causes of corruption and the reasons why it spreads like a virus."*	Is a generally just referred analogue to corruption and how a virus spreads.
Sarre, *et al* (2005)	*"When corruption becomes widespread in society like a virus, the traces it leaves behind become permanent"*	Corruption can become widespread as a virus and cause permanent damage
Bhargava & Bolongaita (2001)	*"We are all deeply concerned about the spread of corruption, which is a virus capable of crippling government, discrediting public institutions and private corporations and having a devastating impact on the human rights of populations, and thus undermining society and its development, affecting in particular the poor."*	The spread of the corruption-virus is capable of crippling all of a countries and institutions.
Pierre Casse, Eoin Banahan (2012)	*"like a virus, corruption can easily proliferate within organisations if it is not remedied. Whilst corruption ... The corruption of the mind is like a virus: it spreads slowly but surely"*	Corruption can as a virus proliferate within an organisation and needs to be remedied, corruption is like a virus affecting the mind and then spreads
Osobaa (1996)	"*Corruption in Nigeria is a kind of social virus which is a hybrid of traits of fraudulent anti-social behaviour derived from British colonial rule"*	Corruption is a kind of social virus
Aliyu & Bayero (2008)	"C*orruption has also been described as a deadly virus that attacks the vital structures that makes for a*	Corruption is as a deadly virus attacking vital structures in a

	society's progressive functioning."	society.
Ashforth *et al* (2008)	*"The concept of corruption reflects not just the corrupt behaviour of any single individual – defined as the illicit use of one's position or power for perceived personal or collective gain – but also the dangerous virus like infection."*	Corruption is a dangerous virus infection of a group, organisation, or industry.

Table 1: Quotations from articles exemplifying how the concept of virus is used

Laying the ground of corruption theory

In this part we are aiming to make an exposition of the varying schools of corruption and how a more dynamic and processual perspective have emerged. We have chosen to focus on a few, however, well-cited and referenced articles in the field.

Scientific theories on corruption have mainly focused on the phenomenon with two opposing theories: the agency perspective, which gives its full attention to a wrongfully acting individual that misuses public interests in favour for private or group interests, and the structural perspective, which stresses organisational, institutional and cultural contexts as enabling forces pushing an individual to perform a wrongful act (Fleming & Zyglidopoulos, 2008). In other words, the bad individual or wrongdoer and the public/private dichotomy seems to be historically dominant in theories of corruption (c.f. Lennerfors, 2008). More recent theories on corruption put more emphasis on corruption as a phenomenon or behaviour that dynamically spreads from an individual or group level to organisational and even institutional and international levels (e.g. Ashford & Anand, 2003; Fleming & Zyglidopoulos, 2008; Nieuwenboer & Kaptein, 2008; Zyglidopoulos et. al., 2009). The dynamic processual theories of corruption are closely related, describing a similar phenomenon of spread, however, with somewhat different conceptual approaches. There seems to be an issue with crossing scholarly borders (c.f. Ashforth *et al*., 2008). In the following literature review we aim to address theories describing corruption as a behaviour that dynamically spreads and escalates, as they are more recent and display a relatively narrow target that attractively correlates to the spread of virus.

A call for a more dynamic and processual perspective on corruption

Ashforths *et al.* (2008) make an attempt to stimulate theory development on corruption in organizations as a systemic and synergistic phenomenon. They argue that the large amount of literature available is still not able, in a holistic manner, to capture all of the workings of

corruption. The article goes on describing the different views on corruption present in current literature separated by levels of perspectives; *the micro view*: The bad apples (looking at the individual/group level of analysis), *the macro view*: the bad barrels (looking at the organization/industry/national level of analysis), *the wide view* (looking across the system), *the long view* (looking at corruption over time), *the deep view* (looking for an in-depth understanding of corruption). All of these perspectives are further elaborated on and the authors make some observations and conclusions regarding in- and external corruption in organizations. Particularly interesting is their discussion on the deep view of corruption where they talk of how the problems within corruption research has been various scholars working from their particular field or perspective have explored diverse aspects of corruption. This at the same time as these scholars very seldom take into account other related disciplines or perspectives. The result has been a profusion of partly overlapping and conflicting concepts, models and findings (ibid).

