

LETTER FROM THE EDITOR



Philip J. Addis, MSc, FIBMS

Plastination or plastication – what’s in a name?

“The beginning of wisdom is to call things by their right names” (Confucius)

Dear Colleagues,

I was marking a student’s essay recently in which she referred to “plasticated” specimens. This set me wondering about the word “plastination”, a word which we now take for granted, and which has entered the lexicography of many different languages. We also speak of “a plastinate” (noun), to mean a “plastinated (adjective)” specimen, as well as “to plastinate” (verb) meaning to carry out the process of “plastination” (noun). I have also heard the process referred to as “plasticizing”, which means something completely different.

A quick search of the standard dictionaries in our University library was notably unhelpful. The two-volume Shorter Oxford Dictionary (2002) listed the following, related words, but plastination was not mentioned:

plastic: (from the French *plastique* or Latin *plasticus* from the Greek *plastikos*, which derived from *plastos/plassein* – to mould, to form. Several different applications are listed including “characterised by moulding or shaping, flexible; made of or containing plastic; a large class of polymers that may be moulded, extruded or cast while still soft or liquid, then set usually by heating or cooling”.

plasticate: to change into a homogenous plastic (i.e. mouldable) mass; also to attack or destroy with plastic bombs or plastic explosive.

plasticize: to make plastic or mouldable by adding solvent; to treat or make with plastic.

plasticization: the process of making something more plastic or mouldable.

plastify: an alternative form of *plasticize*.

Chambers 21st Century Dictionary (1999) listed **plasticize** “to make or become flexible, e.g. by adding a plasticizer. **Plasticizer** (a word dating from as long ago as the 1920s) was defined as “an organic compound that is added to a rigid polymer in order to make it flexible”, but again made no mention of plastination.

Collins English Dictionary (2003) gave an intriguing alternative definition of **plasticity**: “(in pictorial art) the quality of depicting space and form so that they appear three-dimensional”, adding another layer of meaning to the term “plastination”. The word **plastometer** was also listed: an instrument for measuring plasticity. The word “plastic” is aptly defined – it is capable of taking on many different forms!

The image below is taken from Google Books, and shows the rise in appearances of the word “plastination/Plastination” in print from 1975-2008 (unfortunately more recent

data are not available), showing a steep rise in usage post-2000, so it is not surprising to find the word in more common usage on line.

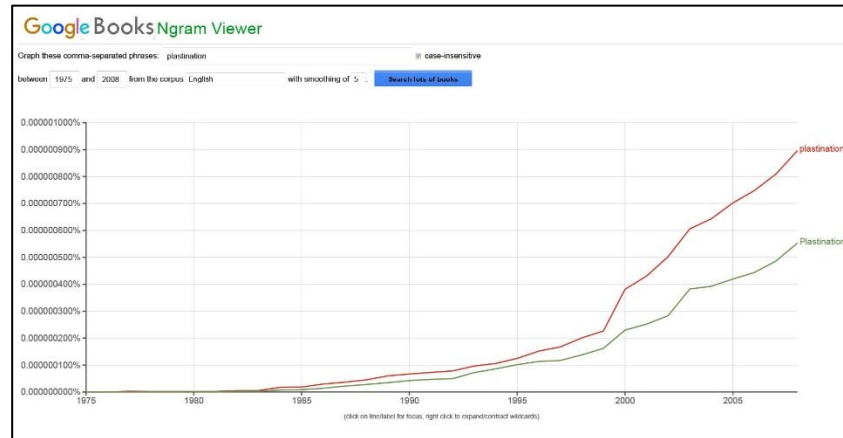


Figure 1: Ngram viewer showing occurrences of the word “plastination” in print (Google Books)

Webster’s on-line dictionary defines **plastination** as “a technique for the preservation of biological tissue that involves replacing water and fat in tissue with a polymer (as silicone or polyester) to produce a dry durable specimen for anatomical study”, and gives some limited information on its etymology: “International Scientific Vocabulary *plastic* + *-ination* (as in *calcination*), with the first known use given as 1981 (<http://www.merriam-webster.com/>).

Gunther von Hagens first developed the process in 1977: “That was on January 10, 1977, the day that I decided to make Plastination the focus of my life” (www.bodyworlds.com), and appears to have used the term “plastination” in a description of the process in English and German, (with a French abstract), in the German journal, *Der Präparator* (von Hagens, 1979). However, the first widely-distributed appearance of the word in an English publication would appear to have been in “An improved method for the preservation of teaching specimens” by Bickley, von Hagens and Townsend, that appeared in December 1981. “Plastination” is defined in the abstract thus: “impregnation of biological materials with curable polymers” – an unimprovably concise and clear description (Bickley et al., 1981).

The complete Oxford English Dictionary (OED), of course, lists **plastination** and defines it, somewhat loosely, as “An embalming and preserving technique for animal and human tissue in which body fluids and fat are replaced with synthetic materials such as silicone resins or epoxy or polyester polymers” (www.oed.com). The OED dates the word to 1981, and says of its etymology “formed within English, by derivation” from *plasti* (in *plastic*) with *ation* (suffix) “with an epenthetic *n*”. The OED quotes from a letter by Gunther in their archive, written in 2005, in which he states “I invented the word in 1980 in a pub in Vienna...”

The rest, as they say, is history: plastination has become an enduring and world-wide phenomenon. If you need evidence, look no further than this issue of the Journal, which

contains abstracts and a report from the 18th Biennial International Conference of Plastination, which attracted delegates from 17 different countries – testament indeed to the lasting and widespread interest in plastination around the world.

Phil Adds

Phil Adds
Editor-in-Chief

References

Bickley HC, von Hagens G, Townsend FM. 1981: An improved method for the preservation of teaching specimens. Arch Pathol Lab Med 105:674-6766

BodyWorlds, http://www.bodyworlds.com/en/plastination/idea_plastination.html
(accessed 6/10/2016)

Confucius, <https://en.wikiquote.org/wiki/Confucius> (accessed 4/10/2106)

Google Books,

https://books.google.com/ngrams/graph?content=plastination&case_insensitive=on&year_start=1975&year_end=2010&corpus=15&smoothing=5&share=&direct_url=t4%3B%2Cplastination%3B%2Cc0%3B%2Cs0%3B%3Bplastination%3B%2Cc0%3B%3BPlastination%3B%2Cc0 (accessed 4/10/2016)

OED online, <http://www.oed.com/view/Entry/261811?redirectedFrom=plastination#eid>
(accessed 12/10/2016)

Von Hagens G. 1979: Emulsifying resins for Plastination. Plastination mit emulgierenden Kunststoffen. [in English and German with French abstract]. Der Präparator 25: 43-50

Webster-Merriam on-line Dictionary <http://www.merriam-webster.com/dictionary/plastination> (accessed 5/10/2106)