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Opening the black box of commodification: A philosophical critique of actornetwork theory as critique

ABSTRACT

This article argues that actor-network theory, as an alternative to critical theory, has lost its critical impetus when examining commodification in healthcare. The paper claims that the reason for this, is the way in which actor-network theory's anti-essentialist ontology seems to black box 'intentionality' and ethics of human agency as contingent interests. The purpose of this paper was to open the normative black box of commodification, and compare how Marxism, Habermas and ANT can deal with commodification and ethics in healthcare. Moreover, a new account of 'intentionality' in critical thinking was elaborated. Using Strawson's analysis of 'reactive attitudes and resentment,' the ethical implications of commodification in health care were examined as an assessment of intentions. Synthesizing critical theory with the relational materialism of actor-network theory, this article advances a new approach that seeks to bridge interdisciplinary boundaries, and guide actor-network theory in a critical and humanist direction. Providing new theoretical insights on commodification and 'intentionality' in health care.

Keywords: Philosophical ethics of health care and medicine - Critical theory - Actor-network theory -

Commodification - Intentionality

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INTRODUCTION

According to some critics, actor-network theory (ANT) seems to have lost some of its critical impetus as an alternative to critical theory (Winner, 1993). The article's hypothesis is that the reason for this is how ANT seems to have given up intentionality and the ethical dimensions of using technologies. This article reflects this critique on commodification in healthcare.

Within contemporary philosophy and social and critical theory, commodification has often been associated with crisis in healthcare and dehumanising care (Foucault, 1973; Illich, 1976). Karl Marx's 'commodity fetishism' and his 'theory of alienation' are frequently used to represent this position, criticizing the social impact of commodification (Scheper-Hughes & Wacquant, 2002; Timmermans & Almeling, 2009). When researchers' portray the malaises of modern healthcare, medical technologies and formalisms, members of The Frankfurt School of Critical Theory (Jürgen Habermas, Theodor Adorno, Max Horkheimer and Herbert Marcuse) are generally referred to, besides Marx, in one way or the other (Berg, 1996).

The consensus is that Critical Theory has lost its dominant position to descriptive approaches like ANT, with researchers like Bruno Latour (Latour, 1994) and John Law (Law, 1994) as some of the leading figures. In healthcare, names like Marc Berg & Stefan Timmermans (Berg, 1996; Timmermans & Berg, 2003) and Annemarie Mol (Mol, 2008) are often mentioned. ANT studies have often described Critical Theory writers' critique of capitalism and concepts like commodification as one-sided and insufficient. Following actor-network-theory (ANT), whether people become alienated depends on how the formal procedures are used in commodification (the politics behind), and the meaning they have for the people involved, rather than the concept itself (Timmermans & Almeling, 2009, 21, 23).

However, recent debates centre on the issues of whether ANT's flat, symmetrical ontology of nonhuman and human agency has alienated the understanding of human agency (Vandenberghe, 2002), ethics and politics into associations of interests (Whittle & Spicer, 2008; Winner, 1993). When it comes to comparing how Critical Theory (The Frankfurt School and Marxism) and ANT can deal with commodification in healthcare, there is still work to do. In order to understand their differences, an account of the necessary role of 'intentionality' in critical thinking needs to be elaborated. The vocabulary of actor-network theory is seldom used to form substantial questions about the ethical dimensions of using technology (Vandenberghe, 2002; Whittle & Spicer, 2008). When it comes to

commodification in healthcare, this paper suggests, the rich empirical details of ANT and its antiessentialist ontology, as an alternative to critical theory, have lost some of its critical impetus. The main reason is how ANT's relational materialism has given up intentionality (Vandenberghe, 2002). Suggestions are made that ANT's materialistic theory (Whittle & Spicer, 2008) epistemological have translated the significance of human agents' 'intentions' and 'ethics' to local associations of contingent interests when analysing social consequences of commodifying healthcare. From this critical perspective ANT's agency of nonhuman and humans appear as extended commodity fetishism (Marx, 1990).

In this regard, ongoing discussions within moral philosophy suggests the 'intention' by which an action is carried out, is an important prerequisite for the evaluation of whether we perceive something as meaningful or alienating. Evidence shows that intentional actions are perceived as more blameworthy than unintentional actions or physical events (Lagnado & Channon, 2008, 754). With that in mind, current discussions in moral philosophy (between deontological and consequentialist theories, like utilitarianism), but also psychology studies, suggests that the purpose whereby an action is carried out is a vital prerequisite for the normative judgement of it (Chee & Murachver, 2012; Fiddick, 2004; Shelly, 1988, 70-105). Moreover, for the purpose of this paper, whether people perceive actions as meaningful or alienating.

The research of this paper is closest to Critical Theory as it emphasizes the significance of human agency and 'intentionality' as precondition to deal with commodification. However, I think, Critical Theory's theoretical framework often comes up short when it comes to network-structures of modern technologies. Combining the theoretical background of Marxism and Frankfurt School's Critical Theory with the analytic openness of ANT, the philosophical purpose of this article is, to explore ethical implications of commodifying healthcare through the term 'intention.' I introduce P.F. Strawson's analysis of reactive attitudes and resentment from his influential article 'Freedom and Resentment' (Strawson, 2008). The article, accordingly, wishes to explore and elaborate 'intention' as a key principle in a critical examination of commodification in healthcare and medical practices. Furthermore, Jürgen Habermas presents a compelling argument in 'The Future of Human Nature,' illustrating the seemingly irreversible nature of genetic interventions in future biotechnology that, synthesized with Strawson's reactive attitudes, also is relevant for this paper (Habermas, 2002). Various cases are used to examine, whether the possible resentment that genetic enhancement may entail through (what this article defines as) 'responsibility ascriptions' also applies, when healthcare is commodified. Is this the case? Then it supports this paper's hypothesis, that commodification in

healthcare and medical practice produces multiple normative black boxes of new 'responsibility ascriptions.' These 'responsibility ascriptions' raise ethical and psychological dilemmas (feelings of resentment) about commodification in healthcare that traditionally flies under the ontological radar of ANT, as associations of interests between actors. Using Strawson's analysis, these 'responsibility ascriptions' might, but does not necessarily, lead to new forms of alienating resentment. When I refer to alienation, my conception of the term will draw on Strawson's analysis of reactive attitudes and resentment (Strawson, 2008), but be somewhat broad as instances where, 1) the subject is estranged from what is important or gives meaning to her/him as a self in the social world, 2) often based on assessments of the intent whereby actions are carried out as breaking generalised expectations of norms and behaviours. Actions that on an ethical level would give rise to impersonal feelings of resentment.

