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Carmine Gambardella

XIX INTERNATIONAL FORUM

Le Vie dei
Mercanti



World Heritage and Design for Health

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Conference report

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Health as an Institutional Commitment. The conversion of Nordkraft from a Power Station to a Cultural and Health Centre

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Abstract

More than half of the world's population currently lives in cities, and urban health problems have worsened. In cities, there are serious risk factors for health and the spread of diseases, such as COVID-19 whose major epicentres have been in urban settlements.

To guarantee public health, urban environments must be remodelled on the basis of new urban planning principles, in a holistic vision with integrated social and health-related aspects. Indeed, public health in urban habitats is not just about increasing life expectancy but also about improving the quality of life itself. Consequently, urban environments must offer not only health services but also social opportunities to individuals, namely the ability to build relationships, cultivate interests, develop culturally and lead a healthy lifestyle.

The World Health Organization promotes health in urban environments through the Healthy Settings approach and the establishment of a network of healthy cities, encouraging local authorities to experiment with initiatives for the construction of environments favourable to health. Among these is the former Nordkraft power plant in Aalborg (Denmark) which was converted into a centre for psycho-physical well-being for citizens in which spaces and equipment are offered for diverse hybrid and creative activities. This work examines this conversion as a case study of projects promoting community health and well-being in urban environments.

Keywords: Urban Health; OMS Healthy Cities Network; Healthy Setting; Aalborg; Nordkraft

1. Introduction

The phenomenon that has most profoundly characterized the beginning of the 21st century is urbanization. Currently, over 55% of the world's population lives in urban areas, and the trend is continuously increasing. Cities undoubtedly offer many opportunities but, at the same time, urban life is not free from risks and threats to resident's health. Among the main factors threatening health in the city are inadequate housing, inefficient public transport, poor hygiene, inadequate waste management, air, water and soil pollution, noise and light pollution, urban heat islands, lack of pedestrian spaces and spaces and equipment for leading an active life.

To these factors can be added phenomena related to ethnic and religious violence and intolerance; noncommunicable diseases, such as heart disease, stroke, asthma and other respiratory diseases, cancers, diabetes and depression; infectious diseases that find their ideal environments through which to spread and multiply in the gatherings and concentration of individuals in the cities. The pandemic produced by the spread of the COVID-19 virus has clearly demonstrated the latter factor; in fact, in the spread of the pandemic, cities were the major epicentres of the contagion [1–3].

The sanitation problems of contemporary cities have changed in recent time as community needs have evolved and the relationships between urban planning and health have become increasingly evident. Urban and regional planning is a fundamental tool for the protection of individual and collective health. Urban regeneration, social innovation, an efficient public transport system and alternative mobility are tools that make it possible to improve citizen's state of well-being as well as their quality of life, life-style options and living conditions [4].

Starting from these considerations, the Urban Health approach [5] was developed which is a new approach to the city focused on the relationship between urban planning and health and aimed at

promoting urban planning principles and practices for a healthy city. The Urban Health approach seeks to define actions that can have positive impacts on human health and quality of life, thus underlining the strong interdependence among physical, mental and social well-being and the environments in which people live [6–8].

The World Health Organization (WHO) is one of the main players that, on a global level, defines strategies for improving health; among these are indications for the creation of living environments that favour well-being and promote health in its broadest definition [9]. To this end, in 1986 the WHO promoted the international Healthy Cities Network with the aim of putting the issue of health on the agenda of the city governments [10].

In more than thirty years of experimentation, the WHO Healthy Cities Network has tackled the problem of health in urban setting from different points of view, finding original and innovative solutions. Among these is the conversion of the former Nordkraft power plant in Aalborg, Denmark, which this article analyses as a case study. The city, part of the Healthy Cities Network, has adopted a Healthy Settings approach to create a new services centre focused on citizens' well-being and which offers spaces and equipment for pursuing diverse hybrid and creative activities.

2. WHO Activities for the Promotion of Public Health in Cities

The WHO was established as a specialized agency of the United Nations to help improve nutrition, hygiene, housing, urban liveability and working conditions around the world. Its Constitution, drawn up in 1946 and in effects since 1948, defined for the first time the concept of health as «a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity» [11] (p. 1). The Constitution also stresses that the environment is extremely important for achieving a state of health: the individual or group must be able to change the environment or adapt to it to fulfil their aspirations and meet their needs [12].