The main finding of Ashforth *et al* (2008) is that there is much need for conceptual work that is integrative, interactionist and processual in nature. In other words they claim that there is a need to move toward are more systemic dynamic model of corruption away from inert traditional theories of corruption. Perhaps one of the more interesting discussions in the article, outside the general talk of corruption, is the section of how our modern industrial society may best be viewed as societies of organizations rather than societies of individuals. Instead of looking primarily to the perspective of the agent within an organisation as the main source of corruption, what is often known as the "bad individual theory of corruption" (Zyglidopoulos *et. al.* 2009*)* or the "bad apple theory" (Gino *et. al.* 2009) where the individual characteristics of desire, intentions, psychological nature is said to be the main cause of corruption within a larger context one should perhaps look on an organisational level. Thus the other common focus within corruption theory takes its starting point from a structural perspective were the organisational, institutional or cultural are said to shape and conform individuals to turn corrupt. This is known as the "bad barrel" approach, a theory that Brass *et. al.* (1998) were early to emphasise when arguing for a social network perspective on corruption. Their article focus less on the individual (or organisational) highlighting instead the importance of networks between actors and the significance of the socialization process that takes place between individuals.

Nieuwenboer & Kaptein (2008) use the perspectives of social identity theory to explain how corruption spreads and grows in organizations. They claim that their focus differs from other scholars, that include the phenomenon of rationalization to corruption, in that they do not

focus on situations where corruption is already widespread but instead on how it comes to be. The result is a macro levelled, general description on the growth of corruption. Nieuwenboer & Kaptein (2008) introduce the subject at hand by arguing that the major corruption cases that have hit the business world (e.g. Enron, WorldCom, Arthur Andersen) did '…*not become what they are out of nothing*…' and that '…*some sort of process must have taken place*…' within the organizations, '…*through which they turned increasingly corrupt over time*.' Nieuwenboer & Kaptein (2008) draw on Cressey's (1950) theory of trust violations to further develop it in, what is termed *downward spirals* (see e.g., Hambrick & D'Aveni, 1988; Lindsey et. al., 1995; Sundaramurthy & Lewis, 2003) of three organisational factors that may cause corruption to grow.

The authors start of with the *Spiral of divergent norms* focusing on group dynamics and how groups become more or less unconsciously increasingly corrupt by becoming isolated from the surroundings due to intergroup conflicts. Differently put, a group differentiate itself from other groups because of a desire to foster a positive social identity. The group members' focus turns inwards, which means an intensified separation from the surroundings that in turn enables the group to rationalize and change its norms to increasingly diverge from the generally accepted outside norms. The detachment from its surroundings also causes the group (or organization) to cease taking notice of the consequences of its actions, which then further widens the gap between the organization and its surroundings (Nieuwenboer & Kaptein, 2008).

The *Spiral of pressure* is a description of how organisational members, groups and even organizations more or less consciously become corrupt due to performance pressures. Nieuwenboer & Kaptein (2008) argue that as an individuals or groups social identity and thus status correlates to its performance, performance indicators pressures actors to commit corrupt deeds to reach certain targets and thus increase their status. The same goes for organizations, as they rarely want to fall behind their competitors. Increasing once status by reaching performance targets via corrupt acts simultaneously increases the threats on your social identity and thus also increases the pressure of committing additional corruption (ibid).

In the last spiral described, the *Spiral of opportunity*, Nieuwenboer & Kaptein (2008) puts all attention on the manager, the person responsible of catching and punishing wrongful acts done by the organisations members. If a manager fails to correct unlawful acts or involve him or herself in corrupt acts the behaviour will become part of the group or organization leading to an alteration of norms. Ones a wrongful behaviour has become part of a group or organization it will become increasingly difficult to correct and punish it. As problems with

punishing and correcting the wrongful act grows, opportunities to engage in it increase. In other word, corruption become increasingly accepted and '*…spreads like a virus*' (ibid).