This paper sheds a much-needed light on these implications, and analyses the risk of new 'responsibility ascriptions' and feelings of resentment when dealing with commodification in healthcare. It contributes with new knowledge about the relation 'intentions' have to theories of alienation, in a philosophical investigation that highlights the relevance of Marx's 'theory of alienation' and concept of 'commodity fetishism' within contemporary philosophy and ANT.

Some suggestions in this article may seem speculative, and they might be. However, I kindly ask you to bear with me, and try to keep an analytic openness. As, I think; the article's attempt to form interdisciplinary bridges between Critical Theory and ANT studies provides new perspectives on commodification in healthcare. With the risk of accusations of ontological heresy, a pragmatic (context-orientated) Critical Theory, that methodological join forces with ANT are suggested to unravel the complexity wherein commodification happens.

Social and Economic Aspects of Commodification and Alienation (and the Problem With Intentionality)

In the dictionary commodification is defined as: 'a process by which something starts being sold for money, or its importance starts being measured according to its value in money – usually used showing disapproval' (Fox, 2009, 332). In 'Objectification, standardization, and commodification in health care: A conceptual readjustment,' Timmermans & Almeling explicate that many scholars tend to forget, how sophisticated Marx's conception was of concepts like objectification and commodification. That he saw objectification as an essential way to realise one's human species. What, according to Marx, had to be

overcome was alienation (Timmermans & Almeling, 2009, 22). Marx defines alienation in a capitalist society as taking place in four types of relations: 1) A person's relation to her/his productive activity, 2) A person's relation to his product, 3) A person's relation to his fellow men, 4) A person's relation to his species (Ollman, 1990, 136). In capitalist society, labour does not belong to the worker but is external to him/her. Although legally free, the worker is forced to labour in order to survive. Because the worker no longer possesses this freedom, the capitalist production processes alienate the person from the product. Not only does labour become a product, something external to the worker. It also becomes something that exists independent of the worker, and which confronts him or her as something alien. In capitalist society products, thus, gets qualities that the worker loses. Marx describes this as 'commodity fetishism.' It means ascribing inanimate dead objects human living qualities only humans could have. The commodity echoes the social characteristic of human labour as objective characteristics of the product of labour as the things' socio-natural properties (Marx, 1990, 163-165; Ollman, 1990, 195). Furthermore, the worker is alienated from his fellow men, who are either competitors or capitalistic owners. Their interests are opposed to the individual worker. With the work normally being an objectification of human species of life as a way to realise human nature, a removal of the produced objects from the workers' control to the property of other men, according to Marx, deprives the human species of reality. What is required to manifest itself as human species (Ollman, 1990, 151).

Sociologists Stefan Timmermans & Rene Almeling argues that humanistic scholars frequently have used Marx's 'concept of commodification' and his 'theory of alienation' in critical discussions on commodification. The conception has often been that the economic and social are radical different spheres that need to remain separated to maintain a considerate medicine (Timmermans & Almeling, 2009, 23-24). Instead, Timmermans & Almeling have called for a reappraisal of commodification as a means to advance health and claimed that we cannot estimate the effects and social processes that commodification produce a priori. Various researchers traditional use of concepts like commodification, objectification and standardisation to show pathologies in medicine, such as bureaucratic control and alienating care, contribute to a further reification of these concepts (Timmermans & Almeling, 2009, 21, 26). While, admitting that we need to be aware of possible implications of commodification in healthcare and search for profits without gains in therapeutic efficacy, Timmermans & Almeling provide a new descriptive approach with commodification, not per se leading to alienation. They suggest that the concept entails social processes that produce different medical achievements with intended and unintended health consequences. Instead, Timmermans & Almeling reason that processes of objectification, standardization and commodification recently have

been used in more descriptive ways in ANT and Science and Technology Studies to explain how biomedical achievements is reached through healthcare interventions. Therefore, we need to study these concepts in new ways, where we cannot assume either the actors or consequences of commodification a priori (Timmermans & Almeling, 2009, 26). A traditional subject/object perspective that draw lines back to the British philosopher Robert Boyle, who in the 17th century wished to create a neutral direct connection between facts and nature without a human intermediary. He formulated the idea of the scientist as a modest almost invisible witness of scientific inventions in the laboratory. Boyle created a moral code that, according to Olesen & Markussen, still applies today. It consisted in confirming all results of scientific studies that were carried out in the laboratory. Consequences were a sharp dichotomy between nature and society, where natural science functions as an administrator of possible relations. In this way, the scientist also became a political figure. The scientist's knowledge is wrongly perceived as context-free and non-situated knowledge (Olesen & Markussen, 2006, 180-181). It is in a similar way, Timmermans & Almeling seems to think, we should understand commodification: as part of a political context. This also implies abandoning the traditional subject-object relation in favour of a Latourian quasi-object, quasi-subject model (Latour, 1994).

So, where Marx, according to Ollman (Ollman, 1990, 142-146), and critics like Scheper-Hughes (Scheper-Hughes & Wacquant, 2002) thinks that commodification in its nature leads to alienation, Timmermans & Almeling are more pragmatic. New research suggests that social and economic are not two separate spheres that never cross. Thus, Viviana Zelizer concludes that her historical studies of 'life insurances' and 'the pricing of children' shows that the line between social and economic spheres cross since commodification is a social process created by social values (Zelizer, 1985). Therefore, because social, moral and sacred values change the market, it limits how much the world can be commodified (Timmermans & Almeling, 2009, 24; Zelizer, 1985). However, that does not answer any normative questions about possible ethical implications. Whether, it ought to be like this?

Scheper-Hughes take the stand of Marx; the social and economic 'are' two separate spheres that should remain separated. Otherwise, it leads to alienation. While, her study shows the many implications commodification of the human body entails, it also indicates that the social and economic continually are crossed under the radar in black markets, by organ sellers and organ buyers (Scheper-Hughes & Wacquant, 2002, 5). With increased commodification of the human body through genetic enhancement, markets and bodies, and body parts, etc. (Scheper-Hughes & Wacquant, 2002), it does seem reasonable to argue that social and economic spheres cross in modern medicine.