Denouncing the enormous disparity between the quality of the environment and the health status of populations in developed and developing countries, the WHO has intensified its campaign to defend the right to health. In 1978 the organization, together with UNICEF (United Nations Children's Fund), promoted the signing of the *Alma Ata Declaration* which emphasizes the importance of primary health care – which addresses the major health problems of the community and provides the necessary promotion, prevention, treatment and rehabilitation services – as a strategy for achieving a better level of health for the world's population.

The motto of the declaration was "health for all by 2000". The goal was to ensure an acceptable level of health for all people in the world by 2000 through a better and more complete use of the world's resources, a considerable part of which was then – in the context of the Cold War – devoted to armaments and military conflicts. A true policy of independence, peace, detente and disarmament could have freed up additional resources for peaceful purposes, including primary health care.

The statement also highlighted that achieving a better level of collective health, a result to be achieved around the world, required an interdisciplinary approach and the contribution of the economic, social, construction, urban and health sectors.

Based on these considerations, in 1986 the WHO promoted the drafting of the *Ottawa Charter for Health Promotion*. This document is based on a socio-ecological approach to health and underlines the inextricable link between humanity and the subsystems that make up the ecosystem in which people live, from the family to the community, from the physical to the socio-cultural environment [13].

The *Ottawa Charter* introduced the concept of "health promotion", which is the process of allowing people to exercise greater control over their health and its improvement. One of the key factors in this process is taking care of each other and the environment we live in by creating so-called "supportive environments". The concept of supportive environments implies the evaluation of the effects of the physical environment on individual and collective health, to be evaluated both in private and public space, directly involving the architectural and urban planning disciplines. To this end, the WHO has launched the Healthy Cities project on an experimental basis (see below) to sensitize local administrations to the need to include the issue of health in the city government's agenda.

The need to create supportive environments for health promotion was subsequently the subject of the WHO-sponsored Third International Conference on Health Promotion in 1992, held in Sundsvall (Sweden). The *Sundsvall Statement on Supportive Environments for Health* defined the concept of "supportive environments for health", later introduced in the WHO's *Health Promotion Glossary*, which

says: «supportive environments for health offer people protection from threats to health, and enable people to expand their capabilities and develop self-reliance in health. They encompass where people live, their local community, their home, where they work and play, including people's access to resources for health, and opportunities for empowerment» [9] (p. 20).

The Sundsvall Conference demonstrated that issues related to health, the environment and human development cannot be separated and that a supportive environment has many dimensions – physical, social, spiritual, economic and political – to be addressed broadly and holistically. People form an integral part of the earth's ecosystem; their health is fundamentally interlinked with the total environment [14].

This global dimension of the concept of health was the subject, in 1997, of the *Jakarta Declaration on Leading Health Promotion into the 21st Century*. The participation of everyone at the local level is essential to supporting global health promotion efforts. To be effective, actions must be centred on people and, in this context, living and working environments are places that offer concrete opportunities for meeting, socializing and sharing to build and implement global strategies for a better future.

The protection of health and the achievement of well-being are central themes of the 2030 Agenda for Sustainable Development defined in 2015 by the United Nations. The Urban Health approach is transversal to all 17 objectives, with particular reference to the strong link between Sustainable Development Goal (SDG) 3, "ensure healthy lives and promote well-being for all at all ages", and SDG 11, "make cities and human settlements inclusive, safe, resilient and sustainable" [15].

On the theme of implementing the SDGs for sustainable development, the 9th WHO World Conference was held in Shanghai (China) in 2016, celebrating the 30th anniversary of the WHO European Network of Healthy Cities. Over 100 mayors attended the International Forum to exchange ideas and experiences in creating healthy cities in the context of the SDGs. The *Shanghai Consensus on Healthy Cities* [16] highlighted the political responsibility of local administrators to support citizens in leading healthier, safer and more fulfilling lives by using urban planning to create healthy environments. Health is created in the environments of daily life, in the neighbourhoods and communities where people live, love, work, shop and play. Health is one of the most effective indicators of the successful sustainable development of any city and contributes to making cities inclusive, safe and resilient.

The experience of the meeting of mayors was repeated two years later, in 2018, in Copenhagen (Denmark). The WHO promoted the Consensus of Mayors of Copenhagen, *Healthier and Happier Cities for Everyone. A Transformative Approach for Safe, Inclusive, Sustainable and Resilient Cities* [17]. The theme of the Consensus of Mayors focused on the need to design urban places on a human scale, capable of improving health and well-being, giving priority to people and the planet.

