

Healthy Thinking

Ir. Jaap G. Wijnja CFM

School of Facility Management, Hanze University Groningen , The Netherlands

Abstract

Two century-old hospitals that are now part of UNESCO's world heritage and the recent trend concerning 'healing environments' inspire to take a short trip in history...

At 300 BC the Greek were already well aware of the role the environment could play in the healing process. The Romans perfected the Greek ideas further, providing buildings and cities with a sewage system, bathhouses and aqueducts. One century ago, spread across Europe, hospitals and sanatoria were built, taking into account the effects of hygiene, colour and lighting to the healing process of patients.

In this presentation, best practices from one century ago (the 'Hospital de la Santa Creu i Sant Pau' in Barcelona (Spain) and the 'Sanatorium Zonnestraal' in Hilversum (Netherlands) and Paimio Hospital in Paimio (Finland)) are compared with the recent best practice at St. Charles Medical Centre in Redmond (Oregon, USA)).

It will become clear that the knowledge how to make a health stimulating environment is there and is based on centuries of experience. 'Modern' is the attention that is paid to the 'mood' and 'behaviour' aspects of the healing environment. The role of the behaviour of staff and volunteers in putting the patient in a good mood and in stimulating healthy behaviour of the patient is an important aspect. Here lies a great challenge for facility management, a great chance to prove 'added value' as a 'healthy thinking' advisor.

Keywords

Healing environment; Hospitals; Trends in FM.

Healthy Thinking; the challenge to provide a healthy work environment.

During a search for 'healing environments', one will not only find inspiring 'modern' environments, but also places that have been designed to be a healing environment for over a century ago. And digging deeper into history, even places that did so almost three millennia ago!

What can we learn from the past? What can we apply for our future? This paper puts some history and best practice in line, to conclude with some challenging questions concerning our future.

1. The history of thinking about health

The Hieron at Epidauros was the most celebrated healing center of the Classical world, the place where ill people went in the hope of being cured. To find out the right cure for their ailments, they spent a night in the Enkoimitiria, a big sleeping hall. In their dreams, the god Asklepios himself would advise them what they had to do to regain their health. As the illustration below (Fig.1) shows, the place was enormous. "There were plenty of places to get the juices flowing: woods for walking, a gymnasium and a stadium where one could watch athletic events, and run his own prescribed course. Below the frame to the right is a pure mineral spring that still flows, and a "hotel" where incubants would sleep until they were ready for Dream Night. Near the center of the picture is the Asklepion, or Temple of Asklepios, and below it an *Odeon*, or small theatre and lecture hall. Extending up from the *Enkoimitiria*, the Dream Diagnosis Hall at middle left are the baths (L) where the detox process could be moved along with water therapy, sweats and massages. Those who were getting ready for dream therapy could even see the country's finest actors play uplifting spiritual stories, as they still do in the warm months today" (Furst, 2007).

Asklepios, the most important healer god of antiquity, brought prosperity to the sanctuary, which in the 4th and 3rd BC embarked on an ambitious building program for enlarging and reconstruction of monumental buildings. Fame and prosperity continued throughout the Hellenistic period.

