The Ontology of Creativity in Industrial Cleaning

Frederik Hertel
Business School, Aalborg University, Denmark.

Michelle Wicmandy
Davies College of Business,
University of Houston-Downtown, Houston, Texas.

Abstract

Creativity is (e.g. Gadner, 1993) often associated with the arts, science, technology, high-end products developed (cf. Plucker, Beghetto & Dow, 2004) by a genius working through long, complicated, isolated, arduous and mythical procedures. But, what about ordinary people doing ordinary work in their everyday organizational life? Would it make sense to describe them as creative as well? Would it e.g. make sense to claim that industrial cleaners are regularly being creative? In this article, we will analyze a case study that examines industrial cleaning workers in the food-industry services. The article belongs to (Clark II & Fast, 2008) qualitative economics and is based on ideographic methodology. This analysis collected data though participatory observation, formal and informal qualitative interviews during a period of three years. Based on analyses, we conclude that industrial cleaners regularly produce everyday creativity, also known as small "c". We also conclude that it is rare to find examples of big "C," creativity leading to radical change. In this study, only one example of creativity outside of small "c" was observed. This creative act was produced by an external consultant rather than the industrial cleaners being studied.

Keywords: creativity, assessment of creativity, organizational sociology, everyday organizational life and qualitative case studies.

Introduction to the case study

This case study is conducted inside a commercial cleaning company that specializes in facility services and industrial cleaning for the food industry. Throughout this article, the team manager will remain anonymous and be referred to as "Theo". The cleaning company hiring Theo is a leading player in the food industry services handling several Danish companies.

Theo faces many challenges. First, managing a diverse staff composed of ethnic Danes embracing traditional attitudes, and a mixed group of immigrants mainly from Eastern Europe requires strong interpersonal and conflict resolution skills. Second, tough client performance contracts create frequent clashes between making money, meeting customer expectations, maintaining work conditions, and promoting the employees' well-being. While commercial cleaning conducted in the food industry must meet the food control's stringent inspection requirements, the parameters that define purity are negotiable. We note that Douglas' (2004) famous anthropological work is a good departure for

distinguishing between purity and impurity.

Theo acknowledges the turbulent work environment due to the interplay between e.g. the financial crises, global competition, job outsourcing, population shifts, and more. These challenges will continue facing top-management and demand organizational change. This actualizes Kirkeby's (2009) description of a leader as someone operating in a warlike situation that forces the person to handle conflicting demands, interests, and expectations. According to Benson (1977), such contradictions can be seen as the catalyst for organizational development such that order surfaces from disorder and form out of chaos as it did in the creation of the universe (May, 1975). This could be a reason why Theo avoids establishing organizational harmony or handling internal conflicts. It is the ability to endure the tension involved in holding these possibilities and consider diverse outcomes (May, 1975). He leverages internal and external organizational conflicts, paradoxes, contradictions and disharmonies to benefit his own conflict anxiety.

Theo recognizes that he leads an organization in disarray where today's Achilles heel could be an answer for tomorrow's challenges. One of the consequences of the cross-pressure previously described, is e.g. to develop new or improved ways to avoid overtime, reduce labor time, clean additional areas outside the daily routine, and meet performance contract requirements. Since any extra time accumulated seems to vanish, Theo and his team constantly search for new time-saving methods, techniques and procedures. This constant search for new time-saving methods, techniques and procedures will be analyzed to determine whether industrial cleaners are exercising creativity in their everyday work. The case study will address the question: Can ordinary people performing ordinary work in their everyday organizational life be considered creative?

The interviews and observations will drive what we learned about ordinary people using creativity in their everyday work life. To present these findings, the remainder of this paper will be organized as follows: first, we will introduce the topic of creativity in everyday organizational life. Next, we will define the terms creativity, divergent thinking and convergent thinking that are often used when discussing creative acts. Afterwards, we will analyze everyday work and distinguish creative from non-creative acts and those that represent radical change. The ontology of everyday creativity in industrial cleaning follows. Finally, we conclude our findings.