The escalation of corruption

It is when elements from the "bad barrel" and the "bad apple" are combined and subsequently reinforced, that an *escalation* of corruption takes place. From the dynamic perspective Fleming and Zyglidopoulos (2008) develops a theory of how corruption can move from being a marginalized (small) phenomena to constitute a major problem for an organization. This phenomenon has been termed by the authors as the *escalation* of corruption. The escalating process is likely to take its start as soon as an individual or group have made its first (undetected) deceit, e.g. lie to hide its under-performance. They also argue that once a lie is made the incentive and ease of continuing lying is greater as '*…the risk of having past untruths exposed is a powerful incentive to lie again*.' Drawing on Chugh et. al (2005) Fleming and Zyglidopoulos (2008) further explains that to maintain a morally and consistent positive view of themselves, individuals and/or groups employ self-serving biases via rationalization processes.

The phenomenon of lying to cover up past deceits also means that the severity of the deception increases as '*…the lies add-up to form a more complicated situation…*' and further adding to this escalation if the underlying situation that caused the very first deceit would deteriorate, which then would mean more serious forms of deception in addition to an increased risk appetite (Fleming & Zyglidopoulos, 2008). The authors emphasize that the more severe a deception becomes the more organisational members will be '*…persuaded, enticed, coaxed, threatened or socialized to join in…*' Finally the whole process, from initial lie to the involvement of an increased number of organisational members, might be amplified through the organisational complexity, meaning levels of differentiation and specialization of individuals and sub-units in the organization (ibid).

The escalation of corruption is however not inevitable. Certain moderators may be present that can halt the process. For sure, in most instances corruption will never reach such magnitudes as the Enron or WordCom cases. The escalation of corruption process can be perceived as "spiralling down" and thus the moderators can be present at many different levels. For instance, if a lie is detected or raises enough suspicion the process will immediately come to a halt. The incentives and rationalization that drives the next step after the initial lie may come to a halt and stop the process because there might not be an incentive to add more deceit to the first lie. It is imaginable that the first lie acutely solves or remedies

the problem and no further lie needs to be told. This is however very situation dependent and if the lie is told in a complex organisational environment there is high probability that a cover-up lie need to be told further governing the escalation process. Or it might just be too big of a lie that additional actions are needed to hide or "get away" with it. It might also be the case that "coming clean" does not weigh out the benefit of lying, for instance because the underlying financial problems has worsened further.

If corruption is allowed to continue unchecked it will move to the next stage of escalation to involve more actors through a socialisation process and conformity within an organisational setting. This step may also be halted if an individual refuses to be a part of the norm and become a "whistle blower". Complex division of labour can as mentioned before increase the risk of escalating corruption. In a similar fashion complexity can also prevent the spread of corruption by isolating the illicitness in a deep division of labour. (Fleming & Zyglidopoulos 2008)

These halting moderators are not without context, Fleming & Zyglidopoulos (2008) suggest that a reinforced and applied ethical code of conduct could also help in halting an escalation process. Important to point out is that the ethical code of conduct is implemented and turned "to a way of life" for the organisation to have an effect (Somers 2001). Similarly different kinds of regulatory systems e.g. management accounting in diverse forms could also help to control for legitimate and illegitimate behaviour making hit harder to engage in corrupt behaviour.

