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*Article*

# Icono-diagnosis: a challenge between medicine and art

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**Abstract**. The representation of human body in paintings and sculptures can be analysed with a medical look in order to find out any kind of diagnosable disease. This activity has been designed as icono-diagnosis. Many types of genetic and acquired medical conditions have been diagnosed in fine art works by several authors and recorded in the medical literature. The present report illustrates some examples and, tentatively, classifies main pathologic conditions in art representations.

Keywords: Icono-diagnosis, fine arts, paintings, sculptures, diseases.

## Introduction and context

Icono-diagnosis represents the retrospective image-based diagnosis of pathologies on figurative arts. The term was coined in 1983 by A. Pontius, a clinical professor of psychiatry at Harvard Medical School, who studied the Cook islands' prehistoric art, searching for the diagnosis of Crouzon's malformation (craniofacial dysostosis type I which is characterized by craniosynostosis, hypertelorism, exophthalmia, external strabismus, "parrot-beaked nose", short upper lip, hypoplastic maxilla and a relative mandibular prognathism determining a mid-facial hypoplasia aspect (1).

However, earlier medical literature reported several example of this practise in paintings and sculptures (2) with the translation from the images to a certain pathologic condition, just as two different languages.

A medical diagnosis in the artistic field can be provided only via a thorough direct visual evaluation and assessment of the canvas or the sculpture (3). As a matter of fact, such diagnosis remains presumptive of a specific disease or syndrome, being merely an interpretation of the artist's intentions and depicted figure's background unless written documents reveal the real intention of the painter.

Several kinds of pathology have been recorded in medical literature and comprise different aspects of medical conditions that can be grouped as following:

- osteoarticular pathology (4)
- endocrine disturbances (thyroid, pituitary, adrenals, gonads) (5-7)
- skin abnormalities (8)
- malformations and genetic conditions (9-13)
- neurologic diseases (14-15)
- breast pathology (16-18)
- ocular pathology (19)
- miscellaneous (20-21)

It not infrequent that more than one pathologic condition can be recognized in a single painting, either in the same subject or in different subjects presented in the artwork. (22-23)
As stated before, the degree of diagnoses certainty can be extremely variable. I would classify icono-diagnoses as following:

A) **(Almost) certain**, sustained by clinical evidences and/ or historical facts or documents.

*Example: Rhinophyma, a complication of severe rosacea, is a disfiguring affliction of the nose. The most famous raffiguration of this condition is the depicted elderly man in (Domenico Bigordi) Ghirlandaio's painting "Old man with a child". (Louvre, Paris) (24)*

B) **Probable**, supported by some clinical evidences without historical facts or documents that can demonstrate it.

*Example: The dutch painter Dick Ket (1902-40) who, in a series of self-portraits (Fig.1), clearly illustrated many of the clinical features associated with what is likely to have been Fallot's tetralogy with dextrocardia, finger clubbing, cyanosis and pletora. He died eventually of cardiac failure. (25)*

**Fig. 1 Dick Ket, self-portrait, 1932 - Museum Boijmans Van Beuningen**

C) **Uncertain**, containing some clinical suspicious without any real evidences.

*Example: "Agosta and Rasha the Flugel Mensch the Schwaze Tube" was painted in 1929 by a Bavarian artist Christian Schad. The dominating feature is pectus excavatum rather than pectus carinatum. In*

*addition, there is an obvious kyphosis or kyphoscoliosis affecting his shoulder girdle. The second and third fingers of his right hand are awkwardly positioned with hyperextension of proximal and distal interphalangeal joints suggesting joint laxity It was supposed to be affected by Marfan syndrome (26)*

D) **Improbable**, sustained only by a speculative suspicion with no relevant arguments and/ or with historical documents and facts that support this view.

*Example: The Sleeping Cupid, by Italian painter Caravaggio is a masterpiece painted in 1608. Signs of several diseases have been supposed among the shadows of the painting. Espinel found signs juvenile rheumatoid arthritis (27), further supported by Person and contested by Frenke and Faure-Fontenia, who believed that it dealt with rachitis more than arthritis. (28,29)*
*Pozzilli and Cappa decided to conduct a survey among endocrinologists practicing in Italy and asked them if they could identify a specific disease condition in Caravaggio's Sleeping Cupid.*
*Altogether 24.4% of endocrinologists agreed the Sleeping Cupid was affected by hypopituitarism, 34.9% diagnosed rickets, 17.4% identified a SHOX gene defect, 18.6% did not agree on any of the suggested hypotheses, and 4.6% of them could not identify any disease. (30)*

E) **Impossible**, containing clinical evidences and/or historical facts or documents that deny this possibility.

*Example: La Grande Odalisque (1814) by Jean-Auguste Ingres (1780-1867), the figure of a harem woman, was criticized from the start for its faulty anatomy (Fig.2). Maigne et al measured the length of the back and of the pelvis in human models, expressed the mean values in terms of head height, and transferred them to the painting. The Odalisque's back is longer than normal by the height of almost five, rather than just three, lumbar vertebrae, a pathology that does not exist. (31)*

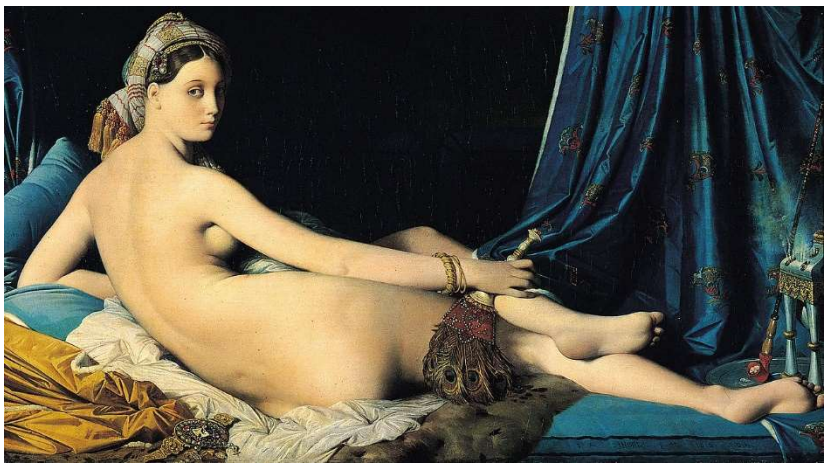

**Fig. 2 J-A. Ingres, La Grande Odalisque,1814 — Louvre Museum, Paris**

In conclusion, speculations about artistic depictions of medical entities have been an ongoing pastime among physicians, yelding different suggestions and hypothesis. Portraits of an artist

him/herself, or of others, may intentionally or unwillingly document a clinical condition or a genetic disorder in the subject. Such works of art provide a fascinating study for those with interests in the field as well as widening our enjoyment of paintings in general (9).

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