What's creativity in everyday organizational life?
The key argument addressed is that industrial cleaners must apply creativity to fulfill their everyday tasks. We could also, as indicated by Strand (2011), state that the industrial cleaners' creativity involves completing the cleaning job while developing self-creation and self-identity in the process. Although workers need

to be viewed as creative, we will also argue that this study seldom identifies exceptional or radical cases of creativity, referred to as big "C". Instead, we observed (cf. Csikszentmihalyi in Richards, 2007, p. xi) small "c" – everyday creativity produced by ordinary people during everyday work. This delineation will be explained later in the discussion section.

Creativity defined

Many definitions for creativity exist. One of the most succinct definitions is found in Webster's dictionary which claims creativity is the process of making, of bringing into being. Meanwhile, Bruner (1979, p. 30) provides one of the most aesthetic and elegant definitions, stating that creativity is "effective surprise – the production of novelty", which is comparable to Schutz's (2005) description of the "shock" factor. To illustrate, rhetoric tropes using metaphorical clashes between distinct knowledge paradigms often produce surprise or shock. Lakoff & Johnson (1980) describe this as applying a source domain for understanding a target domain. For example (cf. Morgan, 1980), Herbert Spencer in 1873 applied the concept of organization from biology to understand social entireties. In turn, this created the foundation for organizational studies. However, in this paper, we will understand creativity as a phenomenon creating an effective surprise or shock that moves someone from one meaning, or understanding of reality, to another dimension.

The simplest way to deal with creativity is within the dialectics between different kinds of oppositions e.g. such as modus operandi versus opus operatum. While modus operandi focuses on someone conducting a creative process, opus operatum focuses on cleaning as a creative product. In this way, Plucker, Beghetto and Dow (2004, p. 90) define creativity as: "the interaction among aptitude, process, and environment by which an individual or group produce a perceptible product that is both novel and useful as defined within a social context". But while trying to make Plucker, Beghetto and Dow's definition of creativity fit industrial cleaning it is clear, that a concept for the product of cleaning is needed. One could name the product of cleaning as cleanliness, or the state of being clean, and not refer to the obsession of cleaning.

Parameters distinguishing clean from unclean conditions would be useful to determine cleanliness. Yet, it may be difficult to develop a method for evaluating cleanliness as novel or original. Being unable to evaluate cleanliness in terms of novelty and originality makes it difficult to evaluate cleanliness as a product. Therefore, our approach will change from focusing on cleaning as a product to focusing on cleaning as an ongoing process involving an interplay between creative and uncreative, or non-creative acts, or a negation of everyday creativity. Non-creative acts can be either necessary routines, methods or means for conducting e.g. industrial cleaning or counter-creative acts that starve the industrial cleaner's creativity. While industrial cleaners must perform non-

creative acts, they should learn to avoid counter-creative acts and exercise creative acts when necessary.

Convergent v. divergent thinking

This paper will focus on modus operandi as an opportunity to evaluate creativity in industrial cleaning and other types of everyday work. While focusing on problem solving, Kaufman & Sternberg (2010) create a widely-applied distinction between convergent and divergent thinking. Convergent thinking involves solving problems with a fixed or single answer. Meanwhile, divergent thinking requires facing open problems with non-linear answers. Since industrial cleaners in the food industry deal with complex problems with multiple solutions – creativity must involve divergent thinking.

Research in creativity often tests people's ability to conduct divergent thinking which includes categories such as: fluency, flexibility, originality and elaboration of ideas. While this is useful for many studies, we agree with Runco (2008) who claims that divergent thinking is not identical to creativity. As May (1975) explains, a person may be considered creative, but creativity can only be seen in the act. The creative person tends to get joy when encountering a new task or disorderly environment and forming it into order "closer to the heart's desire". We also agree with Baer (2008 & 2011) who claims the traditional way of testing divergent thinking (e.g. Torrance, Ball & Safter, 2008 & Torrance, 2008) tells little about a person's creativity while Mumford (2003, p. 108) states that creativity requires a multi-method perspective. In other words, talent can probably be measured but the person chooses whether or not to use it. From these, divergent thinking concepts will be incorporated whenever relevant.

To analyze this case, we will reference Barron's (1969) concepts of novelty and originality. Non-creativity will be the key concept used to identify creativity where creativity requires something both original and novel. Thus, work that is novel does not make it original and identifying work as original does not make it novel. Determining whether something is original and novel depends on the effect creativity has on the observer. Shock is a useful concept (cf. Schutz, 2005, p. 111) that changes a perspective e.g. created by a painting. One experiences a comparable shock when encountering a novel and original experience. We see something new, and a feeling of gratification accompanies the breakthrough (May, 1975). This also means creativity (cf. Richards, 2007) can be communicated to others. Hence, the social aspect is important, too, since others must comprehend something as novel and original, and thereby creative.

