

# THE MYSTERY OF DUTCH RAISING

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A few English language books on silversmithing refer to *Dutch raising*.<sup>1</sup> Very little is, however, known about this technique. The majority of historical reviews of silversmithing tend to address cultural influences and discuss form, surface treatment or decoration but rarely talk about technique.<sup>2</sup> As Gans laments,

There is regrettably little published about the history of the techniques and methods employed in the silversmith's craft.<sup>3</sup>

Many contemporary silversmiths prefer to allow their work to speak for them and consequently do not talk or write about their techniques. Traditionally silversmithing knowledge was passed from master to apprentice and this was protected by the guild system. Since silversmithing is now a subject taught within universities we have seen a growth in the number of instructional books on the subject, particularly since the 1960s. In academia, however, there exists a clear separation between knowledge and practice that stems from Platonic and Aristotelian dialogues; that distinguishes between *epistēmē* and *technē* or between knowledge and what is craft or art. Consequently, whilst there has been a growth in instructional books, there exists a lack of scholarship into the value of different techniques and their application.

## Introduction

Raising is a central technique in silversmithing and is a process for making vessels out of a single sheet of metal by forming on stakes with hammers. The process has ancient roots. The most common technique today is to start raising from the outside at the centre/baseline of a vessel and work towards the edge. This is often referred to as “angle raising”. Untracht defines angle raising as deriving its name from the series of angles created to arrive at the desired final angle [Fig 1].<sup>4</sup> There is, however, another approach.

## Review of instructional books

Around eighteen different instructional books were examined and only three specifically mention “Dutch raising”.<sup>5</sup> Three further books appear to advocate “Dutch raising” although this is described as just raising or perhaps more obliquely as “method 2”.<sup>6</sup> Some more recent books refer to other methods without specifying what these are.<sup>7</sup>

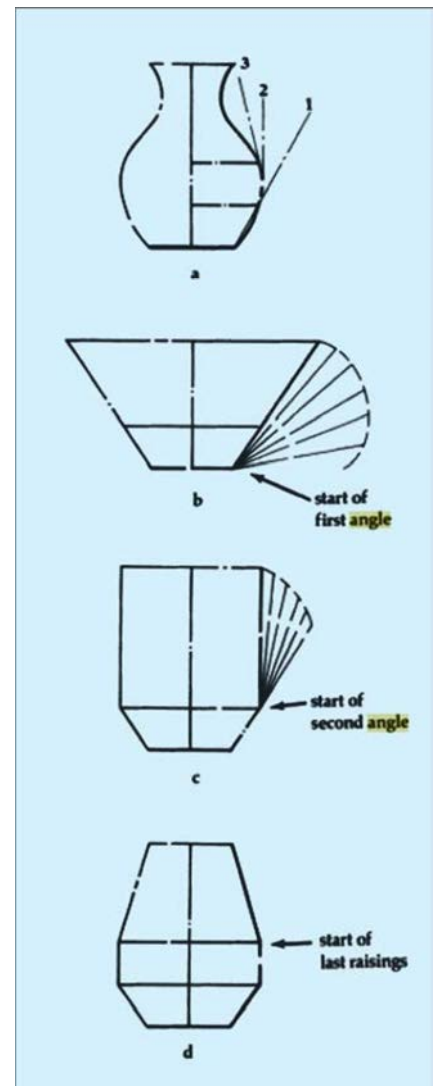


Fig 1 Angle raising, illustration from Rupert Finegold & William Seitz, *Silversmithing*, 1983.

