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► **To cite this version:**

Mikkel Bille. Energy saving technologies and the battle of atmosphere. Ambiances in action / Ambiances en acte(s) - International Congress on Ambiances, Montreal 2012, Sep 2012, Montreal, Canada. pp.135-140. halshs-00745854

**HAL Id: halshs-00745854**

**<https://shs.hal.science/halshs-00745854>**

Submitted on 26 Oct 2012

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# Energy saving technologies and the battle of atmosphere

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**Abstract.** *This paper explores how two notions of atmosphere – a climatic and an experiential – are informing everyday orchestrations of domestic spaces in Denmark. While notions of sustainability, environmental ethics and ecology dominate the public discourse, everyday lighting practices often seem to be based on quite different premises that in effect counter the contemporary discourse on environmental ethics. Based on anthropological fieldwork, the paper explores how orchestrations of atmospheres through lighting technologies are central part of social life and may shape experiences of both solitude and solidarity. Navigating between an environmental ethics of climate awareness and subjective experiences of space highlights how notions of morality and resistance are played out through atmospheric orchestrations and evaluations relating to conceptualizations of dirt and the sterile.*

**Keywords:** *sustainable technology, light, Denmark, cosiness*

## Introduction

Just prior to the 2009 international climate convention COP15 in Copenhagen, Denmark, MP Thor Pedersen, a leading member of the ruling liberal party Venstre, proclaimed that the climate debate and initiatives to reduce CO<sub>2</sub> emission was getting out of hand, and interfere with people's personal freedom. He remarked, that he enjoys coming home to his house and see lights glowing from all his windows. Another party member backed him up by saying, "Let people use the light they are paying for". The remarks were met with moral indignation of wasting energy. They caused a stir for several reasons: one was that his party was leading the climate negotiations at COP 15 that, if successful, would be a tremendous political achievement and could brand Denmark as a leading country in promoting environmental ethics as well as in producing sustainable technologies. The political line of the government was now being questioned internally in the party. The other reason was his indifference to the moral plight of reducing CO<sub>2</sub> emission that had emerged in Denmark, but which many people also had become increasingly sceptical about. It was not just scepticism about the debate over the "facts" of global warming, but also of the way small details in everyday life was to be minutely evaluated by its emission of CO<sub>2</sub>. For Thor Pedersen this moral obligation had to stop when government laws started inducing environmentally correct ways to light one's own home.

Now, why would anyone be against saving the planet by turning off the light, using energy saving technologies, and thereby reducing the amount of pollution entering the earth's atmosphere? Is it not simply just changing another bulb into the lamp, and in an instant you save both money and the climate? Aside from the argument of liberty that the MP evoked, the answer, however, lays in the cultural premises of orchestrating spaces and the subtle, yet potent, differences light makes in orchestrating domestic atmosphere. In a sense, the

MP's protest was about atmosphere in every sense of the word: it was about the earth's atmosphere, because the energy used on lighting technologies plays a large role in the total CO<sup>2</sup> emission, but it was also about a much more experience-near atmosphere of what the home should *look* and *feel* like.

This paper will argue that in order to understand the resistance to energy saving technologies and behaviour that would help reduce harm to one kind of atmosphere – the earth's – we need to consider the impact of these technologies and behaviour on the atmosphere of people's everyday life. A clean environment, either figuratively or literally, may not be what people opt for, since such cleanliness or the means to achieve it, may be considered impersonal, sterile, and un-homey, thus questioning what effect and meaning it has that something is "clean". This will take us from the orchestration of cosiness in Denmark, through the technical incapability of the energy saving light bulbs to achieve this, and end in conceptualizations of pollution and cleanliness among my informants in Denmark.

## Lighting up the home

The home is considered a central place for shaping social subjects and morality (Buchli, 1997; Cieraad, 1999; Miller, 2001). A central concept in the orchestration of Danish homes and social life is the notion of *hygge*, here translated into cosiness. Many Danes claim that the term is not easily translatable to other languages, although the Norwegian *koselig*, and the German *Gemütlichkeit* cover much the same kind of cosy, homey, informal, and relaxed atmosphere (Linnet, 2011:2). It is often described as a feeling of equality and informality that rules much social behaviour in Denmark and both valorises situations and structure spaces (Winther, 2006). The term is used to describe a wide range of social events and spatial settings, from the café, the modern home to an idyllic farmhouse, as well as appear in various grammatical forms of verbs, adjectives and nouns.