Divergent thinking as a concept creates challenging methodological problems. Baer (2008, 2011) shows that applying divergent thinking to analyze creativity might produce a context-independent understanding of creativity. Mumford (2003, p. 118) stresses that different forms of creativity may exist in different

domains. In other words, we must be aware of the context to comprehend creativity in everyday life. In this case, the context is everyday cleaning within the food industry and the purpose is to determine whether industrial cleaners are creative. Richards (2007, p. 7), Silvia, Beaty, Nusbaum, Eddington, Levin-Aspenson, & Kwapil (2014), Tangaard (2013, 2015) and May (1975) offer an understanding of everyday creativity useful in this context since it explains that all human beings are creative. Richards (2007) claimed that creativity is connected to human survival and the expression of people actualizing themselves. Creativity is not only produced by special people such as genius but also everyday people who expand consciousness. Richards (2007), Tangaard (2013) and May (1975) explain that creativity can be perceived as new ways of thinking, experiencing the environment and ourselves. It is the total capacity of the person to experience his environment in an ongoing forming and reforming of his environment to find and constitute meaning. Creativity is thus involved in our every experience as we try to make meaning in our self-environment relationship (May, 1975).

An interesting example of everyday creativity is found in McCabe & de Waal Malefyt's (2015) anthropological studies of American middle-class mother's home-cooking. McCabe & de Waal Malefyt state that instead of reading creativity backwards from a creative product and backwards to the creation, we need to start reading creativity forwards. In this context, it means recognizing industrial cleaning as an improvising act that blends the cleaner's perception of the factory scene, evaluating the cleaning needs and generating novel and original ideas for the cleaning processes to meet deadlines, satisfy quality standards while reducing time consumption.

An important aspect of everyday creativity is the implicit learning and socialization process involved in daily work. This learning process enables workers to not only reflect on everyday work but also surpass their immediate perception of tasks, means and "normal" cleaning schedules, which can easily block the "creativity of the spirit", causing one to become counter-creative. In essence, the workers' environment is highly mechanized that requires uniformity, predictability, and orderliness. When we are too rigid or adhere to previous conclusions, we never allow new insights into our consciousness or gain awareness of the knowledge that exists within us on another level (May, 1975). So while developing their everyday practice, the workers are, cf. Tanggard (2013, p. 23), often unaware of their creativity. Taking time to reflect is necessary to identify and break the limiting perceptions and replace these with creative acts that decrease time consumption. Hausman (1979) describes it as a transformative act and we follow in Hausman's footsteps while claiming that the worker "constitutes his target as he discovers how to aim at it" (Hausman, 1979, p. 245). Together, the worker's learning and socialization process do not haphazardly develop (cf. Dreyfus & Dreyfus, 1988) from starting as a novice to

finishing as a cleaning expert. Yet, the manager is unsatisfied with workers becoming experts. As experts, they become incapable of reducing time consumption. In his opinion, the experts seem unable to "…figuring out how to use what you already know in order to go beyond what you currently think" (Bruner, 1983, p. 183). While these learned techniques ought to serve as an extension of consciousness, they can just as easily serve as protection from developing awareness (May, 1975). Theo's intentions can be described as an attempt to help the workers develop the right perception of the (Goffman, 1974) framework in industrial cleaning. This clearly indicates that industrial cleaners never start from scratch and that a constructivist approach to learning, including learning by expansion as developed by Engeström (2001) and Bateson's (2000) categories of learning, could be a road to understand the development of creativity in this specific context.

Research Methodology
We use industrial cleaning services for the food industry as the context to explore whether ordinary people performing ordinary work in their everyday organizational life can be considered creative using a qualitative research design combining different research methods. The core QUAL component uses participatory observation to drive the research study. Since combination of water under high pressure, slippery floors and heavy sharp knives creates a challenging and dangerous work environment, supplemental informal and formal semi-structured qualitative interviews were conducted simultaneously to obtain data at different levels of analysis and expand the perspective of the core component (Creswell, 2012; Morse & Niehaus, 2009).