While, ANT offers tools to discover these movements, Scheper-Hughes seem to overlook the ontological renegades. Instead, she underlines the ethical implications of processes of commodification that ANT tends to relativize through agencies converging interests (Whittle & Spicer, 2008). Timmermans & Almeling refers to Stinchcombe, who argues that formalisms may produce outcomes that are conceived as less desirable. However, the culprit is not commodification itself, but the way that commodification happens (Timmermans & Almeling, 2009, 24). As Stinchcombe quotes: When formality pursues ends alien to us, it is general because those are the ends of others. It is not the formality that is at fault, but the politics that delivers formal powers to others' (Stinchcombe, 2001, 17). Timmermans & Almeling argue whether, for example, objectification leads to alienation depends on the meaning that is produced for the actors involved in healthcare interventions, and the long-term goals whereby the processes are carried out (Timmermans & Almeling, 2009, 23). However, critics often accuse ANT studies of being passive when it comes to technology studies and politics (Söderberg & Netzen, 2010; Winner, 1993). One of the paradoxes is that despite ANT focus on science as a sociotechnological configuration of a politics of interests (Latour, 1994), I think, ANT has shown remarkable little interest in intentionality (Vandenberghe, 2002). What are the motives of agents' actions? Other than translating them into various actors' heterogeneous interests (Whittle & Spicer, 2008, 662). This might have to do with ANT's flat ontology, and symmetrical body of human and nonhuman agency: 'Humans may, but need to be, actors; and actors may, but need not be, humans' (Law & Mol, 2011, 277). Whittle & Spicer argues that actor-net-work-theory (ANT) as an alternative to critical theory have been unable to provide a reflective critique of political action because its (attribution of human characteristic to things) obscures the understanding of action (Whittle & Spicer, 2008). Thus, ANT's anthropomorphization have ignored that it is only through human agency and humans' social arrangements political transformation can happen. From this perspective, when estimating possible ethical implications of commodifying health care, actor-net-work-theory's anthropomorphization would eliminate the role peoples 'intentions' play.

While, Scheper-Hughes's normative stand runs the risk of presenting an idealistic view on commodification (and what Timmermans & Almeling presumably would define as deterministic), ANT's descriptive approach, according to some critics, risks relativizing moral questions to mere contingent points of view.

ANT and Commodity Fetishism

Based on this, let us take a closer look at Marx's concept of 'commodity fetishism.' While, offering an excellent view on how commodification is social embedded, the concept also delivers an implicit critique of ANT as a victim of commodity fetishism. This could explain why ANT studies often have little focus on intentionality (Vandenberghe, 2008). Following Marx's 'commodity fetishism,' we begin to talk about products in ways that have hitherto been reserved to people (just think about how the launch of Apple's new iPhone five mobilises Apple-fans to sleep outside Apple stores to get a mobile phone). Interpreting Marx's 'commodity fetishism,' this gives us the illusion that a product gains qualities of a living organism with own powers and requirements (Ollman, 1990, 144). With definitions of ANT as anthropomorphic (attribution of human desires and intentions to things) in mind, examples like these raise new questions. Whether the theoretical framework of ANT, comparable to 'commodity fetishism', in assigning (in principle) inanimate material things the same degree of agency as a person (Whittle & Spicer, 2008), ignores human qualities and characteristics (Ollman, 1990, 195) and economic aspects of social choices about technologies (Winner, 1993) when estimating consequences of commodification:

It is absolutely clear that, by his activity, man changes the forms of the materials of nature in such a way as to make them useful to him. The form of wood, for instance, is altered if a table is made out of it. Nevertheless the table continues to be wood, an ordinary, sensuous thing. But as soon as it emerges as a commodity, it changes into a thing that transcends sensuousness. It not only stands with its feet on the ground, but, in relation to all other commodities, it stands on its head, and evolves out of its wooden brain grotesque ideas, far more wonderful than if it were to begin dancing of its free will (Marx, 1990, 163, 164).

However, proponents of ANT would presumably reject non-human-agency as commodity fetishism because explanations of technologies should avoid essential characteristics of such actors (Whittle & Spicer, 2008, 613). Hence, a reply could be similar to the one STS scholar Marc Berg delivers to 'critics of instrumental reason' when discussing the Electronic Patient Record's (EPR) influence on medical practice. To attribute formalisms, instrumental reason that would produce dehumanised practices would be like arguing that the EPR as a network 'behaves very 'nurse-like,' since the nurse also is a staple part of this hybrid' [My translation, (Berg, 1996, 192). Berg asserts that so much philosophy cannot exist in formalisms. Nonetheless, as Whittle & Spicer argue, ANT does seem to ascribe essential properties to actants when attributing properties to material and natural objects (Whittle & Spicer, 2008, 614). However, such a position is a convenient place, says Latour. No matter what, the critical anti-fetishist is 'always right' (Latour, 2004, 239). This is done by what Latour defines as 'the critical

trick.' The critical anti-fetishist employs a dual mechanism with two types of subjects and two types objects that never work together. The subject is either so powerful that s/he creates everything out of his work or a reservoir for deterministic forces as we know them from natural- and social sciences. An object is, either a projection of human will in its fetish form or so powerful that the object causally determines how people act or think as a fact. Following Latour, it is not possible to explain a scientific object by referring to the social (Latour, 2004, 241-242).

However, the same could be said to apply with ANT. Giving the impression of describing how reality is, leading ANT writers like Latour seems to build on a (second) paradoxical claim of uncovering the scientific truth. ANT does this by being reflective about other ways of producing scientific knowledge. Often arguing that these tend to overestimate the disciplining effects of technologies, while not applying this critical reflection on itself. Hence, while Latour relativizes the truth claims of 'critics of instrumental reason,' as proponent of ANT, Latour and other ANT authors seemingly speak the social truth (Whittle & Spicer, 2008). This means that the social world is described through the relational materialist theory of ANT (Sismondo, 2010, 85-87). The modern World is composed of actornetworks, where significant social actors can be both humans and non-humans (Winner, 1993).

'(...) the social relations between their private labours appear as what they are, i.e. they do not appear as direct social relations between persons in their work but, rather as material [dinglich] relations between persons and social relations' (Marx, 1990, 166).

From a (Marxist) point of view, Latour's analysis could be argued to be a victim of commodity fetishism. ANT's focus on the importance of nonhuman agency downplays the significance of human actions. This creates a flat ontology, where we perceive human relations to be relations between things. Alternatively, as Vandenberghe puts it, relations between people no longer appear as relations between things, but relations between things is presented as a relation between people (Vandenberghe, 2002, 52-54, 57).