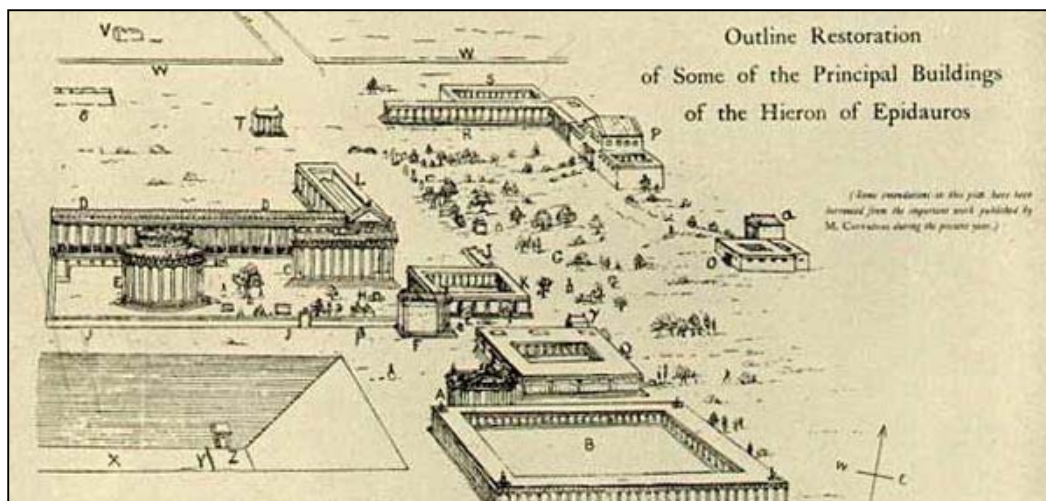


Fig. 1: The Hieron of Epidauros (Caton, 1900)

The Romans copied the Greek example into their way of life and enhanced it. They have become well known for their Bathhouses (The city of Bath (UK) is named after its Roman baths!), their Aqueducts and their sewage systems. There is a well-known Roman expression saying: 'mens sana in corpore sanum', meaning: a healthy mind in a healthy body... The Romans did obviously not only have healing environments, but also were aware of the effect that a healthy body has on one's mind.

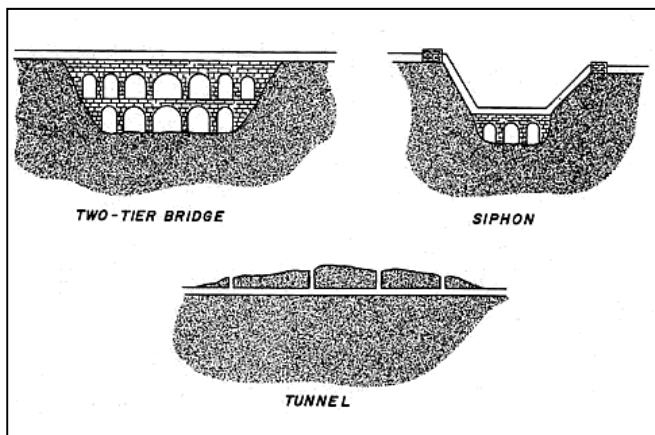


Fig. 2: Roman Aqueduct structures (Macaulay, 1978)

At A.D. 410, The Visigoths, led by Alaric, conquer Rome and sack Rome for three days in a row... the beginning of the 'Dark Middle Ages'.

During the Middle Ages our western culture seems to have forgotten almost everything the Greek and Romans had invented. Bloodletting became the main way of treating illnesses. Sewage systems decayed and were not used any more. All dirt was just thrown on the street.

It was during the Krim war (1853-1856), that the awareness of influence of buildings on health returned to our civilization. Miss Florence Nightingale was shocked, hearing about the 47% death rate amongst English patients in the Scutari Hospital in Istanbul. Lack of hygiene in the hospital caused many patients to die on 'secondary diseases'. She fought the lack of hygiene and also introduced standardized shipable hospital units for 30 man. In 1859 she published 'Notes on Nursing', in which she states that nursing "ought to signify the proper use of fresh air, light, warmth, cleanliness, quiet, and the proper selection and administration of diet – all at the least expense of vital power to the patient." She believed that nursing should provide care to the healthy as well as the ill and discussed health promotion as an activity in which nurses should engage.

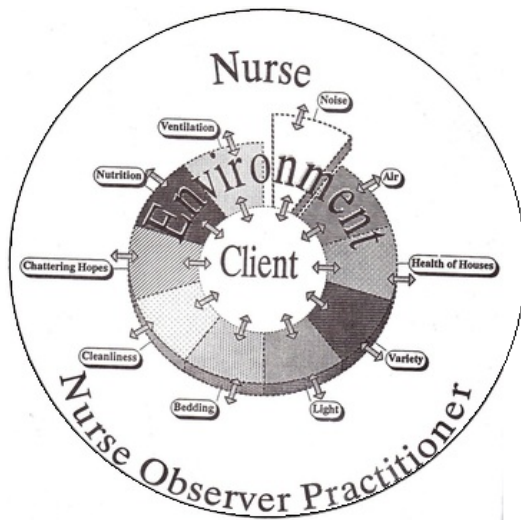


Fig. 3: Client and environment (after Nightingale, 1859)

2. Healing environment; a perspective

This paper has been inspired by Mobach's model describing organisational-environmental performances (Mobach, 2009). In this model, health, mood and behaviour are shown as 'performances' to which the environment can contribute, influencing the well-being of its users. A simplified version of Mobach's model is shown in figure 4.