We used typical case sampling procedures to generate our research sample of workers who represented the group's norm (Bloomberg & Volpe, 2012). The participants included both the cleaning services manager and his crewmembers, each possessing between 1 and 10 years of experience in the industry. The participants studied remained the same during both research methodologies.

During a period of three years, we collected data through both participatory observation and 10 formal interviews and a countless number of informal qualitative interviews that occurred both in the workers' natural setting, the factory as well as at the university.

Participatory observation, the core component, allowed us the opportunity to observe the workers' behavior both individually and collectively in their natural work environment (Creswell, 2012). This technique enabled us to explore the workers' cleaning methods, gain an understanding of their everyday cleaning rituals, and watch the workers exchange verbal communication and nonverbal gestures (Easterby-Smith, Thorpe, & Jackson, 2012). From this, interesting findings emerged and evidence was gathered. This information along with our

reflections, setting details, time of day, workers health and attitude were recorded in field notes and verified with several associates to confirm our story (Creswell, 2012).

Meanwhile, we conducted semi-structured qualitative interviews (Kvale & Brinkman, 2009) that were organized into 6 themes. After introducing these themes, interviewees were invited to discuss their experiences related to each theme. Whenever needed, we probed with open-ended questions to gain an in-depth understanding of the worker's cleaning approach and improvised cleaning techniques first-hand (Easterby-Smith, Thorpe, & Jackson, 2012). In addition, we occasionally asked closed questions (Kvale & Brinkman, 2009) to verify our interpretation of the interviewees' explanations. During interviews, the interviewee among other things provided personal data such as industry experience, techniques for reducing time consumption, and overcoming obstacles in his everyday cleaning routine. Interviews followed the guidelines produced by Kvale & Brinkman (2009) to ensure quality and yield a deeper understanding of interviewee´s life-world. The interviews ranged from 2 to 2.5 hours and were recorded and transcribed. The interviews were analyzed and content was divided into various themes.

Analysis of everyday work
In this paper, we will analyze a case study to demonstrate, that everyday organizational life of industrial cleaning workers in the food industry creates a demand for creativity. One basic assumption is that workers doing industrial cleaning need to develop a certain view, perspective or approach towards the cleaning process to decrease the time consumption and obtain the right quality of cleaning.

Industrial cleaning encircles by two opposing (cf. Gennep, 1999 & Turner, 1995) rituals. The first ritual starts when the factory workers separate the machines, end the day and pass the factory gate. From this moment until dawn, the factory symbolically belongs to Theo and his cleaning crew. During this period, the workers clean all surfaces, knives, and machines and then return each to their proper place before starting the morning ritual. To some extent, washing the dishes can be used as a metaphor to explain industrial cleaning. First, plates are submersed in water, afterwards soap (chemistry) is applied, and then the plates are rinsed. In the fourth stage, applying disinfectant separates industrial cleaning from simply washing the dishes. Theo describes industrial cleaning as a matter of removing visible and invisible dirt as fast as possible. Not only must everything be visibly clean, but at the invisible level, the cleaning team must ensure bacteriological levels register below regulatory limits, and in some cases, by the retailers buying the food products. Each staff member is responsible for controlling and producing high quality work. During the night, Theo is busy cleaning, managing his team and controlling the quality of cleaning. In case a

team member is ill, Theo will either serve as the substitute or convince a team member to do overtime. The second ritual begins in the morning. Theo and factory officials - managers, laboratory technicians and sometimes workers - conduct a one-hour inspection to determine whether cleaning passes and which areas can be symbolically returned to the factory and production team. In case e.g. the knives, machine parts, kitchen area etc. are unclean, Theo will make immediate improvements. If we evaluate industrial cleaning in terms of creativity when the factory is symbolically returned, we will be evaluating the results of industrial cleaning. Testing e.g. a smart watch, car or a chair in terms of creativity would make perfect sense. But, we cannot make sense of evaluating the result of industrial cleaning in terms of creativity involving the following stages: fluency, flexibility, originality and elaboration of ideas. Industrial cleaning as a product is useful but it is difficult to describe as novel or original. Exploring industrial cleaning as creative requires focusing on the processes occurring during the two rituals previously described. Industrial cleaning will be a matter of repeating the routines or acts involving the aforementioned four cleaning stages. But in this context, will repeating habitual routines or programmed mental schemes produce what Theo symbolically describes as "north sides"? The "north side" is just a metaphor for a blind spot and thereby a surface, area or an item, that the cleaner overlooked and cleaned improperly. Completely avoiding blind spots may be impossible, but eliminating fixed cleaning schemes may reduce repeat blind spots. Uncovering blind spots involves changing cleaning techniques, strategies and methods. Thus, the cleaner must exercise active listening and be aware of the breakthrough when it occurs (May, 1975). When this is done successfully, we describe the processes of industrial cleaning as being creative since the processes can be considered novel, original and useful.