However, it remains to be seen how commodification could affect healthcare and patients using 'intention' as a landmark. Let us leave ANT's descriptive approach for a normative one, and examine whether these different approaches might still be able to intersect in beneficial ways and inspire each other. Maybe, we need to understand commodification through intentionality? I want to explore this. However, I comply with some of Timmermans critique but argue that ANT alone is not the solution. Moreover, has ANT's conceptual framework in its critique of Critical Theory developed into a scientific enterprise with a dogmatic outlook on science and agency?

In the following, Strawson's views on reactive attitudes as a necessary premise for our everyday moral life, and Habermas's perspective on these is, therefore, analysed and discussed. The idea is to give a deeper account, on how 'intention' significantly correlates with the 'meanings' people form about commodification in healthcare and medical interventions that affect them. My term for 'intention' will, thus, be referred to as an essential prerequisite for constituting meaningful or meaningless practices and a major component in estimating possible feelings of resentment that might lead to alienation.

I show; intentionality is essential in critical thinking and how ANT's descriptive method provides a relational account of intentionality that translates 'intentions' and normative considerations into interests. I suggest that a critical (normative) evaluation of commodification dependents on a contextual assessment of the intentions whereby health is commodified. I think; this opens for a refined and more adequate Critical Theory that is less dogmatic and nondeterministic, when dealing with the effects of commodification.

Examining the Normative Black Box of Commodification: Strawson on Reactive Attitudes and Resentment

In 'Freedom and Resentment' from 1974, Oxford philosopher P.F. Strawson described human freedom and determinism from an ethical perspective. What relation free will had in connection to moral responsibility? Following Strawson's account, to act in a moral meaningful way demands that we act as free individuals. The attitude we have towards other people, when we interact with them, is important for how we perceive each other as human beings. It is from this perspective that Strawson is used to evaluate normative structures of commodifying healthcare through 'intentions.' The importance we ascribe these through, what Strawson refers to as, participant reactive attitudes. Thus, feelings of gratitude, regret, goodwill, resentment and animosity belong to what Strawson defines as the reactive set of attitudes. It is natural human emotions that arise in situations, where we are involved personally. Where the reactions of people matter to us. Following Strawson, my response towards a person that steps on my hand accidently, is not of the same character as a person that intentional and viciously steps on my hand. In the last example, I would feel a degree of resentment that I would not feel in the first action (Strawson, 2008, 6-10). In support of this, several studies in psychology show that 'intention' is essential in moral reasoning of an action (Chee & Murachver, 2012; Fiddick, 2004). Describing the significant role that 'intentions' play in particular actions adequately, would presumably

demand that ANT attributes certain meanings about, how, and why, an action was carried out (Vandenberghe, 2002). Which would entail giving a human individual the privileged status of acting intentional, that is, acting in correspondence with the intention of stepping on my hand, and me the ability to interpret the situation through the belief that I know the intentions of the other agent (Pitt, 2006). Thus, 'intentions' appear to add a normative dimension that many ANT studies, according to Winner, does not seem good at explaining:

Unlike the inquiries of previous generations of critical social thinkers, social constructivism provides no stable, systematic standpoint or core of moral concerns from which to criticize or oppose any particular patterns of technical development. Neither does it show any desire to move beyond elaborate descriptions, interpretations, and explanations to discuss what ought to be done (Winner, 1993, 374).

From this perspective, ANT appears unable to provide an adequate critique of possible social alienating consequences of commodifying medicine and healthcare. This demands that we examine commodification from a normative perspective without reducing the social world and intentional agency to an ANT materiality of 'relational materialism' (Law & Mol, 2011; Sismondo, 2010, 81). That we open the normative black box of commodification and discuss its many hidden social relations (and how they are transformed). Social relations ANT's agnostic practice, according to writers like Frederic Vandenberghe, prefers to ignore as settled matters (Vandenberghe, 2002, 61-63). Acknowledging 'intentions' significance as a fundamental structural process in human agency, one could argue that when a treatment goes wrong a patient's reaction (the output) in some cases widely depends on the physician's 'intentions.' Whether the operation was performed from sincere considerations of the patient's wellbeing or if other motives were in force. Since, operations in principle always can go wrong, they build on trust between two persons. Put into perspective with Strawson's assumption, the 'intention' whereby an action is carried out, is crucial for how we respond. Strawson asserted that these reactions could be suspended if reasonably excuses could mitigate circumstances. Based on this underlying normative structure of daily human actions, he thought apologies functioned as a repair kit of the destroyed relationship.

Another type of excuse, which Strawson mentions, is when an insane person or a child has acted wrong against us, then we take an objectifying and mitigating attitude that excludes any moral reproach. The objective approach can hold some feelings, but not all the reactive emotions that are necessary in order to live together with other adult persons of equal standing. It cannot keep feelings of resentment, anger or gratitude between two adult persons. If the attitude towards another person is entirely objective then, it might be possible to fight (but not argue) with him. Maybe, it is possible to negotiate with him,

but it is not possible to discuss with him. In practice, Strawson thought there would be no taking either the objective attitude or the subjective participant attitude, but a blend of attitudes. The opposite positions of the two possible reaction models are what matters (Strawson, 2008, 9-19). He claimed that moral feelings (our moral reactive attitudes) were closely connected to the reactive attitudes and feelings. If the reactions or feelings towards a person and his situation does not point beyond and attach to the impersonal form of resentment that is linked towards breaking generalized expectations of behaviour or norms, they would lack any moral character (Strawson, 2008, 14, 23, 24).

We could put Strawson's malicious person in a pair of clogs. Should we apply an actor-network theory way of thinking, it is not a person who steps on my fingers, but the actor in clogs that steps on my fingers. The pain in my fingers is not only an effect of a person's foot, but a configuration between multiple actants. With a body as a network of actants; skin, tissue and bones, feet (Law, 1994) and clogs. The word 'actant,' is often used in ANT studies instead of 'actor,' since 'actant' can both be human, non-human, nonindividual entities (Latour, 1996). There is thus no predefined analytic boundaries of who does what, when dealing with praxis in this ontology (Jensen, Lauritsen, & Olesen, 2007, 85).

