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EDITORIALS

Medicine and the artist

The relation between medicine and the arts has intrigued the medical profession for centuries [1, 2]. In this issue of *Age and Ageing*, Greenspan *et al.* [3], studied the lives of artists and found differences in longevity between the old masters, sculptors and painters. Their findings based on solid historical data demonstrate that 146 old master sculptors survived 3 years longer (67.3 ± 1.1 versus 63.9 ± 0.9 $P<0.02$) than 263 old master painters. This difference in longevity between sculptors and painters was not related to geographical location of their country of birth, the Lowlands, Italy, England, France or Germany.

The authors explain that the difference in survival may be due to a difference in energy expending taking into account that prior to the 20th century the leading cause of death in Europe was infectious diseases. They conclude that their observations suggest that prior to the advent of antibiotics, exercise may have been one of the few interventions protecting individuals from infectious disease mortality.

In support of their conclusion they quote a number of modern scientific works on the effect of exercise on immune processes important for atherogenesis through reduction in the inflammatory cytokine cascade CRP and a decline in T-cell function.

Personally, I would have thought that a more likely alternative explanation would be that the painters, professionally, were less protected against infections because of chronic exposure to lead, or saturnism. Lead intoxication is well known as a professional disease for painters and is also called 'painter's colic'. The painter's profession is particularly prone to developing the disease. Lead is an important ingredient in paints for colour variations. Lead was also present in port wine. The latter port wine consumption, of course, does not count for painters only. Many historians, according to www.encyclopedyWikipedia believe that artists such as Ludwig von Beethoven, Francis Goya, Frederic Händel and Vincent van Gogh suffered from lead poisoning and that this disease influenced their art work. Lead intoxication affects the blood forming organs resulting in anemia, abdominal colic, mental derangement, gout, arthritis and a premature death before 40. The latter was the case in the present paper. Before the age of 40, 9.1% of painters and 2.7% of sculptors died.

On the other hand, sculptors are professionally more exposed to stone dust silicone, which may affect the respiratory system leading to subclinical lung fibrosis and a stronger susceptibility to lung tuberculosis. However, art sculptors will probably work in open-air conditions which reduces the hazard of inhalation of silicone particles. At present, silicosis is still diagnosed in workers involved in the processing of semiprecious gemstone and sculptors in developing countries [4].

An interesting finding of Greenspan *et al.* [3] is that the mean age at death for both groups of artists is rather high compared to population statistics. They confirm an earlier publication in 1975 [5] on the life expectancy of Italian Renaissance artists as 63.03 years, which corresponds to survival statistics of 30-year-old males in England and Wales in 1891, and is much higher than the expected age at death which was 44 years in 1693. This difference was thought to be due to Renaissance books advocating the importance of good food and moderation in all activities [5]. Furthermore, the paper by Greenspan *et al.* does not mention how the authors classified those artists who practiced both professions of painter and sculptor, for example, Renaissance artists Michel Angelo and Leonardo da Vinci.

Not only artists lived longer but Popes did even better. Between 1200–1599 and 1600–1900 the median age at death of 80 Popes rose from 66 to 77 years, and of 426 male artists from 63 to 70 years. The authors explained their findings that the Popes represent a privileged population group with regard to care, and that artists—because of their lifestyle—were probably more at risk for infectious diseases than the Popes [6].

There are many more questions than answers in determining the correct or most likely cause of death in the past using comparative death statistics. Life expectancy is heavily dependent on criteria used to select the group. In countries or periods with high infant mortality rates, life expectancy at birth is highly sensitive to the rate of death in the first few years of life. In these cases, another measure such as life expectancy at age 5 or age 30 can be used to exclude the effect of infant mortality to reveal the effects of causes of death other than the early childhood causes. By including only people who have been registered as painter or sculptor the authors of the longevity paper of the old masters have excluded the effect of rate of deaths in the first, second or third decade.

Because the use of artwork in particular portrait painting may be more rewarding for diagnostic endeavors I have had the opportunity to contribute to this field by exploring the history of medicine through figurative art in particular realistic paintings from 1300 to 1900.

My interest in old paintings and medicine started 30 years ago after a statement in scientific medical publications in 1964 and 1974, that rheumatoid arthritis—a frequent chronic joint disease—and other modern diseases may have originated in the New World and entered the Old World after 1492 [7, 8].

This statement arises from the absence of published reports describing unambiguous evidence of these diseases in medical writing, literature and works of art or paleo-pathological investigation before 1800. This assertion lent indirect support to the concept of an infectious aetiology of chronic diseases, with perhaps a relatively recent viral mutation or immunological alteration to food from abroad responsible for the disease. This assertion stimulated many, including myself, to look again for evidence of diseases before 1800.

Insight in the pathology may be enhanced through perspectives provided by the history of disease. Visual arts, especially in combination with historical documentation of personalities, can be an important tool for paleo-pathological research [9]. Paleo-pathology is a branch of pathology dealing with diseases of ancient times demonstrated in human and animal remains.

Living in a country famous because of its old masters, I rose to the challenge of looking at our ancient paintings with a medical specialist's eye. Hands are often said to indicate rheumatologic diseases. Therefore I started looking through catalogues and reproductions of paintings with a magnifying glass, trying to find hand lesions resembling those of rheumatoid arthritis. I soon discovered a number of deformities resembling that of someone with long-standing arthritis, and even features of many other diseases never been described before 1800 [10].

Many of the great artists have been attracted to scenes of a medical nature—the physician, the patient, the medical school, the healing of the sick. Given the artist's inevitable interest in the dramatic and uncommon, the attraction is not surprising.

Although observation has a key role in clinical medicine, paleo-pathological observations in art show how artists—keen observers of nature—could 'describe' or at least 'record' these conditions long before doctors did. The disadvantage of visual arts is that the artists do not necessarily make portraits of their subjects and may alter anatomical characteristics according to their 'feelings' at the time of their work. While a visit to a museum may seem to yield a rich trove of medical illustrations, things are not always what they seem. Diagnostic acumen applied to paintings can be misleading if not tempered with knowledge of artistic conventions as mannerism and historical context.

My other colleagues and I have diagnosed a number of diseases and clinical syndromes which have been observed by artists before scientists described them in the literature [11]. The most striking examples were: temporal arteritis in the *Virgin and Canon Van der Paele* by Jan van Eyck, Groeningemuseum, Brugge 1436 [12], rheumatoid arthritis in *The painter's family* by Jacob Jordaens, Prado, Madrid 1620 [10], lymphoma in *The Money-changer and his Wife* by Marinus van Reymerswaele, Prado, Madrid 1539 [13], hypermobility syndrome in *The Three Graces* by Peter P. Rubens, Prado, Madrid 1638 [14], systemic sclerosis in *Archangel Raphael and Bishop F. Domonte* by Murillo, Pushkin Museum, Moscow 1680 [15], xanthelasma—lipoma (essential hyperlipidaemia) in *Mona Lisa* by Leonardo da Vinci, Louvre, Paris 1507. [16]

All these art observations support one of the famous Hippocrates aphorisms 'Life is short but Art is long'.

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