- 1 Richard Thomas, *Metalsmithing for the Artist Craftsman*, Philadelphia, 1960; Opi Untracht, *Metal Techniques for Craftsmen on the Methods of Forming and Decorating Metals*, New York, 1968. Heikki Seppä, *Form Emphasis for Metalsmiths*, Ohio, 1978
- 2 Sandra Van Berkum, *Silver Art in the Netherlands*, Amersfoort, 2016.
- 3 Mozes Heiman Gans and Th M Duyvene De Wite-Klinkhamer, *Dutch Silver*, London, 1961, p 49.
- 4 Opi Untracht, 1968
- 5 Richard Thomas, op cit, see note 1, Opi Untracht, 1968; Heikki Seppä, op cit, see note 1
- 6 Robert Goodden & Miller, 1948; Popham, 1971; Keith Smith, *Silversmithing: A Manual of Design Techniques*, Marlborough, 2000
- 7 Tim McCreight, *The Complete Metalsmith*, London, 2004; Erhard Brepohl (ed), Tim McCreight, *The Theory and Practice of Goldsmithing*, Maine, 2001.

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- 8 Richard Thomas, op cit, see note 1.
- 9 Ibid, p 23.
- 10 Robert Judson Clark and Andrea P A Belloli, *Design in America: The Cranbrook Vision 1925-1950*, 1983, p 167.
- 11 Paul Tarantino, Masters paper, 'Metal working techniques – A visual aid for the teaching of raising and forming methods', Cranbrook Academy of Art, Cranbrook Archive.
- 12 Mary Beth Van Eenwyk, 1966, Masters paper, Cranbrook Academy of Art, Cranbrook Archive.
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Richard Thomas is the first author to specifically mention Dutch raising as a method.<sup>8</sup> He suggests that Dutch raising is

so called because of the craftsman who developed the process

and that

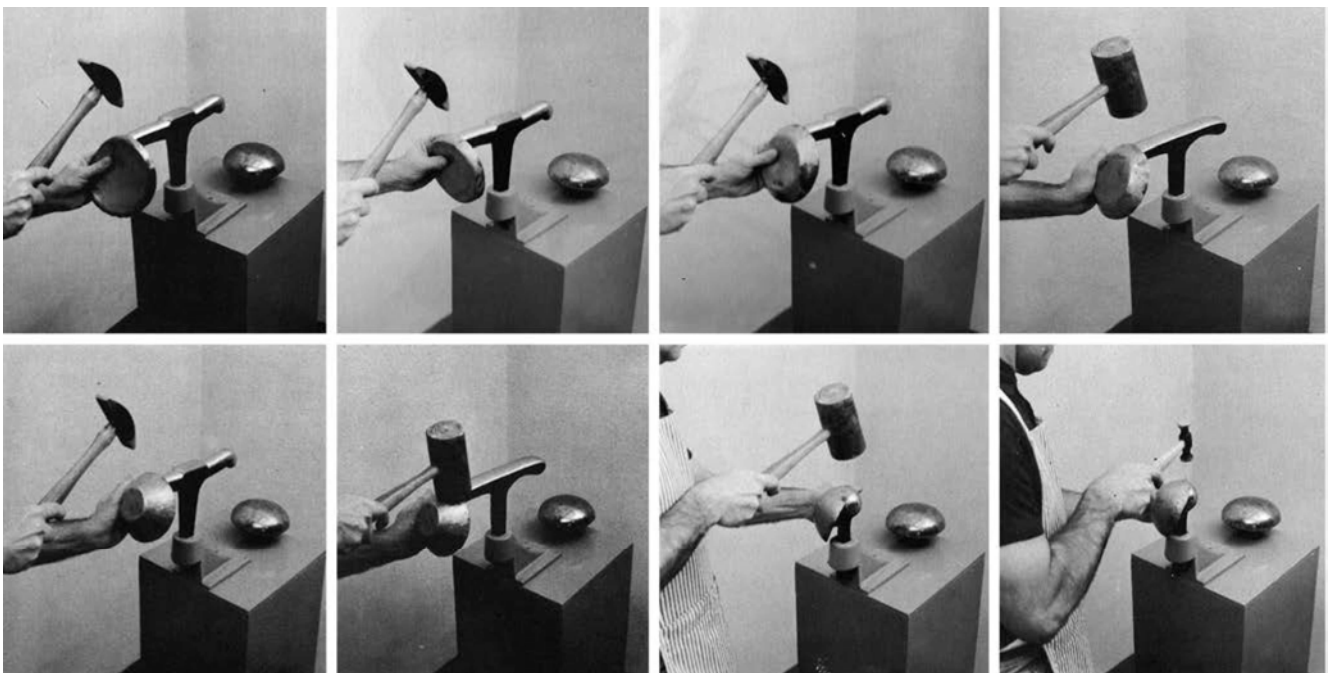
all raising methods require the blows to be directed to the outer or convex surface and that the metal must be held at an angle against the stake.<sup>9</sup>