The term is also used as a description of an atmosphere. As an atmosphere, it is ontologically ambivalent (Böhme, 1995; 2001). It is not situated in the objects, but neither is it simply in the hands of a subject; it is *in-between*. Atmospheres are multi-sensual and have to be *felt* as a co-presence of subject and object. An atmosphere, in effect, is never stable, merely positive, or objective. Rather, it is a genre of socio-material interaction that aims at – or has its premises in – cultural concepts or interpretations, such as *hygge*, in whatever forms it may take. Thus, opting for atmospheres have cultural premises, that among other things make subtle use of light to shape cosiness, work productivity or sense of security, which in effect has consequences for the use of energy.

It is not difficult to talk to informants about what they aim to achieve through light, and often they can talk elaborately about the decoration of their homes. Light is a key factor in Danish homes, and central in the practice of cosiness and in extension hominess (Bille & Sørensen, 2007; Winther, 2006). Some even talk of "Nordic Light" as a particular appreciating of light in Scandinavia (Sørensen & Haug, 2012). While *hygge* can be considered a particular feeling of being together, there are some general tendencies when it comes to its material orchestration, which is also intentionally planned and carefully structured in most segments of society. While there of course are many exceptions and variations, there is a clear tendency in the use of light to shape cosy spaces. When I ask my informants<sup>1</sup> about their use of light, they generally distinguish between "practical light" and "cosy light". Aside from the kitchen and entry area, where spotlight and lamps are placed to facilitate work, most other areas are arranged towards the cosy light of relaxation. Among many other aspects of the material infrastructure, cosiness is in general achieved through dimmed lighting dispersed

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1. My anthropological fieldwork in Copenhagen, Denmark, includes about 50 qualitative interviews with adults in all ages and gender inhabiting both old and newly built apartments and houses.

across the rooms to shape smaller spaces within spaces, often, but not always, assisted by candlelight. Fluorescent light is hardly ever used.

Informants often state that they light candles or dim the light to subconsciously remind people and themselves to relax and stress down. This has often very little to do with the ability to *see* the surrounding world. Rather, a lit candle is a welcoming sign both in public and private spaces that one can sit, and announces that now we are getting ready to talk properly, relaxed and intimately. The dimmed light announces that what is sensed – and what *should* be sensed – is a socially relaxed, perhaps even informal, atmosphere. Lighting the homes is an active process where lights are turned off, dimmed, curtains pulled, and candles replaced. Thus, cosiness is in constant creation in both interpersonal and material ways, with a particular care for shadows, a *sciophilia*. Candles are even lit at broad daylight, at lunch tables and cafés to announce this cosy moment.

More than simply a matter of hospitality, cosiness is something that goes on in everyday life, as MP Thor Pedersen also explained in terms of the pleasant feeling of returning home and feeling welcome, even if no one is home, simply by the use of light. For example, in homes with more than one person, my informants would often say that they leave certain lights on, even if they go to bed, because it makes the partner feel welcome when (s)he eventually comes home. For single inhabitants, some informants expressed how they leave the light on in other rooms to shape a presence besides their own, thus not making them feel lonely. Similarly, informants would light candles in the windows as an act of “solidarity” with other people in the street who also had lit candles in the windows, although they do not necessarily know each other.

### Unsatisfactory technology

However, while ethical consumption has radically increased in the last decades in terms of buying organic food and fair trade, or producing goods that certifies environmental sustainability, the same trend has not reached light consumption. The energy saving technologies somehow just does not fit neatly with the above general description of the cultural premises of shaping domestic atmospheres.