The vision of the meeting, fully aligned with the United Nations 2030 Agenda, has given renewed impetus to the activity of the Healthy Cities Network [10]. The mission of the Network has been summarized in the so-called 6 Ps: "Healthy Cities foster health and well-being through governance, empowerment and **P**articipation, creating urban **P**laces for equity and community **P**rosperity, and investing in **P**eople for a **P**eaceful **P**lanet".

3. The Healthy Settings Approach

To "move into the future" towards a health and wellness perspective, the *Ottawa Charter* suggested paying particular attention to the ways in which health is «created and lived by people within the settings of their everyday life; where they learn, work, play and love» [13] (p. 4). This *Ottawa Charter* statement is at the heart of the Healthy Settings approach, which is a holistic approach that integrates health promotion and sustainable development and includes community participation, partnership, empowerment and equity.

The WHO adopted the Healthy Settings approach to launch the Healthy Cities programme in 1986 [18]. Since then, hundreds of healthy cities have spread rapidly across Europe – the European network of healthy cities has brought together about 100 flagship cities and around 30 networks covering approximately 1,400 municipalities – and in other parts of the world [19].

The term "health city" indicates a city aware of the importance of health as a collective good, which allows people to exercise greater control over their health and which implements clear policies to protect and improve it, counteracting inequalities [5]. According to the WHO's *Health Promotion Glossary*, «a healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and in developing to their maximum potential» [9] (p. 13). In other words, a healthy city aims to create a healthy environment to achieve a good quality of life. In addition

to providing basic sanitation and guaranteeing access to health care, a healthy city prepares environments conducive to the performance of all the functions necessary for life, with health meaning not only the absence of diseases but the positive psycho-physical well-being of people [20, 21].

The experience of healthy cities has changed the way cities understand and deal with health. As highlighted in 2018 by the Copenhagen Consensus of Mayors, healthy cities are the best way to achieve the SDGs of the 2030 Agenda. Indeed, most global health, social and environmental challenges require local action and strong leadership [10].

A new idea of the city is emerging from the Healthy Cities project based on a new planning model [22–24]. In urban areas, the health of the population is influenced by the characteristics and conditions of the city. In particular, in developed countries, the higher levels of urbanization, air and noise pollution, aging of the population, sedentary lifestyles and unhealthy diets, cause an increase in the incidence of non-communicable diseases and produce social and psychological inequalities as well as disparities in access to services. The new urban model can become one of the most suitable tools to respond to new critical issues. The links that exist between people and their environment represent the basis for a new socio-ecological approach to promoting health and quality of life, overcoming the disciplinary barriers between urban planning and medical disciplines, through the active involvement of local administrations and communities [5].

The current configuration of cities presents as many risks to public and individual health as there are opportunities. Cities, in fact, are the cause of the problem, but they can also become part of the solution [25]. Properly planned, well-organized and consciously administered cities can improve the living conditions and health of the population [5, 26].

4. The Danish Healthy Cities Network

Denmark is one of the European countries that are participating in the WHO Healthy Cities Network. The Danish Network was established in 1991, and more than half of Denmark's local governments are members (53 out of 98 municipalities). The Network contributes to the development of public health in Denmark through close cooperation with municipalities and regions. The Network is a laboratory that facilitates the collection and exchange of knowledge and experience on public health, develops co-creation models that rethink how municipalities can work for and with their citizens, and promotes alliances with research institutes to translate knowledge and scientific research into practice [27].

In Denmark, following the reform of municipal powers initiated in 2007, responsibility for health promotion and prevention has been transferred to municipalities. In line with the 1997 Jakarta WHO Declaration, the municipal level has been identified as the most appropriate for addressing and solving the health problems of a city community. This responsibility was subsequently reaffirmed by the Shanghai Consensus on Healthy Cities in 2016 and the Copenhagen Consensus of Mayors in 2018.

Local actions are part of a national public health programme, based on the connection between the risk factors present in the environment and the main diseases of the population. The programme – in accordance with the definition of “health” developed by the WHO – underlines that the objectives of prevention and health promotion are not only to increase life expectancy but also to improve the population's quality of life. The determining factors that ensure an individual's quality of life and health generally include educational opportunities, income level, housing conditions, working environment and quality of the health system. The guidelines for the promotion of public health [28] underline the importance of also evaluating the general social conditions, i.e., the opportunities that the individual has to build relationships, develop a social dimension, cultivate interests, participate in cultural events and, in particular, play sports.

