Historical Vignette

Etymology of the Word “Stent”

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The English language has few examples of a proper name becoming a common word. The word “stent,” which is increasingly used in medical terminology, seems to be one such example. Other words that have followed such a course include guillotine, draconian, Pickwickian, and stentorian. Two points should be made in reference to the word stentorian. Usage dictates that, when the person for whom the word is attributed is no longer remembered, the word is no longer capitalized; thus, the eponymic attribution has been lost. Despite the similarity of the first syllable of stent and stentorian, the etymology of the words is entirely different. Stentor was a Greek herald in the Trojan War whom the poet Homer claimed in the Iliad had the voice of 50 men, whereas Stent was an English dentist of the 19th century.

Medical dictionaries appropriately acknowledge the contribution of Charles Thomas Stent (Fig. 1) to the development of a plastic dental compound and the usage of his name in reference to supportive tissue appliances in modern medicine. Dorland’s Illustrated Medical Dictionary, Churchill’s Illustrated Medical Dictionary, and Steedman’s Medical Dictionary list two usages: in dentistry, an impression taken in Stent’s composition—a plastic resinous material that sets extremely hard for obtaining impressions of the mouth—and a molded appliance used to hold a graft in place or act as an obturator.

Evolution of Stent’s Compound and the Word Stent.—Stent’s impression compound is well recognized in dentistry. A surgeon, J. F. Esser, of Holland and Austria, referred to use of “the mould [mold] of denticle mass (Stent’s)” for fixation of skin grafts in oral surgical repair of war wounds. The use of Stent’s name in plastic surgery was acknowledged by Mulliken and Goldwyn, who described the chemistry of the compound and its evolution as a mold in skin grafts within the oral cavity and its subsequent extension to any bolster dressing such as cotton, fluffed gauze, or polyurethane foam applied in a tie-over manner to secure a skin or mucosal graft. Intraoral and surface applications of Stent’s dressing technique are shown in Figures 2 and 3.

Stent’s compound was originally meant for obtaining alveolar impressions of edentulous subjects, although it has been surpassed by more flexible plastic materials.

Charles Thomas Stent (1807-1885) improved gutta-percha, the gum of a Malayan tree used for dental impressions, by adding stearine, a glyceride of stearic, palmitic, and oleic acids; adding talc as a filler; and introducing the substance that became known as Stent’s compound. His two sons, Charles Robert Osborn Stent (1845-1901) and Arthur Howard Osborn Stent (1859-1900), were also dentists, and the production of this compound evolved to a firm established in London that was known as C. R. and A. Stent. The firm was located at the corner of Coventry Street and Haymarket in Central London until their deaths at the turn of the century. At that point, the proprietary rights to the compound and its manufacture were transferred to the firm of Claudius Ash Sons and Company Limited of London, and the substance is marketed as Stent’s compound, although the modern recipe has been modified.

This article proposes that knowledge of Stent’s dressing evolved to the current usage of the word—a molded appliance or obturator. Surgeons trained in Britain and the United States during the first 7 decades of the 20th century were aware of Stent’s dressing in oral and plastic surgery. In the generalized training of surgeons, principles and applications of one specialty merged into another, an outcome that extended Stent’s concept and Stent’s dressing into other anatomic applications and hence new technologies.

Use of Stents Expands to Various Disciplines.—Attempts to find a replacement for the common bile duct have plagued abdominal surgeons from the beginning of modern surgery more than 100 years ago. The surgical literature from the beginning of the century is replete with references to numerous inert tubes and biologic tissue to bridge a gap or restore bile duct continuity. Such a device was referred to in various ways: tube, catheter, internal splint, internal strut, and later endoprosthesis. The first reference to a polyethylene tube “to act as a stent for the anastomosis” in experimental biliary reconstruction in dogs was made in 1954 by ReMine and Grindlay. ReMine recalls that, because he was using a skin graft for a conduit, he wished to prevent contraction of the skin graft, and hence the principle of Stent’s dressing was extended to a tubular structure (personal com-
Fig. 1. Charles Thomas Stent (1807-1885). (From Ward. By permission.)

 munication). Chenoweth, who had been working on this problem since the early 1940s, used the word in a discussion of a paper at a surgical meeting in 1959. The word was not used frequently in the general surgical literature until the 1980s.

In urology, a field in which the biologic problem was similar, an indwelling ureteral catheter was referred to as such or as a tube, splint, or strut. In 1972, Firlit and Brown used the word stent in the title of an article. In retrospect, Firlit chose the word because it seemed "logical" (personal communication). Stent is a commonplace word in urologic and biliary surgery.

The word stent is used most frequently in the field of cardiovascular medicine. The concept of endarterial tube grafts is attributed to Dotter in 1969; however, Dotter and associates did not use the word stent in print until 1983. During the development of endovascular technology, which spanned several decades, the words frequently used in the medical literature were catheter, tubular prosthetic graft, plastic tube graft, tubular endovascular prosthesis, coil spring vascular linear prosthesis, coaxial catheter, and variations of these terms. In some instances, the author of an article would refer to the device by several different combinations of words. The first reference in the cardiovascular literature was by Weldon and colleagues in 1966, when they described a prosthetic-stented aortic homograft used for mitral valve replacement. Weldon was aware of the use of the word stent by plastic and oral surgeons and assumed that it was an all-purpose term for "any kind of nonbiological support used to give shape or form to biological tissue" (personal communication). His conversion of the noun into a past participle was unprecedented. The use of stent for homologous tissue heart valves has not achieved substantial acceptance; however, use in vascular medicine is the most common application of the word today. Furthermore, it is used in all grammatical variants: noun, verb, past participle, and adjective.

Another Possible Origin of the Word Stent.—Could there be another etymology of stent unconnected with Charles Stent? The Oxford English Dictionary attributes the origin of stent to a fixed amount of work, particularly for the valuation or assessment of property for purposes of taxation; however, a Scottish variation, stynt or stent, was used as a transitive verb—to extend, stretch out, or set in a proper position, including use for stretching fishing nets in a river or keeping garments in place. No evidence shows that ReMine, Weldon, or Firlit or their editors had any knowledge of this obscure use of the word. Oddly, the word was available for use but had not been recalled from obscurity. Could, by strange fate, the Stent family name have its origin in connection with its current usage, "to extend or stretch out"? According to the Historical Research Center, the answer is no. In its research on family name history, the name Stent is recorded from the 16th century in Sussex and refers to "a person who is obliged to perform a fixed amount or share of work within a given time." Apparently, it is a cognate to the first-listed reference to its origin in The Oxford English Dictionary.

Epilogue.—Stent is an attractive word for use in modern medicine. The appliance is used to correct a stenosis, which derives from the Greek "to narrow." The word is monosyllabic, emphatic in its expression with internally alliterative, hard-sounding consonants, and has no other modern cognates. It does not have Hellenic or Latin complexity and has a new, high technology connotation. If an historical basis

Fig. 2. Intraoral skin graft with use of Stent's dressing. (From Gillies. By permission.)
had not existed for the derivation of stent, a better word could not have been invented.

REFERENCES