Creative and non-creative acts
We agree with Hausman (1979) that everything cannot be considered creative. We, therefore, create a distinction between two differing approaches towards industrial cleaning. The first approach involves the worker reproducing a cleaning scheme consisting of fixed routines. In the second approach, we notice e.g. the cleaner's ability to (cf. Mead, 1977) embrace the official's attitude. Because the first approach creates numerous interconnected problems in his team, Theo is occupied with developing the team's skills and competencies. He praises and highlights his team for being stabile, hardworking and reliable, but then criticizes some for respecting the authorities too much. Occasionally, he observes workers remaining idle because they misunderstand instructions, expectations, and next steps in the process. A greater problem occurs when team members abandon engagement with their task, automatically repeating routines to the prediction of a robot (May, 1975) and thereby reproducing fixed cleaning schemes. This results in cleaning both too much and too little. Cleaning too much occurs when workers unnecessarily cleanse clean items. Meanwhile, cleaning too little occurs when unclean items remain dirty. Poor planning forces

one to forget areas, knives or machine parts that need cleaning. This is an example of how non-creative acts develop into counter-creative acts.

One of the consequences of the cross-pressure described above is constantly searching for new time reducing procedures so Theo and his team can satisfactorily fulfill the demands of the performance contract. Finding extra hours would allow time for cleaning areas outside of daily requirements within the allotted timeframe. Yet, accumulated time always seems to vanish, leaving Theo and his team to constantly search for new time-saving methods, techniques and procedures. In this search, the repetition of a cleaning scheme can be fatal, and Theo comprehends it as non-reflective behaviour. Therefore, cleaning schemes eat time and produce low-quality cleaning. Industrial cleaning is not solely about cleaning but also involves meeting deadlines and a cleaning standard. Wasting time obviously creates problems for a team under extreme pressure for decreasing the time consumption.

Theo's first aim for team development involves teaching team members to practice (cf. Mead, 1977, p. 169) reflective behavior and test their practices. Developing a high level of reflective behavior is not the final aim but it is both a realistic and an important method to determine whether the processes are valid (Raelin, 2011) and improve the cleaning quality. Theo's comprehension of a reflective behavior could probably also be named *the ability to conduct the beholder's act*. The procedure requires one to stay calm under pressure and postpone cleaning, develop a novel and suitable strategy for decreasing time consumption, and perform the right quality of cleaning for that situation. Yet, this produces a conflict. Theo and his team strive to deliver immaculate cleaning services while the client requests only an acceptable standard of cleaning. To determine this measure, Theo and his team must (cf. Mead, 1977) take the representatives' viewpoint. In this case, the representatives include: laboratory technicians, middle managers and ordinary employees responsible for accepting or rejecting the cleaning job. If Theo and his team underestimate the norms, the representative may deem the cleaning unacceptable and require re-cleaning. In these situations, Theo gets a limited timeframe to re-clean before production starts. In rare cases, the re-cleaning requires excess time, which postpones production and the downtime incurs additional costs. This explains why the cleaning team is instructed to control the cleaning quality before exiting the factory. In addition to the team member's self-evaluation, Theo also conducts random quality inspections. Despite these control measures, the representatives may find some cleaning unsatisfactory.