However, what makes me resentful is not whether a man wears clogs or not, but the way he purposely steps on my fingers while smiling viciously at me. The clogs will undoubtedly increase the pain I feel in my fingers. However, it is not the clogs that make me understand the situation more adequately, other than, if I connect the things relational effect with my normative judgement. 'He stepped on my fingers on purpose. Also, he had clogs on.' The material settings between 'actor,' 'clogs' and 'intention' makes us even more resentful. What ANT's material realism (Law & Mol, 2011) brings out is that the intentionality is shaped relational in the environment it takes places. Kennan, Cecez-Kecmanovic & Underwood claim that we realise intentions through material objects (Kennan, Cecez-Kecmanovic, & Underwood, 2010, 2). We could try to synthesize ANT relational perspective with an ethical perspective, and argue that the clogs characterize or extend the agent's intentionality – its power in the network. It is the relational effect of this configuration (Law, 2007, 9) that together with my normative assessment produces my resentment.

Interpreting Strawson's moral phenomenology, Habermas describes how moral feelings come in play in our daily interaction with other people in his Discourse ethics. The third person attitude, where we adopt an objectifying attitude makes the moral sphere disappear, because the objective attitude of a person not affected neutralizes first and second person's communication roles, and thereby the domain of moral phenomenon's (Habermas, 2003, 30-33). Following Habermas's and Strawson's account, the

emotions of an offended person that feels resentment are only possible if that person is emotional engaged when interacting with other people. Strawson argued that the reactive attitudes were such a vital part of being human that if we did not possess them, we would no longer be human in the normal sense. Instead, such a person would become one of Strawson's abnormal cases: a psychopath or an angel. The existence of a general network of attitudes is something that we are given as human beings in a society. It neither allows nor needs an extern rational justification (Strawson, 2008, 16-25).

Transferred to an operation that goes wrong, and the patient feels that he or she has been treated unprofessional and unethical, damage occurs to the moral network. The patient may, besides feeling physical pain, feel resentment. While a psychiatric; objectifying attitude towards an insane person at certain times, in line with Timmermans & Almeling's view, can be the professionally sound respond. However, Strawson warned about perceiving humans and their attitudes as something that can be described and objectified in our social practices. To act in a moral right way was from Strawson's position not a utilitarian calculus, where one seeks to maximise the numbers of goods. If we reify each other in our relations, he like Habermas seemed to think that it affects our moral system in an adverse way (Habermas, 2003, 28). Thus, it seems that an objectifying stance towards a patient can be appropriate if it is a temporary mean towards reaching a larger goal: curing or bettering the patient's situation. However, if something goes wrong in the operation and the patient afterwards feels that the physician is to blame, I argued, this could lead to resentment. In a similar manner, I want to argue that when we judge results of commodifying healthcare or health as negative, we (often) reach this conclusion by including the intention whereby commodification is brought about in our overall assessment of the adverse effects. An evaluation of this effect is most often a summary of the process of commodification, and the social intentions that (is believed) to lie behind the actions that lead to the commodification. I, thus, suggest that a person's evaluation of the adverse consequences of commodification will be more resentful in cases where the process of commodification happens intentional rather than accidental. Arguing that we tend to get more resentful when we get hurt in a deliberate process of commodification. I acknowledge that my focus on intentionality does not deal with structural benefits and implications of commodification. While this could be interesting, it is outside the scope of this article.

With that in mind, let us look at some detailed descriptions of how the normative consequences could look like in other cases. In the following, Habermas' assumption of the seemingly irreversible nature of a genetic intervention and the resentment that might follow will be examined in connection to

Timmermans & Almeling's stand. Whether this also applies in processes of commodifying healthcare and medical interventions?

Normative Structures of Intentionality: Analysis of the Irreversible Nature of Medical treatments and the Resentment that Might Follow

With a theoretical background in his 'Discourse Ethic' (Habermas, 2003), Habermas has raised a problem concerning genetic enhancement (liberal eugenics) in 'The Future of Human Nature' (Habermas, 2002), which also is useful to explain the irreversible and normative nature of medical interventions. According to Habermas, when parents choose to genetic enhance their future child, it could result in a strange normative feeling of resentment that passes through time and generations. We can use this to illustrate how commodifying healthcare and our human body from the patient's perspective might produce 'increased responsibility ascriptions' and (potentially permanent) alienating feelings of resentment towards physicians and/or healthcare system. As a result, Habermas argues, it is not possible for parents to excuse the genetic intervention if a child, as it grows up, begins to blame its parents for its genetic code. Analysed through the lens of Habermas's 'Discourse ethics' the genetic intervention does not render a communicative scope possible, where the future child can be involved and speak as a person in the process of mutual understanding (Habermas, 2002). From a child's perspective, an instrumental fixing of genes cannot be revised as a pathological socialization process sometimes can be improved via therapy (Habermas, 2002, 109-112). Habermas, hence, describes the genetic intervention as a mute immutable fact. Looking at Strawson's analysis, it is an intentional action done from a third person's perspective. That being said; scholars and researchers' from different fields of science have criticised Habermas' contribution for lack of knowledge about modern biomedicine and inconsistencies in his argumentation. Most of which, is criticised for representing a deterministic view on implications of using genetic enhancement (Christiansen, 2009, 147). In response to the last point of criticism, Karin Christiansen emphasizes that Habermas never mentions that genetic enhancement per se leads to any problems with authentic self-acquisition (Christiansen, 2009, 155). However, following Habermas, in situations where parents choose to intervene in the future child's genome, it might, but does not necessarily, lead to a situation, where a child that is unhappy with its genetic heritage will feel resentment (Habermas, 2002, 33).

In this way, the example opens for an ethical perspective on commodification in healthcare that has some of the interpretive flexibility of ANT. It enables us to think of the situation (both Habermas's case and commodification of healthcare) as part of a relational network (understanding third parties intentional intervention as an extension of plans) while still able to form a normative contextual evaluation of the social consequences through assessment (child or patient) of intentions. Whether, these lead to resentment or not.

Similar, an operation where the patient either dies or gets a permanent injury is an irreversible fact, where the normative assessment of the result also depends on knowledge about the motives. When first applied a treatment cannot be undone and often neither redone, corresponding to trading with, for example, mass-produced consumer goods. Such as the delivery of new cars that goes down in a storm in the Baltic Sea. Here a formal contract commonly specifies if the customer should be compensated economically, or a new shipment of cars should be shipped. Nonetheless, in the former case a formal procedure also takes over in Western society. Habermas describes this through his 'System' and 'Lifeworld' in 'Theory of Communicative Action.' Looking at Habermas's outline on the expert's role in a modern capitalistic society, we encounter a necessary objectification at work to make the institutions of a society function:

Furthermore, the indemnification of the life-risks in question usually takes the form of monetary compensation. However, in such cases as reaching retirement or losing a job, the typical changes in life situation and the attendant problems cannot as a rule be subjected to consumerist redefinition. To balance the inadequacy of these system-conforming compensations, social services have been set up to lend therapeutic assistance (...) Of course, replacing the judge with the therapist is no panacea; the social worker is only another expert and does not free the client of the welfare-state bureaucracy from his or her position as an object (...) State intervention compensates for disrupted normality (Habermas, 1992, 363, 370).