It is in a controlled environment that the moderators listed here will have an effect and subsequently halt the escalation process of corruption. (Fleming & Zyglidopoulos 2008)
The concept of rationalization seems to stand in the foreground within the escalation theory of corruption. Ashforth and Anand (2003) writes that an interesting finding in in-depth studies done on corrupt organization is that corrupt individuals tend not to see themselves as such. Through rationalisation the individual is able to find legitimate reasons to endorse their corrupt deeds. Zyglidopoulos *et. al.* (2009) further elaborates on the notion of rationalization and its implication to how corruption often escalates in severity and scope in the organization. The authors emphasize that the bad individual theory of corruption falls somewhat flat as most of the wrongdoers, otherwise are '*…law abiding and respectful citizens*.' Thus, a process of self-deception and rationalization must play a major role in justifying the practices (Zyglidopoulos *et. al.*, 2009). Through their analysis (of cases like Enron and WorldCom) the authors propose that there is an asymmetry between the rationalization posited and the wrongful deed, meaning that the rationalization strategy goes far beyond what is actually

required. They further argue that the key driver for this overcompensation is an uncertainty between how much rationalization is needed to cover the corrupt act, and its foreseen and unforeseen consequences. The over-rationalization then facilitates the escalation of additional and more severe and serious corrupt acts to follow as a justification is already made (ibid). Ashforth & Anand (2003) also explains the involvement of a rationalization process when describing how corruption becomes normalized in organizations. The authors conclude that three processes are at work, leading to the embedment and finally the normalization of corruption within organisations: *rationalization* (individuals use socially constructed explanations for their corrupt deed, *socialization* (newcomers become indoctrinated in corrupt practises), *institutionalization* (corrupt practises become routinized). When it comes to the rationalization process, they go further and lists some possible aspects that could account for this behaviour; e.g. denial of responsibility (I had no choice), appeal to higher loyalties (group loyalty), social weighting (an individual might think that a law or policy is arbitrary or irrelevant).

There are at least three aspects that we draw from the literature review of corruption as a dynamically spreading and escalating phenomenon. The first one, also mentioned above, is the fact that all theories are seem to overall describing the same processes using concepts like rationalization, socialization and normalization. The second one is that, even though the theories make an attempt to move away from the bad apple/bad individual theory they still start of from an individual or at least group level in their descriptions. Finally, the theories are still quite general in their descriptions of the dynamic process through which corruption spreads and escalates. Crossing scholarly borders by merging corruption theory with virology we aim to open up for further and more detailed understandings on how corruption might spread and escalate. Thus, in the next section we aim to give a description of the nature of viruses.

A description of Viruses

What does the metaphor of the virus truly encompass? We will outline some of the most important features of what constitutes a virus including its key workings as well as how a host immune system reacts to a virus.

The simplest of viruses consist of a genome of DNA or RNA packed in a protective shell. Viruses lack the capability to convert energy, cannot make proteins and are unable to replicate without the use of a host cell. To be able to use cells' biosynthetic machinery the virus must be adapted to the biochemical rules of the cell. The physical structure and genetics of viruses

have through the process of evolution been tailored to perfection in infecting their hosts. To accomplish this the virus must be able survive potentially harsh environmental conditions in transmission from host to host, it must be able to traverse protective barriers like the human skin, be adapted to the biomechanical climate in the host cell to be able to replicate, and escape eradication by the immune system. (Murray et al, 2009).

Viral Pathogenesis

Viruses typically infect a wide variety of cells and can cause disease and tissue injury by a number of different mechanisms. Viral replication interferes with normal cellular protein synthesis and functions, which leads to damage and ultimately death of the infected cell. Viruses can also cause a latent infection where the virus persist inside the cell without killing it. Latency is often a type of fragile balance between the virus and an immune response where the immune system is able to control the infection but not eradicate it. If the immune system for some reason is compromised the infection can become widespread and a disease may arise within the host. (Abbas et al, 2007)

Immunity to viruses

There are two general ways the human immune system operates upon detecting a virus infection. The first is a fast and somewhat unspecific response by the "innate" part of the immune system and the production of signalling molecules that puts the cell and surrounding cells in a type of "antiviral state" that makes them less susceptible to infection as well as making it harder for the virus to replicate within the infected cell. This response also summons a type of "killer cells" that attack infected cells and simply eliminate them so that the virus is unable to reproduce (ibid).