In 2011 five Danish cities, Aalborg, Ikast-Brande, Gladsaxe, Slagelse and Odense, pioneered innovative ways to integrate health considerations and sustainable development into the way we plan, design, maintain, improve and manage our cities and neighborhoods. Each city has organized itself differently, achieving results in different contexts. In general, cross-sectoral teamwork has been the approach that all these cities have adopted for health promotion and prevention. Evidence clearly shows that implementing projects benefitting health requires good planning, cross-sector management skills and strong leadership [29].

5. The Nordkraft Case Study

5.1. The Ecological Transition of Aalborg

Aalborg has faced a very intense urban transformation process. Since the 1970s, the city has changed its image from an industrial centre to an innovative pole in the services sector for education, health, renewable energy and digital technologies. The change process was guided by and based on the principles of sustainability and respect for the carrying capacity of the environment: to minimize land consumption, many former industrial buildings were converted to accommodate new functions.

The recent re-functionalization of the Nordkraft power plant is an example of urban circular metabolism that has also activated a new social metabolism; this project addresses the issues of public health as

an institutional commitment and contributes to the reduction of climate impacts through the use of eco-sustainable energy sources.

The factory conversion project started from the national decarbonization energy plan. Nordkraft was a coal-fired power station built in 1947 to cover Aalborg's energy needs. In 1999, the plant was definitively decommissioned in favour of a production mix of energy sources that excluded the use of hydrocarbons. As evidenced by the results of the IEA (International Energy Agency), Denmark is the nation that is pursuing the goal of a carbon free future by 2050 with the utmost commitment.



Fig. 1: Nordkraft, Aalborg. Prospectus of the multipurpose cultural center on Nyhavnsgade, 2020.

5.2. Nordkraft from the Power Plant to the Health Centre

Having abandoned coal as an energy source, the great power plant reached the end of its life cycle. The building was originally built on the edge of the city; overtaken by the expansion of the city, it is now in a central location. Its centrality and its size (about 30,250 square meters over thirteen levels) make it a building and urban heritage of great potential.

Therefore, the Municipality of Aalborg decided not to demolish the building and, in 2004, took the initiative to buy the entire complex. Through the involvement of numerous stakeholders – including associations, public and private bodies, citizens – the building has been re-purposed into a cultural centre capable of hosting multiple and diverse functions of economic and social utility. The new identity of Nordkraft, while preserving historical memory with the maintenance of the original appearance of an industrial building, becomes that of a new urban place dedicated to health promotion, where hybrid expressive forms are mixed and synergies are generated from the encounter between culture and sport [30].

Following the principles expressed by the health law, the Municipality of Aalborg has seized the opportunity offered by the decommissioning of the plant to create in the city centre a place dedicated to health in its broadest sense, thus offering, in addition to spaces and equipment for disease prevention and the promotion of health and body care, opportunities to meet, exchange, socialize, enjoy cultural entertainment, training, eat healthily and pursue leisure activities.

5.3. Public-Private Participation in Management

The Municipality has launched numerous public consultations seeking collaborations with volunteers, private individuals, sports associations, bodies and institutions for the realization of the project and for the co-management of sports, social and cultural services. Currently, the main Nordkraft players who have voluntarily joined the project are: DGI (Danske Gymnastik- & Idrætsforeninger, the Danish association of sports clubs), which manages approximately 5,000 m² of the complex; the Municipality of

Aalborg, with approximately 6,500 m²; Skråen (a musical association), with approximately 4,000 m². There is also the University of Aalborg and numerous smaller players, including private entities such as the owners of the 16 apartments created in the complex.

All the actors are organized in an association of owners (Nordkraft Drift) which manages the maintenance, common areas and activities open to the public. The common spaces, owned by the owner's association, can also be rented for events and are managed by DGI Huset.

