

Cleaning & Restoration

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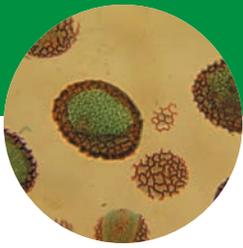
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Cleaning For Health - Part 1: The Evolution of Cleaning Practices

Many of us in the cleaning and restoration industry are so busy dealing with the everyday challenges of providing great service to our customers that it is difficult to take the time to see where we fit in the long-term scheme of the industry. Although a backwards focus can easily result in a non-productive longing for the good old days (which a fair assessment may remind us were not so good after all), a proper understanding of industry history can be invaluable in anticipating future trends. So, understanding the wisdom of the maxim that *the past is a prologue*, the information in these articles is presented to help you evaluate your position in the industry.

A Little History of Cleaning

Cleaning practices have changed over the millennium, but like any other aspects of our society, the pace of change has accelerated dramatically over the last century. In general, major cleaning advancements can be divided into four timeframes:

- 2800 B.C. - 1850s = Dirt and stain removal
- 1850s - 1960s = Detail cleaning for specialized applications

- 1960s - 2000s = Widespread use of antimicrobials
- 2000s - Future? = Holistic approach focused on occupant health

It is somewhat sobering to realize that the cleaning profession is almost 5,000 years old. Archaeological evidence of soap was found in Babylonian clay containers dated at 2800 B.C. Inscriptions on the containers state that the product was made from fats boiled with ashes. An entire soap factory was discovered in the ruins of Pompeii, a city destroyed by the volcanic eruption of Mt. Vesuvius in 79 A.D.

What is more surprising to modern professionals is that soap was not initially for surfaces. Soap in the ancient world was liquid and spoiled easily. It was very harsh and was used primarily for cleaning fabrics rather than skin or hair. There is little record of soaps being used to clean surfaces — even food preparation surfaces — but there was an early recognition

that soap had some medicinal use. Some Greek and Roman physicians did recommend washing with soap for skin ailments such as pustules.

Throughout most of history, soap use for personal hygiene was medically motivated. However, short-cuts in

manufacturing techniques achieved in the 1800s resulted in a new process whereby soap was cheaper to make. This affordability coincided with



observations that rigorous cleaning of surfaces and patients reduced infections.

In the 1850s, Florence Nightingale demonstrated this concept in hospitals for wounded British soldiers in the Crimea, leading a team of nurses to dramatically improve the survival rate of wounded soldiers. Prior to her emphasis on clean facilities, bedding and garments, a wounded soldier had a better chance of survival in the field than in an army hospital.

Joseph Lister expanded on Pasteur's theory that bacteria cause infection. In 1865, Lister proved the effectiveness of his methods, thus founding modern antiseptic surgery. Using carbolic acid as the antiseptic agent, he devised techniques of applying it so that when used in conjunction with heat sterilization of instruments it brought about dramatic decreases in post-operative fatalities. Until that point, more than 50 percent of surgical patients died of post-operative infections. (Incidentally, Joseph Lister was the personality that prompted the name Listerine for the first bacteria fighting mouthwash.)

The numerous individual approaches to cleaning currently being discussed are really just sub-sets or variants of the concept of cleaning for health.

For over 100 years antibacterial products were primarily limited to hospitals and food service facilities. Their use for food service sanitation was given a big boost by the publication of Upton Sinclair's famous book, *The Jungle*, in the early 1900s. Despite this improvement, plain soaps have minimal, if any, antimicrobial activity. In several clinical studies, hand washing with plain soap failed to remove bad micro-organisms from the hands of hospital personnel. Hand washing with plain soap can actually result in an increase in bacterial counts due to micro-organism growth on the wet soap bars being transferred to other users.

The 1960s saw the introduction of antimicrobial soaps such as Dial™ and Safeguard™ for regular use. By the 1990s, the number of antimicrobial products on the market exploded with the rapid acceptance of liquid soaps for hand and body washing. Initial marketing of antimicrobial soaps was focused on locker rooms and other public venues.

In the mid-1970s, antimicrobial cleaning products for general janitorial and restoration work expanded as the industry started to specialize and adapt to new building finishes such as carpeted floors in locker rooms. Hospital-style disinfectants entered the marketplace for odor control and water restoration projects.

Seeing the Connections Today

While cleaning and restoration has a very long history, rapid change in cleaning approaches has emerged over the last 8-15 years. The numerous individual approaches to cleaning currently being discussed are really just sub-sets or variants of the concept of cleaning for health. As these individual concepts continue to evolve, a holistic approach to maintaining buildings is revolutionizing the cleaning industry. This integration was led by an emphasis on

green products and techniques, and includes a growing emphasis on environment-friendly chemicals, reduction of volatile organic compounds (VOCs), and the removal of allergens in an effort to deal with the rising number of asthmatics. In addition to incorporating new methods, cleaning for health also provides the answers for the re-emergence of older problems such as bedbugs, dust mites and influenza.

Baubiology

The next level of a holistic approach to cleaning appears to be a concept called baubiology (pronounced "bow — biology" like a bow and arrow). It is the study of how buildings impact the people who occupy them. This concept has developed in the last decade in Germany. It is an attempt to link all of the factors of building design, construction and maintenance into a unified whole to provide the best living experience for the occupants. It covers a whole range of disciplines from the hard sciences related to products off-gassing and contaminant levels to semi-spiritual aspects such as feng shui.

Baubiology is not just about reducing the toxicity of individual building materials, but calls for a total approach to a healthy living environment. The practitioners of baubiology examine lessons from the past, but are focused on the future. They have learned that the combination of building materials, furnishings, and cleaning can create positive or negative synergies.

A Bad Cleaning Synergy

A wonderful example of a building that should have been renovated by a baubiology student was an elementary school in the Midwest. The principal called in a panic after entering the building on a Monday morning and finding luxurious mold growth on the school carpet after

annual carpet cleaning over the weekend. The combination of the outdoor temperature and humidity levels, extra moisture from the cleaning process and a new HVAC system created a tipping point — the straw that broke the camel's back. In that case a new air conditioning system had been installed. The high outside humidity (96-98 percent) meant that all of the drying capability had to be provided by the HVAC unit or ancillary dehumidifiers. Unfortunately, the new AC unit was oversized, which meant that the unit was short-cycling and cooling the floor without dehumidifying. As such, the carpet remained wet because the HVAC system created such short bursts of cold air that the floor level could not warm up to dry properly.

The Future is Now

Like it or not, expectations are growing that structures be cleaned properly to enhance occupant health. Cleaning and restoration professionals can meet that challenge if they understand their history and look forward to embracing the changes that are coming.

Next month we will explore some of the societal pressures that will continue to propel the industry. ■

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