The second immune response is commonly known as the "memory part" of our human immune system, the "adaptive system". The virus particle is first recognized as something unfamiliar by the immune system and this activates a response that produces an enormous array of antibodies binding to parts of the exposed virus in the extracellular space and prevents them from ever entering the cells. A different type of "killer cells" mediates elimination of the viruses that resides within the cell. A cell present molecules on its surface that represent what the cell contains at the moment. If an unknown molecule of any sort, e.g. a part of a virus is presented on its surface a "killer cell" tells the presenting cell to commit apoptosis and as such prevent the virus within to replicate. (Abbas et al, 2007)

When the adaptive immune system have identified an unknown particle and produced antibodies the cells responsible for this antibody production will form a type of memory towards that specific particle and will if stimulated again, even though years may have passed, be able to produce a much faster response if the same particle is recognised. This function often prevents additional infections from the same virus. Vaccination is a type of artificial inducer of this adaptive memory.

Immune evasion by viruses

Some viruses, like the herpes virus, are able to suppress the infected cell in presenting something on its surface that would activate the go-kill response e.g. a virus particle.
A chronic viral infection can then occur because the virus infecting the cell is able to prevent the "killer cells" from working efficiently and inducing cell death. (Abbas et al, 2007)

Antibodies are highly specific and some viruses can alter their surfaces and are consequently no longer the target of the mounted immune response. The influenza virus is a good example in that every new strain that annually appears is in some way different then the last strain. It has a new recombination of surface molecules not seen by the immune system before, thus no memory exist that rapidly can deal with the infection. HIV (Human Immunodeficiency Virus) is also capable of a tremendous molecule variation in such a way that no effective response can ever be launched by the immune system, it "hides". HIV is also unique in that it specifically infects a cell that is the key inducer of immune response. HIV then basically shuts down the immune response, over time resulting in AIDS (Acquired Immunodeficiency Syndrome).

Spread of viruses

Viruses spread from cell to cell within a body via two different mechanisms. Generally described, a virus can either continue replicating inside its host cell until the share mass of the virus particles are too large and the cell bursts, which releases the massive amount of viruses into the extracellular space, or the a virus can use a more complicated mechanism called budding. The latter mechanism involves intracellular actions where the virus replicates and then buds of one by one from the infected cell by hijacking some additional intracellular processes (Acheson, 2007).

If we instead turn our attention towards the spread of virus between people, it is important to note that it is in fact unavoidable that humans come in contact with viruses. However, some situations e.g. life styles and living arrangements increase the probability that a person will

come in contact with a certain virus. In contrast many viruses are ubiquitous and can be detected in most of the worlds young children or young adults. Poor hygiene and crowded living promote exposure to respiratory and enteric viruses and traveling puts people in contact with new viruses. Sexual promiscuity also promotes the spread and acquisition of several viruses. (Murray et al, 2009).

The persistence and transmission of a virus in a community is dependent on the availability of the number of susceptible people. Immunization produced by natural means or by vaccination, is the best way of reducing the number of susceptible people. However, some factors such as a person's age, immune status or general health will have a major effect on the maintenance and spread of a virus. Even the geographic or seasonal preconditions will determine how well a virus can spread.

Viruses are most often transmitted by direct contact, respiratory system or the fecal-oral rout. The route of transmission depends on the source of the virus and the ability of the virus to endure the hazards and barriers of the environment. For example, viruses that replicate in the respiratory tract e.g. influenza are released in aerosol droplets (Murray et al, 2009).

