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Environmental Health Concept Revealed in Paintings of Great Artists

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ABSTRACT

Environmental health is the segment of public health concerned with all the environmental factors of the natural and built environment that can potentially impact health. Many famous artists, such as Georges Seurat and Claude Monet, created magnificent pieces of art portraying aspects of the past natural and man-made environment which have been associated with environmental health concerns. The aim of this study is to present a sample of paintings from previous centuries that display significant environmental health information. For the purposes of the study, extensive research has been performed in official online public domain art databases. The study confirms that many aspects of environmental health have been clearly illustrated in famous paintings from previous centuries. All the relevant paintings, including both public domain and copyright protected artworks, provide important environmental health research material of high artistic, scientific and social value. This material may all be collected in a large, comprehensive database which would enrich the history repository of environmental health.

Keywords: Environment, environmental health, environmental health history, environmental health risk factors, paintings.

JEL codes: I12, I15, Q56, R11.

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1. Introduction

Arts have been a crossroad for scientists of many different disciplines, related among others to the identification of pigments, tracking of their origin, interpretation of color symbolism and conservation and restoration of cultural heritage (Hradil, Grygar, Hradilová & Bezdička, 2003; Barnett, Miller & Pearce, 2006; Iordanidis, Garcia-Guinea, Strati, Gkimourtzina & Papoulidou, 2011; Rosado, Silva, Dias, Candeias, Gil, Mirão, Pestana & Caldeira, 2017). A large number of artworks, such as paintings, engravings and statues, portray aspects of the socio-economic and cultural environment of previous historical periods, everyday life, climatic conditions and aspects of the relationship between humans

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and natural environment (Zeven & Brandenburg, 1986; Dowson, 1994; Maggs, 1995; Swe, 2012; Guagnin, 2015). Also of note is the fact that many health problems are depicted in paintings, carvings, pottery artifacts and statues (Weisman, 1966; Reeves, 1980; Mackenbach, 2005; Bernal & Briceno, 2006), such as in the case of ancient Egyptian statues portraying Akhenaton having endocrine disorders (Reeves, 1980; Codaccioni, Conte-Devolx & Argémi, 2013).

Environmental health is defined as the branch of public health that is concerned with all the environmental factors of natural and built environment that can potentially impact human health. Environmental health specialists must address various physical, chemical, biological, social and psychological factors which determine the general well-being of current and future generations (Schulz & Northridge, 2004; Levy & Patz, 2015; Frumkin, 2016).

Much environmental health data is depicted on artworks of the previous centuries, such as in engravings of the 19th century which visualize the air pollution caused by coal use, especially in industrial areas (Brimblecombe & Bowler, 1992; Vallero, 2008). Furthermore, it has already been demonstrated that paintings reveal important environmental data by analyzing the colors used by the artists when painting sunsets as their main theme (Zerefos, Gerogiannis, Balis, Zerefos & Kazantzidis, 2007; Zerefos, Tetsis, Kazantzidis, Amiridis, Zerefos, Luterbacher, Eleftheratos, Gerasopoulos, Kazadzis & Papayannis, 2014).

The aim of this study is to present a sample of paintings that show significant environmental health information from previous centuries. After the description of the methodology, the third section of the paper includes the selected paintings which are accompanied by short references to the relevant environmental health factor in play. This paper may be considered as the starting point for the creation of an artwork database that could significantly enrich the history repository of environmental health.

2. Methods

For the purposes of this study, extensive research has been performed in official online public domain art databases. The search was based on certain keywords such as “pollution”, “steam”, “smoke” and “industrial”. This study includes only public domain images, in order to avoid copyright conflicts.

3. Drawings that display environmental health aspects

Some of Claude Monet’s most well-known artworks offer unique representations of the polluted urban atmospheric environment which adversely affects human health (Hoffman, 2019; Jorquera, Montoya & Rojas, 2019). For instance, in his artwork entitled “Arrival of the Normandy Train, Gare Saint-Lazare”, the steam trapped by the terminal facility creates a stuffy and unhealthy environment (Figure 1).