With 'health' as a performance by the environment is meant the influence at the health of employees (sickbuildingsyndrome, obesitas, stress) as well as at the health of patients (fear, pain, depressiveness, delirium, death).

'Mood' as a performance of the environment, concerns satisfaction of users and the way climate, colours, odour and emotions are experienced.

'Behaviour' concerns the ways the environment influences users to behave healthy by stimulating them to walk, talk, concentrate, produce, wait or shop.

In the next three paragraphs of this paper, best practices from one century ago (the 'Hospital de la Santa Creu i Sant Pau' in Barcelona (Spain), the 'Sanatorium Zonnestraal' in Hilversum (Netherlands) and Paimio Hospital in Paimio (Finland)) are compared with the recent best practice at St. Charles Medical Centre in Redmond (Oregon, USA)), focussing on the ways these environments perform concerning health, mood and behaviour. Information on the different cases is gathered by excursions (Barcelona and Hilversum) and desk study (all).

The final paragraphs describe the most important differences found and the challenges these offer to facility management.

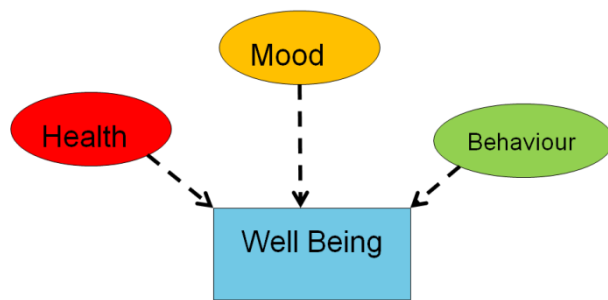


Fig.4: Organisational-environmental performances (Mobach, 2009)

2. Century old healing environments

In 1878 the first edition of 'Der Rohrleger', a magazine about how to equip buildings with Lighting, Warmth, Water and Air is published by Seydel in Berlin. In those years about a century ago, death toll by tuberculosis was three times as high as by lung cancer nowadays. It became clear that the best way to fight tuberculosis is to provide much daylight, clean air, to make the patient use and clean his lungs by walking in clean air and make him rest to recover and to do this all over a long period of time (several years). It was in this time, that the sanatorium and hospitals described in the next paragraphs were built.

2.1 Hospital de la Santa Creu i Sant Pau, Barcelona (Spain, 1902)

According to the World Heritage List of Unesco the Hospital de la Santa Creu i Sant Pau (St. Pau Hospital): "is of immense importance because it is the largest hospital complex in Modernist style (equivalent to *Art Nouveau*). Historically, the Hospital de Sant Pau, at one and the same time original and daring, demonstrates how it's architect Domènech i Montaner had studied the problem of modern hospitals" a century ago.

The hospital complex is in the form of an enclosure, containing 12 pavilions in a green parkscape of 13,5 hectares. Almost two kilometres of underground passages connect all the pavilions.

Health: in this hospital the rooms are light and colourful. Patients would be brought outside in the gardens of the enclosure, to enjoy even more sunlight and fresh (sea)air (see Fig. 5.). Each patient's bed was next to a large window. But, over more than 25 patients were put in one room, with negative consequences concerning noise, privacy and hygiene.

Mood: its floral decoration and abundant use of sculptures by the best artists of the period emphasize in a remarkable way the structure of the buildings. For Domènech i Montaner it was essential to be able to give sick people a feeling of well-being and beauty, which would

most certainly contribute to an early convalescence, since according to him beauty has therapeutic value."

Behaviour: patients were mostly kept in bed, but would be moved to the garden in the daytime when the weather provided. So the patients were 'forced' to take a 'sunbath' and to inhale fresh air.



Fig.5: Patients in the garden of St. Pau Hospital (picture courtesy of St. Pau Hospital)

2.2. Sanatorium Zonnestraal, Hilversum (Netherlands, 1928)

This sanatorium was designed for diamond cutters from Amsterdam who had caught tuberculosis. It has been designed by architect Jan Duiker, in cooperation with Bernard Bijvoet and Jan Gerko Wiebenga. The main building was opened in 1928. In 1957 Zonnestraal became a general Hospital.