Social and natural science

Before we move on with the section of connecting virus theory and corruption theory there is a need to defend our stance on merging a theory based on natural science with one based in the humanities. Historically there have long been a divide and a general acknowledgment that the social and natural sciences are two very different disciplines. However, since the early seventies with the emergence of the Sociology of Scientific Knowledge (SSK) movement there has been a growing trend of questioning this divide (Pickering 1992). A key landmark was Bruno Latour and Steve Woolgars *Laboratory life* in 1979 that carefully examined and described how work is carried out in the lab, the prestige of publishing, the creation of theories and other elements of scientific work carried out within the lab. Karin Knorr-Cetina continued the work of Latour and Woolgars with here book *the manufacture of knowledge - An essay on the constructivist and contextual nature of Science* (1981). Over time other scholars' work contributed greatly to the rich knowledge foundation of SSK such as Lynch, Livingstone and Garfinkels (1983) etnomethodological approach on laboratory work and math, Fujimura, (1986) on standardized packages and translation in the crafting of science work to name a few prominent scholars. Not only did this provide the SSK movement with a dense groundwork but it also diversified and spread in to aberrations such as "actor network theory" that on its own have become a widely used social theory. Also worth mentioning is

that Knorr-Cetina later continued her explorations on laboratory work with the book *Epistemic culture – How the science make knowledge (*1999) on cultures that create and warrant knowledge, that in some way or the other create what we know and how we know it i.e. cultures that are said to be *epistemic.*

There is a point in conducting this short expose of papers and books that all problematizes why science, particularly natural science, is constructed, that talk of science more as a social construct than being formed only through a logical deductive processes of methods and. It is of great importance when one reads this paper to understands that we humbly are siding with the above mentioned scholars in their claim of how the sciences works. Virus theory may originate from the works of natural scientists, but when theory is constructed it will be bound by the context of a social world and thus closer to humanities then what is perceived at first glance. To acknowledge that social and natural science are not opposite towards one another but instead mutually depend on each another gives substantial ground for our approach in this paper.

The Corruption-Virus

We have argued that the notion of the virus is commonly used as both a metaphor and a simile to describe how corruption spreads and escalates in proportion and magnitude within organisations. At the same time we have stated that it in many ways is used in a manner that is inconsistent with what a virus is and how it spreads and works. We have also outlined theories on how corruption is a dynamic organisational phenomenon that escalates and subsequently spreads. In the following sections we seek to link corruption, and some of its processual theories, with virology and make a first attempt to see what might unfold. In the following section we elaborate on what the implications of the virus within corruption might be and what an unfolding of the metaphor (and simile) encompasses. It would be very easy to make a large exposition of the virus metaphor mashed with corruption theory and show a plethora of features, but this is not our intent. Instead it is to demonstrate what we regard as a few particularly salient aspects of the unfolding of the use of the virus metaphor within corruption theory.

To establish some demarcations for the elaborations and expansion of the virus metaphor there is a need to state, that what we have chosen to represent are different levels of virology within corruption. Following the infectious routes (see below) of the corruption-virus we denote that the individual actor is to be seen as the cell of a host's body, individuals forming

groups/sub-units are to be seen as a body's differentiated organs and an organisation as being made up of a multitude of organs forming a body.

First of all, we have chosen to illustrate some aspects of how viruses can proliferate and spread from cell to cell within a body to create clear connection to the corruption theory. However, when talking about the spread of virus it is most often spread on a epidemic or pandemic scale and always involves the spread between bodies (organisations). If corruption spreads like a virus, the latter contradicts not only the dynamic processual theories of corruption as they are describing, as far as we have seen, the spread and escalation of corruption between individuals (cells) and always *within* organizations (bodies). It also contradicts how the notion of the spreading virus has been used as what one actually means when saying that corruption spreads like a virus, is that corruption spreads between organisations on a regional (epidemic) or global (pandemic) scale. With that said, we can turn our attention to how a corruption-virus spread, or more correctly put, how a corruption infection escalates in proportion and severity within organisations.

Three routes of infection

From the outlined description of a virus we have chosen to focus on three distinct routes that an infection on a body (organisation) with a corruption-virus can move. The three routes described below are not as differentiated as the text might show, as they are often working simultaneously and overlaps. Nevertheless the route of infection creates a clearer framework of separate directions that an infection from a corruption-virus might take.

Rout 1: Infection

A virus infects a body, evades the immune system response, is able to replicate and by doing so interferes with normal cellular protein synthesis and functions, which leads to damage and ultimately death of the infected cell. Death of a cell means that a massive number of viruses will be released into the extracellular space. Corruption is then able to spread further, infecting more cells. Over time the body will deteriorate and subsequently wither and die if this process is not haltered.