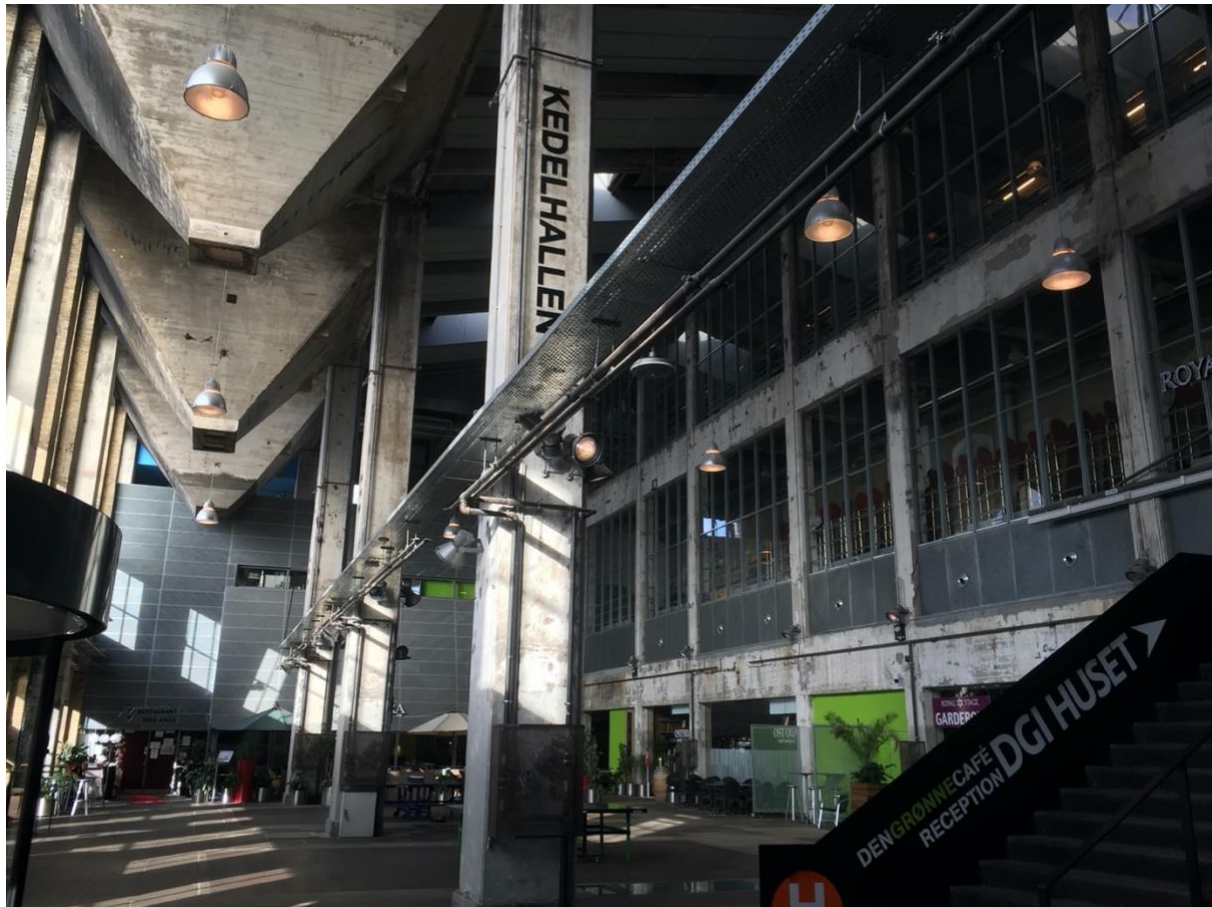


Fig. 2: Nordkraft, Aalborg. Entrance hall Kedelhallen, 2020.

5.4. Entertainment, Socialization and Catering Activities

Nordkraft is always full of activity (the centre is open daily from 06:00 to 23:00) and has become the most important and vital cultural centre in the city. The common areas, deliberately left in their raw aspect, are flexible and capable of hosting musical, theatrical and sporting events, cultural and artistic activities, professional and university training, entertainment for children and teenagers, restaurants and cafes, fairs, parties and markets.

The large Kedelhallen – the former 1,000 m² boiler room, today the entrance hall – has been adapted as a common space also used as the foyer of the Italian restaurant Azzurra, the Indian restaurant Mumbai, the Skråens café and the cultural café KUL. Visit Aalborg, the city's travel agency, has its information desk for local cultural events in the lobby. The monthly food market with local specialties takes place here, and the space is often used for artistic performances and by street performers.

The gastronomic offer of Nordkraft is enriched by the Den Grønne Café restaurant, located on the fourth level, specializing in the preparation of healthy food prepared with fresh local and organic seasonal ingredients, and by the Biffen Café, the theatre café.

Kunsthal NORD is the meeting place for contemporary art and cultural debate: exhibits of Danish and international visual arts, high-quality craftsmanship and design are held with aim to show the diversity of contemporary art, with a special commitment to the regional art scene.

