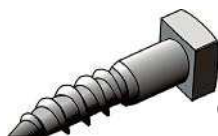


Why Do Threaded Screw Joints Belong to World Culture Heritage in UNESCO?

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Do screw joints deserve the nomination of International Screw Day within UNESCO?

Looking at the list of cultural and scientific monuments, UNESCO is surprised that there are no threaded joints. The task of this article is not to examine why this is the case, but to try to make sure that screw connections clearly belong there. There are several reasons for this:

1. Helix structure is an archetypal geometric paradigm. The spirals are everywhere in nature, from simple to complex substances, from the microcosm (human DNA and some plants, waves, spider webs, shells, snails, corals) to the galaxies, which man has been able to use perfectly to his advantage (**Figure 1**).

Archetypal geometric paradigm (ab origine)	Creation of brain (intelligence)	
	Transport helix (Archimedes, BC 287)	Fastening screws (end of 17 th century)

Fig. 1 — The helix structure is found everywhere in nature.

2. No one has yet been able to replace threaded screws equally. It is one of the oldest construction elements. Expressed metaphorically, screws hold our civilization together.
3. Screws are currently being mass produced and there is no indication that this should change in the foreseeable future.
4. Treaded screws as a creation of the brain have a unique history. It all started yet before **Christ**, when **Archimedes** built the so-called transport helix, which transported water from a lower level to a higher one. The biggest boom occurred during the industrial revolution (the inventive developments by **Guttenberg**, **Watt**, **Ford**, etc.), when screws were used extensively to fasten parts. See **Figure 2**.



Fig. 2 — The Guttenberg printing press, Watt's steam engine and Henry Ford's automobile.

5. Screws have a unique property, namely they form the so-called detachable connection, which does not boast any other methods of connection such as, e.g., welding, riveting or gluing.
6. The way they are stressed in operating conditions ranks them among the most complex cases of flexibility and strength.

Despite the fact that individual authors differ in the dating of historical milestones of screw joints, the conspicuous pause between the transport variant and the connecting screw is indisputable. It can be said that it took a disproportionately long time for a person to understand the enormous potential of screw connections. A radical turn occurred during the industrial revolution at the end of the 17th century.

However, this might not be the historical truth. Therefore, the author turns to top experts as well as a wide readership of fastener magazines to help us to answer the question as presented in **Figure 3**.

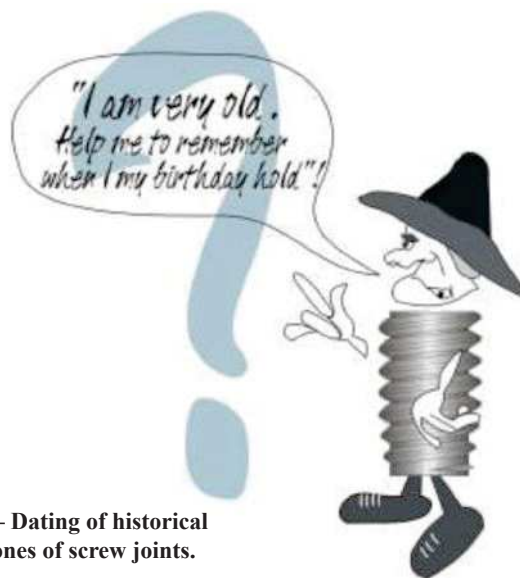


Fig. 3 — Dating of historical milestones of screw joints.

In order to unify opinions, a support committee of top European and American experts was set up. Nevertheless, differences persist, which is why this article was written.

We also welcome the views of experts especially from the Middle and far East, as historical traces also lead to these areas and are less known in Europe.

Along with the screw technology experts, from all around the globe, we seek the answer to the question: Do screw joints deserve the nomination of International Screw Day within UNESCO?

The History of UNESCO

UNESCO is the **United Nations Educational, Scientific and Cultural Organization**. The UNESCO organization seeks to build peace through international cooperation in education, in the sciences and in culture. The UNESCO Constitution was adopted in London in 1945, and it then entered into force one year later in 1946.



After two World Wars in less than 30 years, UNESCO was born of a clear vision: to achieve lasting peace, economic and political agreements among states are not enough. We must bring people together and strengthen the intellectual and moral solidarity of humankind, through mutual understanding and dialogue between cultures.

Over the years, UNESCO has launched pioneering programs to achieve this. UNESCO mobilized philosophers, artists, intellectuals from every nation. From the very beginning we debunked racist theories and we developed innovative projects that changed the world:

- The Universal Copyright Convention (1952)
- Man and the Biosphere programme (1971)
- World heritage Convention (1972)
- Convention for the Safeguarding of the Intangible Cultural Heritage (2003)

UNESCO gave rise to global centers of scientific research, from CERN in 1952 to SESAME in 2017, and

also developed a global tsunami early warning system. The United Nations Educational, Scientific and Cultural Organization gathered together a variety of experts and scholars in order to write the first ever general history of Africa as well as all five continents of the world. Additionally, UNESCO then carried out literacy campaigns that spearheaded the development of nations including in Italy, in the Republic of Korea and in Afghanistan.

UNESCO established universal principles for scientific ethics and the human genome, and protected the best that humanity has to offer: the temples of ancient Egypt saved from rising waters, the treasures of Venice and Angkor and the old Bridge of Mostar rebuilt after war.

Faced with the challenges of our age, UNESCO's mandate is more relevant than ever—and with all our member states, UNESCO continues to lead the way forward.

- By imagining the futures of education to navigate to our new world and to live in peace with others and with the planet.
- By establishing common standards on open science and the ethics of artificial intelligence.
- By developing new tools to fight new forms of racism, hate speech and misinformation.

UNESCO works on the ground, in Beirut, in Mosul, to revive the spirit of the people. After 75 years, our mission is as critical as ever: the world needs education, science, culture and information. The world needs humanity.

In Conclusion:

Threaded Screws on the Milky Way

*As it in calendar stands,
already many years
in the sky shines
the star like no others.
Yes, before many summers,
"I repeat over again here:
Watch day to days,
the supernova up there."
Saturn, Andromeda, Pluto?
Your efforts are in the vain.
"I'm sorry, but I can't hold out,
that other resides in Milky Way."
Even the proud Venus doesn't know
what Jupiter suspects already.
Other look better now,
another has beauty queen credit.
Well, dear Venus, before long
you will be out of the game
and the jingle song will belong to,
which **THREADED SCREWS** is the name.*

For further discussion, contact the author by emailing: ferodom@ferodom.sk www.ferodom.sk



Company Profile:

FERODOM Ltd. was established at the end of 2000 as a family enterprise. Selected ware such as fastening materials and anchor techniques are the logical culmination of the company founder's effort to make use of his vast experience and knowledge in the area of mechanical fastening of steel and other materials by means of threaded or threadless fastening elements like screws, nuts, washers, rivets, anchors, etc. The firm's activities gradually evolved in scope to include joining elements. Access to national and international producers and distributors for mechanical joint elements allows the company to offer optimal solutions. This wide net of collaborators presents a symbiosis of cost and quality based on modern logistics and assembly. Experienced specialists in collaboration with renowned scientific institutions is ready to offer customers technical know how for the design of their productions which include bolted fasteners. Ferodom helps customers in choice of assembly methods together with quality fastener materials. www.ferodom.sk