The first step of a virus infection is always the same, a few virus particles are able to adhere to cellular surfaces and traverse the surface moving in to the cell and begin to proliferate. Corruption thus infects a single individual ("the bad apple") and if that individual is unable to repel the initial infection, corruption spreads to more persons. More so, although highly unlikely, the internal spread of corruption in an organisation could then take massive

proportions and over time move from a internal spread to a spread between different organisations on an epidemic (regional) and even an pandemic (global) scale. Important to state, is that we are not claiming that an individual would actually die by being corrupt. It could however indicate that an individual needs to become increasingly corrupt before releasing the corruption-virus to its surroundings and cause an escalating effect (c.f. Fleming & Zyglidopoulos, 2008), by infecting a substantially increased number of individuals at once. Some virus strains do not always cause this explosion-like release of a massive amount of virus at once. Some viruses exit their host cell via a mechanism called budding; meaning the release of one virus particle at the time and without a direct destruction of the cell. An interesting question is which mechanism could be the most effective when it comes to the spread and severity of corruption within an organisation? If corruption spreads in similar ways, it would probably depend on its opportunity to evade the organisation's defence mechanisms.

Rout 2: Immune response

A virus infects a body, but the immune system is able to mount an effective response either before the virus can grab a hold of a cell or after an initial infection has started. If the body is able to clear the virus it also brings immunity towards that specific strain of virus.

On most occasions when a virus infects a host, the immune system is able to mount an effective response and clear the virus from the body, often without the host ever demonstrating any symptoms. As the escalation of deception (Fleming & Zyglidopoulos, 2008) can be perceived as "spiralling down" the working of a virus can be understood in a similar manner: the more cells that are infected with a virus the more severe the symptoms will be. Fleming & Zyglidopoulos (2008) also describes a number of different halting moderators that can stop a corruption-virus before it escalates and spreads throughout the organisation. For instance, if the corruption-virus is detected by the immune system because it raises enough attention, halting mechanisms will be mounted and the process of escalation will immediately come to a stop. They also suggest that a reinforced and applied ethical code of conduct could also help in halting an escalation process. Important to point out is that the ethical code of conduct is applied and understood by the individuals in the organisation. Depending on how well the ethical code is implemented and reinforced there will be a defensive mechanism present which could be said to be a type of artificial immunity i.e. the organisation is in some way vaccinated against corruption.

In a body the escalation process of a virus depends on if there are, and how effective the immune defence is. When it comes to corruption, its spread and escalation is most likely also dependent on organisational defence systems, and like in the case of AIDS, it is inevitable so that if nothing is done about the corruption-virus all individuals, groups or sub-units and finally the whole organisation will become infected and perhaps over time perish. However, AIDS might be a bad example in comparison with corruption as it is not the HIV-virus itself that kills but other diseases caused by the virus destroying important agents of the immune defence. Nevertheless, it would mean that if a corruption-virus somehow could interfere or evade moderators described above it would also make the organisation increasingly exposed to additional threats.

Key to detection and successive elimination of corruption within an organisation is how much attention the virus attracts; there will not be a sufficient immune response to clear the virus if the corrupt deeds are not severe enough. The importance of severity is also highlighted when referring to how immunity to viruses is acquired, too less of a reaction from the immune system and there will be no attained immunity. This means that the corruption-virus can exist, spread and go undetected within an organisation as long as it does not raise too much attention.

Another important feature of immunity to the corruption-virus is to be able to build natural immunity, the organisation needs to have been stricken previously with the same disease. This means that the organisation cannot be infected with the same corruption-virus again.