If a physician is accused of malpractice, the welfare state's function is to determine legally, whether the doctor is guilty of malpractice and, if necessary, provide financial compensation. In the Danish healthcare system, this is done through The Patient Compensation Association, who makes any decision according to the Danish Act on the Right to Complain and Retrieve Compensation within the Health Service (The Patient Insurance Association 4 September 2002 http://patienterstatningen.dk/en/Love-og-Regler.aspx). However, put into perspective, it should be quite clear that any eventual financial compensation to the victim of malpractice or relatives is nowhere similar to an economic compensation for the loss of a shipment, or to a new delivery of cars. What

from an ethical viewpoint seems essential in the patient and possible relatives assessment of whether adverse outcomes leads to resentment, is 'intention.' Remembering Strawson's concepts, we get a better view into the possible irreversible 'responsibility ascriptions' a treatment has. Ascriptions that underline the importance that medical interventions are carried out of with the right 'intentions,' so any feelings of bitterness as a consequence of wrong motives are shut out. Likewise, following Strawson's analysis, it has significant influence on my reactions whether a person hits me by accident or on purpose. To explicate, let us imagine a possible scenario. A treatment goes wrong, and the patient later finds out that the physician did not use the best medical product available, but the drug he helped develop. Interpreted through Habermas's argument against genetic enhancement and Strawson's analysis, regardless of, whether it has significance for why the treatment did not turnout as expected, the motive violates the Hippocratic oath's virtues of trust and integrity between doctor and patient (Hippocrates, 2008). And it increases the area of possible 'responsibility ascriptions.' Following, the patient may feel resentment towards the physician. Another example, in evidence-based medicine, is called 'academic detailing.' Pharmaceutical representatives try to recruit medical students to use their drug in new interventions, backed up by research results from big medical journals (Timmermans & Berg, 2003, 147). The pharmaceutical industry's attempt to influence physicians entails that a doctor risks looking at the patient primarily as a consumer when s/he prescribes a drug. This questions the physician's 'intentions,' as to whether s/he prescribed the most effective drug.

Another gloomy viewpoint is that managed cares market practices in US (among others intensive use of EBM) by the mid-90s had alienated physicians and patients through processes, where the market, according to critics, had shown little interest in protecting the physician-patient-relationship. Forcing doctors' to neglect ethical principles via practices that served the administration and health care managers' objectives of reducing costs on care, eroding Hippocratic virtues of trust and integrity between physician and patient. According to Callahan & Angela, critics' picture a development where market values replaced communal roots and Samaritan traditions of medicine. Investors turned doctors and nurses into instruments, while viewing patients as commodities (Callahan & Angela, 2006, 46-47).

While, Timmermans & Almeling underline the importance of examining any forms of corruption, exploitation or any pursuing of profits without regards to efficacy, they point out that commodification also is a driver in producing new medical treatments and innovating new medical technologies. Admitting that commodification of human bodies, healthcare or medical products leads to uneven access to healthcare, they argue that too little commodification also can be a problem. One example, is Mifepristone, the abortion pill, RU-486, called the French abortion pill. Because drug companies feared

abortion activists, they choose not to introduce the medicine in the U.S. market. The result was less access to healthcare products (Timmermans & Almeling, 2009, 25-27).

However, the fact that a medical intervention is irreversible in the ways just pictured, and medical interventions in principle always can go wrong, shows why potential ethical implications needs to be communicated to the patient, before carrying out a medical treatment. Although, in some cases it may be possible to carry out a new intervention. However, the 'right conditions' does not rule out any forms of resentment. Timmermans & Almeling argue, a woman who fails to get pregnant by insemination at a fertility clinic may feel alienated in the objectifying intervention and later blame the fertility clinic because of her own shattered dreams (Timmermans & Almeling, 2009, 22). According to Charis M. Cussins, an assessment of such an intervention may be revisable retrospectively. Any possible dehumanising effects of objectification that leads to resentment is rather due to, whether, the outcome of the intervention is successful, than any failed procedures. Thus, women who get pregnant tend to forget all the objectifying procedures, whereas women who do not get pregnant have a more detailed memory, and more often a negative evaluation of the formal procedures (Cussins, 1998, 177, 190, 191). So, following ANT anti-essentialist position, it seems that any so-called essential properties assigned to techniques or concepts like commodification depends on the story, whereby they are narrated. According to Whittle & Spicer, this makes ANT inadequate to explain, why different perspectives could be applied onto the same technology, and hence produce different stories. This would require explanations of how particular meanings are ascribed to a technology. Again, this would demand explanations of who decides what the content of technologies is. Why one technology is dominant? According to Whittle & Spicer, ANT is not good at providing such explanations (Whittle & Spicer, 2008). Let me elaborate why they think this? According to Winner, social constructivism, ultimately disregard making assessments about the possible consequences of using technologies, by taking a stance or refer to any moral principles. Applying the methodology of 'interpretive flexibility' that situates the social world as a product of networks in a materialist theory, social constructivists follow the multiple actants in the network and try to understand the actors differentiated interests, in order to make the network work together. ANT rejects making any ultimate assessments of whether the technology is good or bad. From this perspective, ANT's methodology, according to Winner, entails moral and political indifference (Winner, 1993, 372, 374).

Remember Habermas and the case of malpractice? The state administratively through juridically defined procedures offers an economic compensation for a mal-practice, and the damage that has been done to the patient (Habermas, 1992, 363, 370). Using Habermas's theoretical framework, economic

benefit is, thus, the System's judicialization of the physician's practice in a welfare state, and a formal way to try to compensate for the harm that has been done to the patient and hers/his Lifeworld (Færgeman, 2002). But, since society compensates us against adverse effects of commodification, is not all well? Not necessarily. While it could offer a feeling of justice, it may, but does not necessarily, provide relief to feelings of resentment.