By some estimates 20-25 % of the energy in private homes is spend on light. This, of course, also means that a large amount of CO<sub>2</sub> emission is caused by the use of light. With the implementation of EU regulations on light sources, the last incandescent light bulbs should be out phased in Denmark by 2012, and thus forcing people to either use the Compact Fluorescent Lamps (CFL), the Light Emission Diodes (LED) or the halogen bulbs. The halogen bulbs are however less energy efficient, and the LED bulbs have until recently been very expensive and largely unavailable in the shops normally used by people to buy bulbs. In contrast, the CFL bulbs have been widespread, for a more reasonable price, and the one that, at the time of writing, is commonly understood as energy saving light bulb in Denmark.

The CFL bulb has been received somewhat ambiguously in Denmark. Some of my informants did emphasise that they use the energy saving light bulb because it lowers the electrical bill, but very few have been satisfied with the overall experience. While lauded by some for its energy saving capabilities, many people in Denmark have scorned the poor colour reproduction (*Ra* 80-85) and colour temperature (> 2900° Kelvin). In terms of technological capabilities most CFL bulbs visually change the domestic infrastructure into “dull”, grey surfaces, compared with the reddish glow from the incandescent bulb (2700° Kelvin) and colour reproduction (*Ra* 99) more similar to the daylight.

Lighting technologies such as the CFL bulbs are *ecstatic* (Böhme, 1995:155-176), in that the source of light – be it the sun, the lamp or a reflecting surface – can transcend its own tangibility and extend its particular rays onto the world and shape the way people perceive their environment. In the case of the energy saving lighting technologies, the bulb is changing the visual perception of spaces, through the colour reproduction and temperature. The “warm”,

reddish, and subdued glow from the incandescent light bulb is replaced by a “colder”, “clearer”, some say bluish light. The CFL bulbs have several other problems in relation to the use of light in shaping cosiness. They have slow starting capacity, may not fit into the lampshade, and are most often unable to work with the existing switches for dimming light; an indispensable practice in a Danish domestic context as illustrated above. While the CFL technology is improving, the critique of the CFL lighting quality has reached the point where the Danish Energy Saving Trust under the auspices of the Ministry of Climate and Energy have had to run commercials on national television to debunk what they see as myths about the energy saving light sources.

The effect is that while many Danes have unwillingly adapted the new technology – as the incandescent light bulbs are getting difficult to buy – many people also hoard the incandescent light bulbs, or specifically use the bulbs they have left in selected spots in the house where they particularly seek cosy light, such as the living room. Cosy atmosphere, it seems, wins over environmental ethics.

### Living with pollution

While it may seem that the MP’s questioning of the environmental awareness only dealt with electrical light, more is however at stake in the debates about polluting the air quality and atmosphere of the earth when it comes to candlelight. As mentioned, many Danes have an excessive use of candlelight, commonly called “living light”, even in broad daylight, amounting to a commonly held idea that Danes have the highest use of candlelight per capita in the world. Furthermore, according to some statistics, the use of fireplaces in Denmark contributes with more particle emission on the streets than traffic, particularly during winter. By some estimates about 47% of the total particle pollution in Denmark comes from domestic fireplaces, although this is a highly contested area of research. One of my informants explained that during winter she would use the fire place pretty much every day, despite the fact that the house was fitted with perfectly new heating system. The fireplace is cosiness: it’s smell, it’s sound, it’s direct warmth, and the flickering flames shape a homey, cosy atmosphere.

Yet, the particle pollution from candlelight and fireplaces is extensive both on the surrounding streets and in the homes. Particularly around Christmas time, the use of candlelight explodes, where many people decorate the Christmas trees with lit candles; to much distress for those suffering from Chronic Obstructive Pulmonary Disease. Every December new reports show how many particles are emitted from the candlelight inside people’s houses, which, as with the impact of fireplaces on the surrounding air quality, in many cases exceeds the most traffic-congested areas. Voices are raised, but rarely heard. Flames are thoroughly embedded in the atmosphere of *hygge*. It may be that light brings (biological) life, but it is in the shadows of the dimmed light that Danes live their social life.