During on-the-job training, the cleaners aim to improve their ability to produce the right quality of cleaning in less time. Team members unable to adapt will desperately search for ways to reduce their time consumption, especially since they are not paid overtime. Inexperienced newcomer's desperately searching for

time-saving methods will, according to Theo, often produce inferior cleaning, where low-quality work generally leads to termination. However, most newcomers adapt and develop during the following period, which could be considered an (cf. Dreyfus & Dreyfus, 1986) expert level. While most employers would probably be satisfied with employing "expert" workers, Theo shows frustration since they fail to activate deeper levels of awareness to generate ideas for improving cleaning efficiencies. Per Theo, cleaners not trimming time consumption are wasting precious time. When a cleaner reaches the expert level, Theo increases their amount of supervision. This helps the cleaner advance beyond expert status and reach the final stage of professional development. Our case study shows that it is difficult to progress beyond the expert level, since it requires what Strand (2011) describes as the ability to see every cleaning task as abnormal and novel in order to be surprised by what the situation demands and offers. It includes a new kind of reflection, enabling one to doubt or question one's expertise, to produce a number of alternatives to be considered. According to May (1975), one must dare to think the unthinkable and conceive of it to move to new visions. This is actually what we believe Bruner (1983, p. 183) meant by "…figuring out how to use what you already know to go beyond what you currently think". We think, as suggested by Strand (2011), that this can be described as a hypothetic-deductive method, or what we (cf. Peirce, 1998) could name: abduction. Umberto Eco (Eco & Sebeok, 1988) develops three very different types of abductions: overcoded, undercoded and creative abductions. Overcoded abductions can be identified when cleaners are repeating a cleaning scheme by reproducing a fixed set of cleaning routines. Undercoded abductions are identified when cleaners reach expert level, enabling him to take the representative's attitude. This includes being able to apply common cleaning methods that yield quality cleaning. The final type, creative abductions, are noticed whenever the cleaner can pass beyond expert level and challenge his own knowledge to develop new and faster work methods that still yield the right quality of cleaning. While producing creative abductions, the cleaners will also produce improved processes considered novel and original – hence, creativity is born. We could also include some of the concepts known from divergent thinking since the production of creative abductions will involve the content of fluency. The variation between the alternatives produced by the workers means we can apply the concept of fluency to the process. We also consider the concept; elaboration included, since the worker will have to extent the ideas developed. We might add another level of creative deductions (c.f. Eco & Sebeok, 1988) named meta-abductions. An example of this occurs quite seldom, even for a seasoned professional like Theo who has been in the cleaning industry for almost 20 years. We have actually noticed one example of what we will call: radical originality.

Radical originality
Originality is a key concept while evaluating a process in terms of creativity but

we need to develop the concept to apply it to industrial cleaning. Here, we distinguish between two opposing types of originality. We name the first radical originality since it is best perceived when the beholder experiences the essence of what Alfred Schutz (2005, p. 110) describes as shock. The shock will ignite a learning process and sense-making to increase understanding. By now, we have described a phenomenon defined as original since they are unique and novel but not considered radical originality. The best definition of phenomenon being original, novel, and unique is to expose its antithesis, which is understood as the reproduction of an unreflective mental cleaning scheme portrayed as producing inferior cleaning without reducing time consumption.

The case study shows that each team member must evaluate the task and then develop a cleaning strategy that yields satisfactory quality in less time. Reducing time consumption, or increasing cleaning efficiency, is necessary so workers can devote adequate time to heavier cleaning jobs and random areas. Theo and his team must therefore produce multiple ideas, which is described by the concept of fluency in divergent thinking. Daily variations in production flow, production hours, amount and type of fish mean is never a standard cleaning procedure e.g. the production line for filleting fish. Each night, the cleaning crew faces new challenges that force them to develop novel and original ideas for reducing time consumption, cleaning within time and meeting cleaning standards. Although we often notice everyday creativity, we seldom observe acts of radical originality. This impression is supported by Theo who mentions only one example of radical originality.

The example involves serious problems with a coat of dirt remaining on a filleting line. Theo and his team apply various chemicals, each unable to provide a solution. The team invests considerable time each night scrubbing the spots. But, instead of solving the problem, the dirt seems to spread and devour significant labor hours, producing a minor crisis for this cleaning crew. Therefore, Theo is forced to contact an auditor for a second opinion. It is important to note that the chemistry in dirt and cleaning products differs significantly. For example, dirt produced from salami with a high-fat content is substantially different from dirt produced in a filleting line with a high-protein content. There is also a critical difference between dirt in fish with high fat content compared to low fat content.