5.5. Professional and University Training Activities

Much of Nordkraft is devoted to training. There are cultural institutions and associations that offer different types of learning: the University of Aalborg is present with one of its university libraries, with courses on *Communication, Digital Media and Psychology*, and, thanks to a collaboration with the DGI, courses on *Training in Sport Technologies*. The Fokus Folkeoplysning companies offer professional,

sporting and cultural training courses; the Aalborg Kulturskole School of Culture offers dance, music, visual arts and theatre instruction; the Aalborg Ungdomsskole youth association runs KUL, a cultural café and venue for informal events and activities with theatrical rehearsal rooms and workshops for music, journalism, media, dance, theatre and art. The DreamHouse, located on the top floor, is an entrepreneurial incubator dedicated to new small businesses wishing to operate in the field of culture and creativity.

5.6. Culture and Entertainment

Large spaces are dedicated to entertainment and the performing arts: the Skråen musical association offers every year a rich calendar of music, shows and events every years with national and international artists; the Teater Nordkraft, which organizes up to four shows at the same time in four rooms, is divided into theatres for children, young people and adults and is continuously present in the life of the city as an important point of reference that creates and shapes its identity; the Biffen independent cinema presents film reviews and arthouse films.

5.7. Sports, Health and Assistance Activities

Sport occupies a prominent role in the Nordkraft cultural centre. The regional association DGI North Jutland manages most of the sports facilities in the building, with an extremely varied offer of sports for all ages. On public holidays, the association offers children the DGI Hallen (the large room where there is a 20 meters high indoor climbing wall, the highest in Denmark) for free play activities, transforming a weekly closing period into a time for multigenerational gatherings. The association also plays a supporting role for voluntary associations that focus on sport as a tool to protect health and strengthen a sense of community.

Nordkraft also manages SIFA (Samvirkende IdrætsForeninger Aalborg), an umbrella organization for sports associations which acts as a consultant for business organization, management, construction and development activities. As a representative of the Public Information Committee, SIFA also has an influence on the sports policy of the Municipality of Aalborg, which is responsible for awarding grants to sports associations. There are also numerous associations that have taken up residence there, including Sportskarate.dk, Aalborg Taekwondo Soo-Bak, and martial arts clubs.

There is also the I.H. (Idrætsforeningen for Handicappede) health and sports centre for the disabled which is part of the largest disabled sports association in the country. There is also an Aalborg Health Centre hub, providing free municipal support and guidance services to optimize lifestyles and habits and assisting those living with a chronic disease (diabetes, lung disease, cancer or cardiovascular disease).



Fig. 3: Nordkraft, Aalborg. Hall of Skråen performance halls and Teater Nordkraft, 2020.

6. Conclusions

The predominantly urban dimension of the 21st century population is confronted with the numerous and differentiated aspects of life in the city that threaten health. Segregation, discrimination, crowding, social and economic disparities and unhealthy environments increasingly affect the lives of citizens.

The WHO's intense work promoting health as a right of the world's entire population has identified cities as part of the solution to the problems they cause. Therefore, the WHO has called for action at the local level to achieve a global impact, entrusting mayors with initiatives to promote health in the city through a multisectoral approach and with the active involvement of citizens. The network of healthy cities promoted by the WHO has shown that this approach achieve appreciable results and has highlighted that urban planning is an indispensable tool for implementing effective prevention and health promotion policies.

A practical example of how to transform urban environments into healthy environments through the Healthy Settings approach is the regeneration of Nordkraft, the former Aalborg power plant. The city, which is part of the WHO network of healthy cities, has applied the principles of the Healthy Settings supported by the WHO to create a new urban space dedicated to health.

The case is also representative from the point of view of the urban circular metabolism. Aalborg has dealt with the crisis of the industrial sector, the main economic sector of the city, through the ecological transition, reconvertng the sources of energy supply and recycling abandoned industrial buildings.

The process of reintroducing abandoned industrial buildings into new production cycles has made it possible to respond to the new needs of citizens. Nordkraft is a significant part of this regeneration process based on sustainability, both from an environmental and socio-cultural point of view, with a vision particularly focused on physical health and on the growth of the community life of the population. In the reconversion of Nordkraft, health is considered a right of all and an institutional commitment of the city government. Today, the power plant, transformed into an environment conducive to health, fully responds to the objective of favouring «a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity» [9] (p. 1).



Fig. 4: Nordkraft, Aalborg. Prospectus of the multifunctional cultural center on Teglgårds Plads, 2020.

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CARMINE GAMBARDELLA

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