Figure 1. Arrival of the Normandy Train, Gare Saint-Lazare – 1877, Claude Monet (1840-1926). Source: The Art Institute of Chicago.



Figure 2. Waterloo Bridge, Gray Weather – 1900, Claude Monet (1840-1926). Source: The Art Institute of Chicago.

Additionally, Monet's "Waterloo Bridge, Gray Weather" (Figure 2) and "Charing Cross Bridge, London" clearly picture the pollution caused by large industrial chimneys (Figure 3).

Edgar Degas's "Landscape with Smokestacks" (Figure 4) and Camille Pissarro's "Morning, An Overcast Day, Rouen" (Figure 5) also represent similar environmental health concerns.



Figure 4. Landscape with Smokestacks – circa 1890, Edgar Degas (1834-1917).
Source: The Art Institute of Chicago.

Weather conditions, including extreme weather events which also affect both directly and indirectly human health (Hashim & Hashim, 2016; Zivin & Shrader, 2016), are represented in many excellent drawings, such as those in Figures 6-8. For instance, in the picturesque drawing "A Sunday on La Grande Jatte" by Georges Seurat (Figure 6), people of different ages use umbrellas or shadow to protect themselves from the solar radiation which is a well-studied environmental health risk factor (de Gruijl, 2000; McKenzie, Liley & Björn, 2009).

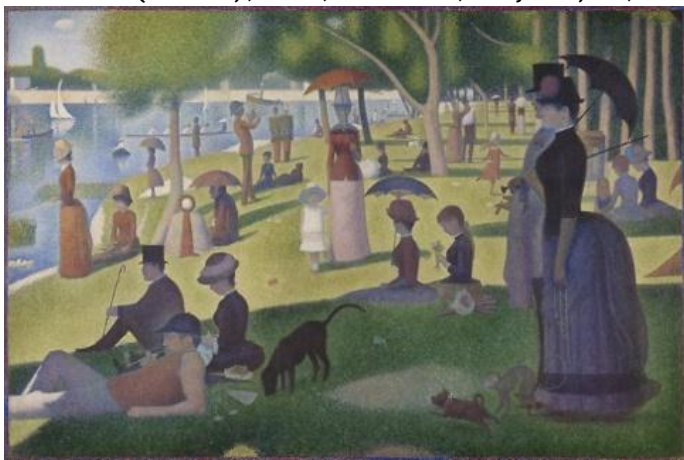


Figure 6. A Sunday on La Grande Jatte – 1884/86, Georges Seurat (1859-1891).
Source: The Art Institute of Chicago.

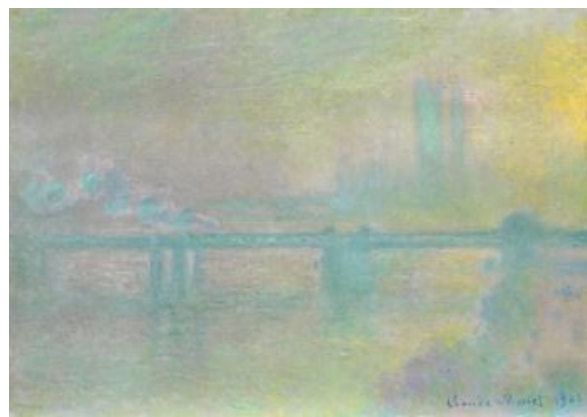


Figure 3. Charing Cross Bridge, London – 1901, Claude Monet (1840-1926).
Source: The Art Institute of Chicago.



Figure 5. Morning, An Overcast Day, Rouen – 1896, Camille Pissarro (1830-1903).
Source: The Metropolitan Museum of Art, New York.



Figure 7. Winter Scene – circa 1786, Francisco José de Goya y Lucientes (1746-1828). Source: The Art Institute of Chicago.