The external expert consult suggested a custom cleaning solution composed of a foaming agent mixed with a non-foaming soap product. The point was that the foaming process changed the soap's chemical composition, allowing it to remove the dirt in less time and manpower. The solution was both novel and an example of radical originality. After this revelation, Theo and his team started to experiment with new ideas using soap that is usually not foamable. By applying some of these new methods once or twice per week, they delivered higher

quality cleaning in less time.

The ontology of everyday creativity in industrial cleaning

Creativity is, as stated by Mumford (2003, p. 109), a complex phenomenon involving the operation of multiple influences. In this article, we follow in the footsteps of Richards (2007) as well as Silvia, Beaty, Nusbaum, Eddington, Levin-Aspenson, & Kwapil (2014), and May (1975) and acknowledge that creativity is an essential aspect of being human. It was probably, as stated by Richards (2007), at one point developed as a survival strategy and, today, remains an important feature of the human species. Since creativity is part of being human, it surfaces in everyday life. It, therefore, is not surprising that industrial cleaners exercise creativity everyday in their work. In this case, we have analyzed, creativity is closely connected with the creation or modus operandi. One of the arguments for focusing on creation is the difficulties noticed in evaluating the product of cleaning. Another and probably more important argument is the interconnection between creativity and the kind of industrial cleaning being studied. Baer (2008, 2011) raises an important point while stretching that creativity is bound to a specific context and we therefore need to study the context to fully comprehend the industrial cleaners' creativity. Creativity is an essential human element but denies that all can be creative in the specific context of this study. In this specific context, we noticed that newcomers participate in on-the-job training where most trainees develop the required basic skills and competencies to adequately perform industrial cleaning. As newcomers pass different phases (Dreyfus & Dreyfus, 1986) from novice to expert, they learn essential cleaning skills. The manager is dissatisfied with those considered "experts" since they often overlook the need to reduce time consumption. Theo requires on-the-job training until the trainee develops the ability to conduct creative acts reducing time consumption without compromising the required cleaning quality. All this does not imply that industrial cleaners are expected only to conduct creative acts. Creativity only exists in opposition to its dialectical contrast which here is named non-creative acts. Non-creative acts can be divided in two categories. The first category includes routines, methods and mental schemes which are very important for everyday cleaning. The second category contains counter-creative acts which are challenging since they enable creative acts. This yields the conclusion that creativity in this context is a phenomenon with its own ontology. We apply Bruner's (1979) metaphor on effective surprise and compare it with Schutz's (2005) concept of the shock to understand the creative experience. During this case study, we identified different kinds of shock with some appearing more radical than others. We deal with what Csikszentmihalyi (Richards, 2007, p. xi) calls small "c," or everyday creativity, and reveals why radical originality is rare in this case study. Our findings indicate the need to distinguish between at least two interplaying dimensions of creativity. The first-dimension deals with the level of creativity, and it starts with small "c", passes through the intermediate

level and ends at the meta-level of creativity. This dimension is probably not only a matter of the creative influence on people, society and culture but also connected with the second-dimension of creativity. Umberto Eco (Eco & Sebeok, 1988) suggests a distinction between different abductions named undercoded, overcoded, creative abductions and meta-abductions. In this article, we assume that this typography of abductions can be applied while trying to understand the quality and thereby character of the shock created by the creative act. We also assume the two dimensions of creativity are closely interconnected and that they must be considered connected. Despite of comprehending creativity as something being novel and original we do not think that creativity can be defined positively. The only way to define creativity is by contrasting it to its own negation which includes counter-creative acts as well as valuable everyday cleaning routines, methods and mental schemes. That is the reason the manager avoided a single-minded hunt for creative acts and instead tried to develop a mind-set enabling each team member to act in correspondence with the context. This approach obviously implies using the most suitable creative or non-creative acts while cleaning.

Conclusion

Based on our analysis, we can conclude that the case analysis shows that industrial cleaners in the food industry are both participating in and contributing to processes of creativity. The creative acts we have located belong to the field know as small "c," or everyday creativity. These examples of creativity involve creative abductions where workers challenge their own knowledge to develop new ways of decreasing time consumption while performing the required quality of cleaning. We only found one example of a creative act not involved in everyday creativity but this example was mainly conducted by an external expert.

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Frederik Hertel can be contacted at: fhl@business.aau.dk