From my interviews about domestic lighting there appears to be many such connections between pollution and light (Carter 2007; Garnert, 1993; 1994; Shove, 2003). Light, like dirt, “slips easily between concept, matter, experience and metaphor” (Campkin & Cox, 2007:1). In the same way as the question of what is considered dirty is intrinsically embedded in cultural understandings of “normality”, so too is the proper visual orchestration of space through light. To paraphrase Ben Campkin and Rosie Cox’s work on dirt, the use of a guilt-inducing rationale for increased environmental hygiene has required light (as well as dirt) to be considered simultaneously a moral and a physical issue (Campkin & Cox, 2007:2). In this line of thinking lighting technologies in Denmark increasingly become a benchmark for normality, reformulated into a moral and physical problem of pollution. Yet this normality is resisted as it also inflicts on the social practice of cosy atmospheres and freedom for the consumer.

From conversations particularly with my female informants, stress was made on having a clean home and thereby living up to the moral standards of cleanliness that has developed since the late 19<sup>th</sup> (Schmidt & Kristiansen 1986; Shove 2003). Informants tell stories of how they vacuum the house before guests arrive and clean up their houses. This is not necessarily because it is really dirty, but just to do it and feel that the room is clean, thus ascribing both to a hygienic regime as well as a moral discourse of cleanliness imposed on the host. Yet, the informants also have an anxiety towards the so-called “sterile”. To my informants there is a fine balance between cleanliness and the sterile. The sterile does not fit in with the orchestration of the domestic atmospheres, and this notion of the sterile is transposed on to other areas, to be more than simply a matter of bacteria on a kitchen floor. If the home is *too* neat, furniture *too* new, *too* planned, *too* designed, *too* clean, it would resemble a public office or hospital; not a home. In that respect, I would argue that the opposite of *hygge* or cosiness is not necessarily the “uncanny”, or the “un-cosy”, but rather the “sterile”. If dirt is “matter out of place”, as Mary Douglas argued (1966:44), the problem of pollution as a by-product of lighting traditions becomes ambiguous. What in one regime of knowledge is understood as dirty – such as particle pollution – is in another regime, a product of cosy lighting that links to senses of cultural norms and identity among Danes. Particle pollution, in other words, may both be negatively viewed as dirt and positively viewed as a multi-sensuous by-product of cosiness that is difficult to spare.

And this is precisely where the quality of light that the CFL offers is hitting the nerve. The ecstasy of the bulbs, make things look “sterile” to the informants. Their use of the term “sterile” may be somewhat metaphorical – more denoting an aesthetic sterile expression, rather than any measurement of bacteria – but nonetheless, it is in this negotiation of the sterile ideal that the contestation resides between introducing new lighting technologies and orchestrating homey atmosphere.

The sterile is on the one hand the absence of “matter out of place”. However, the orchestration of domestic atmospheres, particularly as it relates to cosiness, highlights the presence of a particular “matter out of place” *in place*; the smell of the soot, the slightly heavy air, and the un-sterile expression of the warm glow from the subdued light, flickering flames and shadows that orchestrates the intimacy of the cosy atmosphere, shapes a space that does not look sterile, commercialised, or depersonalised, but rather, *feels* like a home. To my informants, despite the diverse ways of inhabiting the flats and houses, homes are not perfect, something you buy from a shop, but are something that is made, is personal, and just a bit *not* sterile.

So to conclude, I want to argue that understanding the specific material qualities of the CFL bulb, the *ecstasies* of its *Ra* and the *Kelvin*, the patina or multi-sensuality of orchestrating lightscapes through the shadows, the flickering flames, and the glow from the subdued lighting, is at the heart of understanding the contestation against the energy saving light bulb. What would appear to be a moral good – saving tons of CO<sub>2</sub> emission into the earth’s atmosphere by simply switching to the energy saving light bulb – is contested by the lacking ability of a technology to expose the visual world in a way that does not leave a “sterile” impression, in whatever way that sterility is culturally evaluated. Sometimes, a little pollution is the necessary outcome of shaping a homey atmosphere, just to make sure that it is not sterile, and thereby, in the case of Danish homes, not social. Between the intimate experience of cosy atmosphere, and the distant impact of CO<sub>2</sub> emission and particle pollution, environmental ethics comes in second place.

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