Health: Typical for this building is the attention that is paid to daylight and to the location in the woods (120 hectares) offering fresh air.

Mood: An inviting place for people who must rest, walk, and spend lot of time in a hygienic surrounding with lots of light and fresh air.

Behaviour: since patients would be staying in the sanatorium over a longer period of time, conversation rooms, terraces, stairs and balconies and the location in the woods stimulate to meet with other people and to enjoy the outdoors. At the same time making the stay less depressing and giving opportunity to the lungs to recover.



Fig.6: Sanatorium Zonnestraal, Hilversum (picture by author)

2.3. Paimio Hospital, Turku (Finland, 1933)

The sanatorium was built in 1930-1933 by architect Alvar Aalto. The 'Nomination of Paimio Hospital for inclusion in the World Heritage List' (Ehrström et al. 2005) contains a great description of the complex.

Health: Aalto's starting point for the design of the sanatorium was to make the building itself a contributor to the healing process. He liked to call the building a "medical instrument". For instance, particular attention was paid to the design of the patient bedrooms: these generally held two patients, each with his or her own cupboard and washbasin. Aalto designed special non-splash basins (see Fig.7), so that the patient would not disturb the other while washing. The patients spent many hours lying down, and thus Aalto placed the lamps in the room out of the patients line of vision. Patients had their own specially designed cupboards, fixed to the wall and off the floor so as to aid in cleaning beneath it.

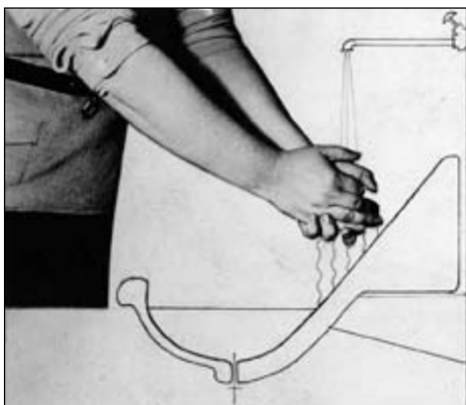


Fig.7: The principle of the 'non-splash' washbasin in the patients' room (Ehrström et al. 2005).

Since the only known "cure" for tuberculosis was complete rest in an environment with clean air and sunshine, on each floor of the building, at the end of the patient bedroom wing, were sunning balconies, where weak patients could be pulled out in their beds. Healthier patients could go and lie on the sun deck on the very top floor of the building.

Mood: the ceiling of the patients' rooms was painted dark green to provide a relaxing atmosphere and to avoid glare. As the patients spent a long time—typically several years—in the sanatorium, there was a distinct community atmosphere among both staff and patients; something which Aalto had taken into account in his designs, with various communal facilities, a chapel, as well as staff housing.

Behavior: specially laid out promenade routes through the surrounding forest landscape invite the patients to enjoy the outdoors and exercise their lungs in fresh air.

3. Today's best practice and research results

The economic hardships of the thirties, the second world war and the consequent urge to (re)build much and fast seems to have pushed the developments and knowledge concerning healing environments to the background, not to return until recently. Recent research makes clear that:

- A fancy room, well planned use of colours, a dynamic lighting system and a good climate (temperature) have a positive influence at vitality (Maslow and Mintz, 1956);
- Good use of odour and colour can relax anxious people (Lehrner et al., 2000; Jacobs and Suess, 1975);
- Sunlight and flora can reduce pain and lower the need for medicine (Ulrich, 1984; Walch et al. 2005);
- Sunlight, especially the morning sun, shortens the necessary length of stay of depressive patients (Beauchemin and Hays, 1996; Benedetti et al. 2001);
- A room with a view lowers the chance to have a delirium after being operated (Wilson, 1972; Keep et al. 1980);

The next hospital is described to show today's best practice in the field of healing environments.

3.1. Saint Charles Medical Centre Redmond (Oregon, USA, 1952)

This hospital has been built in 1952. It contains 331 beds. It's not the architecture that makes this building special, but the way the interior and the staff are supporting the healing process.