Latour criticises Habermas's communicative action as its accent on replacing perceived objects with an intersubjective understanding between subjects' attempts to make the poles between the object and the perceiving subject incommensurable, while hybrids (computers, the ozone layer) in the middle, multiply (Latour, 1994, 90). However, as a counter argument, ascribing agency to a formal material mechanism's repetition, according to Whittle & Spicer, is more a result of ANT attributing human desires and intentions to things than being reflective (Whittle & Spicer, 2008, 620). According to ANT, action, meaning and cognition is of a relational character instead of social or individual (Viseu, 2000). Consequently, ANT seems to have trouble attributing these normative intentional 'why characteristics' to persons and their actions and, hence, moral reactive attitudes like resentment.

I will like use an example from Canadian philosopher Charles Taylor's article 'Self-Interpreting Animals' to highlight these features unique properties. Taylor asserts that there exists subjective 'truths' about humans' qualities/characteristics. Taylor mentions shame as an example (resentment could be another). Feelings like shame can produce alienating damages that affects our self-determination and thereby our consciousness. But, what I may feel ashamed of, may not apply to you. Somewhat similar to Strawson's view on moral reactive attitudes, Taylor claims that these truths cannot be reduced or for that matter described in an objective ontology (Taylor, 1985, 55). It is in a similar nondeterministic way, I think, we have to understand the ontology of 'alienation through resentment as assessment of 'intentions,' as a deeply personal matter that is constituted by a person's self-understandings influenced by society and its citizens. From this perspective, Critical Theory embraces ANT awareness of possible social variations in commodification and avoids predefined assessments of the consequences commodification entail in healthcare (Timmermans & Almeling, 2009). Without translating the social world to material relations and actions between actants (Marx, 1990, 168-169) in a materialist actornetwork theory.

In line with Habermas, it is important to point out that some forms of commodification might, but does not necessarily, lead to resentment. Most likely, assessment of 'intentions' would lead to alienating feelings of resentment in situations where ethical boundaries have been crossed that hurts our moral reactive attitudes. In cases of 'genetic resentment' or profit oriented interventions at the cost of patients

wellbeing, it seems an apology does not qualify as an acceptable reason for restoring the web of moral reactive attitudes that, according to Strawson, is essential in forming our moral life (Strawson, 2008). The eugenic and profit orientated intervention is a mute reifying violation of the individual and his/hers body as a thing (a means to an end) or a commodity (fulfilment of egoistic desires for profits) that in most cases cannot be undone. Following Habermas's 'Discourse ethics,' these interventions are (in principle) social irreversible. How, an offended respond would presumably depend on each situation. Whether damage done to a person and hers/his moral reactive attitudes, deposit as continuing feelings of resentment or if the offended can cope with the situation, and get on with her/his life.

It seems that 'alienating feelings of resentment as assessment of intentions' depends on how we interpret others mentality. What we belief to know about other peoples intentions. Recapitalizing what Marx, Strawson, Habermas and ANT have shown in this paper, when it comes to commodification degrees of resentment cannot be estimated a priori. Results depend on how the patient interprets the situation through the possible 'responsibility ascriptions,' and whether generalized expectations of norms and behaviours is violated.

While ANT materialistic theory has little to say about the content of ethics, its relational method reminds us about how ethics is practiced in our interaction with fellow human beings in local communities, and how intentionality is shaped in the way we use technologies. We need to follow the actors. Only then, can we make valid interpretations of the 'intentions' of other actors. Something, I think, many ANT studies have neglected far too long.

CONCLUSION

Timmermans & Almeling emphasise us to look undogmatic on how commodification influences healthcare and focus on the way the concept is implemented, and how commodification work, when discussing healthcare and medical technologies and the future development of these (Timmermans & Almeling, 2009). While, Timmermans & Almeling suggest that we focus the possibilities commodification offers, they appear to either ignore or relativise the moral implications that social choices of commodifying healthcare and healthcare practice also entail. Herein, the importance 'intentions' have in normative evaluations of the consequences of commodification. This illustrates how ANT's relational materialism has been unable to provide an adequate account on human

experience, why people act in certain ways, as a result of giving up intentionality (Vandenberghe, 2002). With Strawson I showed, how 'intentions' shape other moral reactive attitudes like resentment that is essential in our assessments of actions (Strawson, 2008). I analysed cases of profit-orientated malpractice. I argued, reification of the patient as a consumer and product seemed to produce increased 'responsibility ascriptions,' and a potentially irreversible resentment in the patient. Feelings of resentment that analysed through Habermas's 'System' and 'Life world,' in line with market forces, only could be compensated economically. If the patient was treated as a commodity an excuse was often not possible, due to alienation of the patient and patient-physician-relationship. It, thus, seemed plausible that patients in some cases would accept an apology for a malpractice caused by unforeseen circumstances while a patient most likely would not be able to familiarise with the physician's role if her/his 'intentions' were ethical unsound (such as hidden economic motives).

In this paper, Strawson's analysis of reactive attitudes and resentment, together with Habermas's theoretical framework and ANT approaches, has shown to be a relevant (albeit conflictual) constellation in efforts to envision a critical but less deterministic outlook on commodification. This philosophical approach both underlines ANT's capacity to reflect on peoples' interaction with medical technologies, as well as its shortcomings when it comes to a larger societal perspective, and describing possible normative implications of commodifying healthcare in light of concepts like resentment and alienation. As I have tried to show with Strawson and Habermas and the concept 'understanding alienation through resentment as assessment of intentions,' 'intentions' seems to be vital when dealing with the effects of commodification in healthcare and medical practices. While commodification is a facilitator of new healthcare products, this study showed that commodification of healthcare and the human body, most likely, opens for new 'responsibility ascriptions' and implications that may lead to alienating feelings of resentment, depending on the person's unique self-understandings. This gives us a new perspective that level the playing field when discussing consequences of commodification - as an assessment of 'intentions' that escapes ideological and dogmatic conceptions towards commodification, and ANT's contingent stand on ethical matters. An examination of the possible physiological side effects of commodifying healthcare and physician-patient-relationship sheds an interesting light on medicine as big business with differentiated 'intentions' that leads back to Marx. A commodification of healthcare that learned by ANT's significant reflections cannot be estimated a priori. Nonetheless, Marx's 'theory of alienation' and concept 'commodity fetishism' implicit warns proponents of ANT not to commit academic hubris by overstating the qualities of things and quasi-things. The danger is that ANT, as critique may become a victim of its blind spots. ANT runs the risk of becoming a new unreflective science with a dogmatic belief in the superiority of social constructivism and the 'critique' it

produces, while overlooking the underlying normative 'black boxes' of reactive attitudes and feelings that, according to Strawson, always follows and shapes human agency.