Figure 8. Valley of Aosta: Snowstorm, Avalanche, and Thunderstorm – 1836/37, Joseph Mallord William Turner (1775-1851). Source: The Art Institute of Chicago.



Figure 9. After the Hurricane, Bahamas – 1899, Winslow Homer (1836-1910). Source: The Art Institute of Chicago.

Of exceptional note is Henri Rousseau’s “The Banks of the Bièvre near Bicêtre” which displays a clean spot in a heavily polluted area (Figure 10). Although the environmental degradation is not obvious in the drawing, the truth was very different as only a few clean spots were available in that area for use as drawing subjects (The Metropolitan Museum of Art, 2019).

Given the fact that smoking is an important environmental health risk factor (Arku, Adamkiewicz, Vallarino, Spengler & Levy, 2015; Acuff, Fristoe, Hamblen, Smith & Chen, 2016), this list should be further expanded with paintings displaying historical aspects of this negative health habit. The following paintings (Figures 11-13) also make evident the proven association between smoking and social factors and interactions (Paul, Ross, Bryant, Hill, Bonevski & Keevy, 2010).

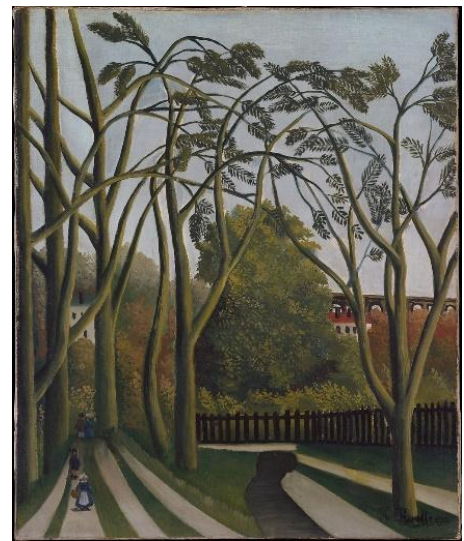


Figure 10. The Banks of the Bièvre near Bicêtre – circa 1908-09, Henri Rousseau (1844-1910). Source: The Metropolitan Museum of Art, New York.



Figure 11. The Smoker – circa 1623-25, Frans Hals (1582/83-1666). Source: The Metropolitan Museum of Art, New York.



Figure 12. The Smokers – circa 1636, Adriaen Brouwer (1605/06-1638). Source: The Metropolitan Museum of Art, New York.



Figure 13. Tobacco Sign – circa 1850, Unknown American artist. Source: The Metropolitan Museum of Art, New York.

This list might also include certain artworks that depict important aspects of the environmental health concept such as the conservation of biodiversity (Sandifer, Sutton-Grier & Ward, 2015). Drawings that display Noah's ark and his effort to preserve biodiversity are the most common example.

4. Conclusion

Many important aspects of environmental health have been perfectly visualized in famous paintings from previous centuries. This information may be of particular importance for environmental health specialists who study, among others, environmental health history. The paintings displaying environmental health aspects of the past offer material of high artistic, scientific and social value. This material, including both public domain and copyright protected artworks such as Gifford Beal's "The Puff of Smoke" (1912) and "East River" (1924), and Harry Sternberg's "Smoke-Stacks" (1937), may all be collected in a large, comprehensive database which would enrich the history repository of environmental health.

The creation of such a database may open new horizons in the research field of environmental health history, in the environmental education sector, and in the dissemination of environmental health knowledge and information. The whole effort, which attributes a pivotal and crucial role to Arts, requires effective interdisciplinary and interprofessional collaborations. These collaborations are essential for the conservation of cultural heritage, its necessary digitization, and for the creation of an easily accessible, searchable and editable database which could be considered as environmental health knowledge source for current and future generations.

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Figure 14: Noah and the Animals Entering the Ark – 1650/55, Giovanni Benedetto Castiglione (1609-1664). Source: The Art Institute of Chicago.



Figure 15: Noah's Ark – 1660, Rembrandt van Rijn (1606-1669). Source: The Art Institute of Chicago.

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