Most of the information on this hospital has been derived from a Dutch travel report written by Sonnenschein and Haimé (2007).

Health:

The normal health related aspects are all provided: clean bedrooms with a good climate, bright colours and a great view to the outside (see Fig. 9.)

Mood:

In the St. Charles MC (226 beds) the focus is on the patient. The environment is styled to make the patient feel at home. All waiting rooms are different, with different furniture, club chairs and even fireplaces (see Fig 8). Illumination like at home, lots of green plants, views to the natural surroundings of the building. Live music is performed regularly by patients, visitors and even the local music school. Good facilities are available for visiting family members to make a longer stay possible.

Behaviour:

Hospital staff is considered to be an important part of the 'healing environment' as well. Staff is only hired when they see "healthcare as a calling for those who serve". All staff, also medical, is in plain clothes. Since cleaning staff are active especially during nightly hours and are then addressed by patients, they all get trained in communication skills, so they as well can be 'caregivers'.

Environment, including hospital staff and family, stimulate patients to feel at home and to behave as if they were not patients.



Fig.8: Fireplace at Saint Charles Medical Centre (Sonnenschein and Haimé, 2007)



Fig.9: Great view: Saint Charles Medical Centre (Sonnenschein and Haimé, 2007)

4. Old practice and best practice compared

In table 1, the way the different hospitals and the sanatorium perform(ed), has been summarized.

Tab. 1: Performance of the described environments

Environment	Health	Mood	Behaviour	Remarks
Sant Pau	Daylight; colours; Sunlight; (sea)air; garden; many patients in one room.	Decoration, sculptures, 'beauty'.	Patients stay in bed, but are moved to the outside in the daytime.	
Zonnestraal	Light; bright (not colourful); fresh air; woods; one or two patients per room.	Inviting, facilities must make longer stay agreeable.	facilities stimulate to walk and to talk	Both Zonnestraal and Paimio have initially been designed as TBC-
Paimio	Building = medical instrument; total design, also furniture and 'non-splash' washbasins Light; bright; fresh air; woods; one or two patients per room.	Dark green ceiling for relaxing atmosphere; various facilities must make longer stay agreeable.	facilities stimulate to walk and to talk	Sanatoria. Both facilities have turned out to be very useful as general hospital as well.
Saint Charles	Clean bedrooms; good climate; bright homely colours; great view.	Make patient feel at home; colours; odour; fireplaces; green plants; non uniformity of rooms; musical instruments and performances; facilities for visiting family; involvement of family and volunteers.	Environment, hospital staff, family and volunteers stimulate patients to feel and to behave as 'at home'. Behaviour of staff plays in important role in making the patient feel at home (=mood of patient).	The behaviour of staff plays a very important role in this hospital!

Comparing old practice and best practice, the following differences are striking:

- Health: most of the good 'old' practice, especially concerning 'health', is still in use;
- Mood: nowadays a lot more is done to make the patient feel at home: non uniformity of rooms, use of odour and indoor green plants. But also the integration with the rest of the world, by facilitating the stay of family and by actually inviting the world to the hospital, by organising repetitions and performances;
- Behaviour of staff and volunteers nowadays plays an important role in putting the patient in a good mood and in stimulating healthy behaviour of the patient. Working in this way calls for special leadership.

5. Conclusion

The knowledge how to make a health stimulating environment is there and is based on centuries of experience. 'Modern' is the attention that is paid to the 'mood' and 'behaviour' aspects of the healing environment. The role of the behaviour of staff and volunteers in putting the patient in a good mood and in stimulating healthy behaviour of the patient is an important aspect.

Facility Management can play an important role as the facilitator of a healing environment. This will not only be the built environment, but also the way this environment is decorated, the service that is provided and the way in which that service is provided. Looking at the St. Charles Medical Centre the facility staff can also be 'caregivers'. This will mean a strong integration of Facility Management in the primary process.

Succeeding will depend on providing the right 'hardware' (building, interior, design, colours, green plants, odours, logistics...) more scientific data to support making the right choices concerning those aspects is needed.

Succeeding will also depend on providing the right 'software' (people) with the right skills, the right attitude and the right vision and approach (management).

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