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References

Berg, M. (1996). Urinbeholdere og infusionspumper. Philosophia, 25(3-4), 167-194.

- Callahan, D., & Angela, A. W. (2006). *Medicine and the market: Equity v. choice*. Baltimore, Maryland: The Johns Hopkins University Press.
- Chee, C. S., & Murachver, T. (2012). Intention attribution in theory of mind and moral judgment. *Psychological Studies*, *57*(1), 40-45.
- Christiansen, K. (2009). The silencing of kierkegaard in habermas' critique of genetic enhancement.

 Medicine, Health Care and Philosophy, 12, 147-156.
- Cussins, C. M. (1998).

 />Ontological choreography: Agency for women. In M. Berg, & A. Mol (Eds.), Differences in medicine: Unravelling practices, techniques, and bodies (pp. 166-201). Durham: Duke University Press.
- Færgeman, O. (2002). Evidensbaseret medicin, sundhedspolitik og administrativ kontrol med lægers arbejde

 Ugeskrift for Læger, 11(1538)
- Fiddick, L. (2004). Domains of deontic reasoning: Resolving the discrepancy between the cognitive and moral reasoning literatures. *The Quarterly Journal of Experimental Psychology*, 57A(4), 447-474.

- Foucault, M. (1973). The birth of the clinic. New York: Vintage Books.
- Fox, C. e. a. (Ed.). (2009). Longman dictionary of contemporary english (2nd ed.). Harlow: Pearson Education Limited.
- Habermas, J. (1992). The theory of communicative action. volume two: Lifeworld and system: A critique of functionalist reason (3rd ed.). Boston: Beacon Press.
- Habermas, J. (2002). *Den menneskelige naturs fremtid på vej mod en liberal eugenik*. Copenhagen: Hans Reitzels Forlag.
- Habermas, J. (2003). *Diskursetik* ["Diskursethik Notizen zu einem Begründungsprogramm" pp. 53-127 in "Moralbewusstsein und kommunikatives Handlen." 1983] (3rd ed.). Frederiksberg: Det lille Forlag.
- Hippocrates. (2008). In Fischer C. (Ed.), The corpus hippocrates. New York: Kaplan Publishing.
- Illich, I. (1976). Medical nemesis. London: Random House.
- Jensen, C. B., Lauritsen, P., & Olesen, F. (2007).

 **Introduktion til STS: Science, technology, society .

 København: Hans Reitzels Forlag.
- Kennan, M. A., Cecez-Kecmanovic, D., & Underwood, J. (2010).

 '>Having a say: Voices for all the actors in an'T research? . *International Journal of Actor-Network Theory and Technological Innovation*, 2(2), 1-16.
- Lagnado, D. A., & Channon, S. (2008). Judgments of cause and blame: The effects of intentionality and foreseeability. *Cognition*, 108(3), 754-770. doi:http://dx.doi.org/10.1016/j.cognition.2008.06.009
- Latour, B. (1994). We have never been modern. Cambridge Mass.: Harvard University Press.

Latour, B. (1996). On actor-network theory: A few clarifications. Soziale Welt, 47, 369-381.

Latour, B. (2004).

br />Why has critique run out of steam? from matters of facts to matters of concern . *Critical Inquiry*, 30(2), 25-248.

Law, J. (1994). Organizing modernity. Oxford: Blackwell Publishers.

Law, J. (2007). Actor network theory and material semiotics. version of 25th April

Law, J., & Mol, A. (2011). Notes on materiality and sociality. The Sociological Review, 43, 274-294.

Marx, K. (1990). Capital: A critique of political economy (B. Fowkes Trans.). London: Penguin Books.

Mol, A. (2008). The logic of care – health and the problem of patient choice. Abingdon: Routledge.

Olesen, F., & Markussen, R. (2006). Working with materiel things: From essentialism to material-semiotic analysis of sociotechnical practice. In A. Costall, & O. Dreier (Eds.), *Doing things with things* (). Hampshire: Ashgate Publishing Company.

Ollman, B. (1990). *Alienation – marx's conception of man in capitalist society*. Cambridge: Cambridge University Press.

Pitt, K. F. (2006). The assumption of agency: A realist theory of the production of agency in everyday social life.

Scheper-Hughes, N., & Wacquant, L. (Eds.). (2002). Commodifying bodies. London: Sage Publications.

Shelly, K. (1988). Normative ethics Westview Press.

Sismondo, S. (2010). An introduction to science and technology studies. Chichester: Blackwell.

- Söderberg, J., & Netzen, A. (2010). When all that is theory melts into (hot) air: Contrasts and parallels between actor network theory, autonomist marxism, and open marxism. *Ephemera, Theory and Politics in Organization*, 10(2), 95-118.
- Stinchcombe, A. L. (2001). When formality works authority and abstraction and organizations. Chicago: The University of Chicago Press.
- Strawson, P. F. (2008). Freedom and resentment and other essays. Abingdon: Routledge.
- Taylor, C. (1985). *Human agency and language philosophical papers 1*. Cambridge: Cambridge University Press.
- Timmermans, S., & Almeling, R. (2009). Objectification, standardization and commodification in health care: A conceptual readjustment. *Social Science & Medicine*, 69, 21-27.
- Timmermans, S., & Berg, M. (2003). The gold standard the challenge of evidence-based medicine and standardization in health care. Philadelphia: Temple University Press.
- Vandenberghe, F. (2002). Reconstructing humants: A humanist critique of actant-network theory. Theory, Culture & Society, 19(5-6), 51-67. doi:10.1177/026327602761899147
- Vandenberghe, F. (2008). Deleuzian capitalism. *Philosophy & Social Criticism*, 34(8), 877-903. doi:10.1177/0191453708095696
- Viseu, A. (2000). How social is the social? rethinking the role of artifacts in cognitive science.
- Whittle, A., & Spicer, A. (2008). Is actor network theory critique? Organization Studies, 29, 611-629.
- Winner, L. (1993). Upon opening the black box and finding it empty: Social constructivism and the philosophy of Technology *br* />. *Science, Technology, & Human Values, 18*(3), 362-378.

Zelizer, V. (1985). Pricing the priceless child. New York: Basic Books.