Viruses rarely (if ever) manage to evade the immune system entirely. There is always an initial response. Take the HIV-virus as an example; the initial infection will lead to a cold caused by the immune system before the virus become (more or less) latent. In fact, it is always the body's own immune system that cause the symptoms of illness like sniffles, muscle pain and fever and not the virus in itself. In other words, the illness is a response to eliminate the virus, a mechanism that stands, as far as we have seen, in contrast to how corruption theories deals with the notion of corruption. What we aim to problematize is: When is an wrongful act corruption? Is stealing a pen a corrupt act or does it need to reach a certain scope of impact? Can it still be called corruption if it is not detected and combated, or does it need to be detected by organisational or other external factors before it can be corruption?

Rout 3: Latency

A virus infects the body, is able to infect a few cells but stay dormant without continuing its spread. This latency is often a type of fragile balance between the virus and an immune response where the immune system is able to control the infection but not eradicate it.

Directly connected to corruption theory, this phenomenon would reflect a higher corrupt consciousness of an individual or group, as an individual or group have to make efforts not to get "caught with their pants down". It would also mean that there are organisational defence systems already existing, actively and constantly screening, searching and suppressing corruption within organisations. However, a virus lacks consciousness, it does not think or plan and it has no aim or purpose with its actions. Evolutionary processes have however resulted in an ability to infect and propagate within a host, which enables its continued existence. In many respects a virus exists on the border of what is determined to be "life".

When it comes to the term of consciousness, corruption theory seems to speak of both a consciousness and an unconsciousness depending on how advanced the diffusion of the corruption is. In an initial stage of a corrupt process, theory tells us that an individual or group make a conscious decision of following through with an unlawful act. Even though it is rationalized that it is for the better good, an awareness of its wrongfulness still exist. As the process proceeds and as more individuals get involved the wrongfulness of the act however starts to get diluted and unconsciousness appears as it becomes normalized (Ashforth & Anand, 2003). In other words, in order for corruption to infect and get a foothold in an organisation an initial consciousness must be involved, which then leads to a an escalating spread facilitated by an the appearance (somewhere in the process) of an unconsciousness. In contrast to a virus, conscious individuals that stand on some kind of moral and ethical ground are always involved in the escalating spread of corruption. Thus, one might ask to what extent and to which level of impact the unconsciousness has on the spread and severity of corruption? Perhaps it is individuals' awareness of the unlawfulness and their ability to rationalize and hide their deceit that really spurs the escalation of spread and severity (c.f. Zyglidopoulos *et. al*., 2009)?

In connection to the notion of a consciousness one could almost perceive some kind of evil intention of the corruption itself when proclaiming that it is a virus that cause devastation as it spreads. However, a virus cannot be evil or have any evil intent as it has no consciousness. In contrast to what corruption theories are saying about corruption, viruses might actually be needed to keep our immune system in check and on the alert. For example, there are theories

stating that allergies and other autoimmune diseases are increasing because we less frequently are exposed to foreign particles and organisms.

Concluding remarks

The aim of this paper has been to unfold the use of virus as an explanatory concept or metaphor for the spread and escalation of corruption. For one thing, we believe that it has demonstrated a number of novel insights in how one might connect virology to corruption as well as what that merger might be able to show when we cross scholarly boarders. Our attempt at this point is not to be taken as trying to create a new theory on how corruption works. Instead we humbly seek to inspire further work that can lead to both a more holistic and deeper understandings of corruption.

However, perhaps there is more to the notion of the virus within corruption then the mere clarification of the concept. With the above outlined discussion it is feasible to speculate that the metaphor or simile of the virus has had implications for the understanding of how corruption functions within organisations. As we have pointed out, moving the notion of virus from its source domain to assign features to a target domain (in our case, corruption) is a powerful tool that gives rise to a number of properties for the target domain. Some of the features perhaps highlight aspects of corruption while others will indisputably move into the shadow, that is the nature of a metaphor or simile. Thus, if a concept becomes intertwine with a theory, it is also reasonable that the concept will have impact on how we understand the phenomenon. Not at least as it could be said that the virus seem to “fit” with the idea of how corruption spreads and is perceived, just as a virus, as something evidently evil.

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