It is important to recognise here that holding the work at an angle is not the same as angle raising, where the metal moves in a series of angles, although it is easy to see how other authors who have followed Thomas may have interpreted this comment in this way. He begins his description of the different raising methods by outlining what he describes as “a simple mechanical factor” that demonstrates both why raising is most effective when the

hammer blows are directed towards the edge of the stake and by how much the metal will move depending on its position against the stake. In his description of the process he uses a cross-peen hammer weighing 1½ lb (680g) and a T Stake [Fig 2] to make a simple bowl form.

Thomas (1917–88) was a painter and designer. Largely self-taught as a silversmith, he acquired as much technical information as he could on his own. “His insistence on the primacy of technical skills has led him to codify in publications that are now standard texts for the student.”<sup>10</sup> He was well known for making his students write master’s papers and from the Cranbrook archives I have been able to find two that discuss Dutch raising. The first is by Paul Tarantino<sup>11</sup> (1956) who explored a visual aid for the teaching of raising and forming methods, and the second is by Mary Beth Van Eenwyk<sup>12</sup> (1966) who raised an asymmetric piece. Tarantino discussed the tools needed:

Fig 2 Dutch raising process, illustration from Richard Thomas, *Metalsmithing for the Artist Craftsman*, Philadelphia, 1960.



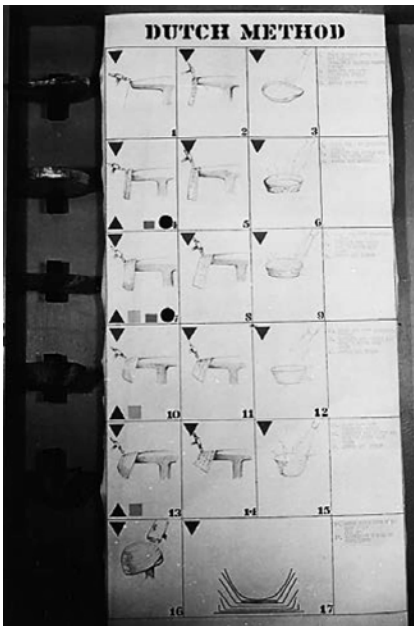


Fig 3 'Dutch method' from Paul Tarantino, Masters paper, 'Metal working techniques – A visual aid for the teaching of raising and forming methods', 1956. (© Cranbrook Academy of Art, Cranbrook Archive)

specifically a cross-peen raising hammer, a T stake and a raw-hide mallet. He concluded that this is an excellent method

for raising tall cylindrical forms from light gauge metal 18-22 gauge (approx. 0.7mm-1.02mm). Rather than forcing the metal to a 90 degree angle on its axis, I found it more logical to repeat the entire process after all the short angles are formed over the first time through. In this manner, severe distortion is kept to the minimum.<sup>13</sup>

He also presents us with a helpful diagram [Fig 3]. Van Eenwyk also discussed her creation of four asymmetrical vessels using a mixture of Angle raising and Dutch raising [Fig 4]. She highlights how the Dutch method is

known for its rapidity in moving the metal from a flat sheet to a cylindrical form.<sup>14</sup>

She also worked with a light gauge of metal (16-20 gauge {0.81mm-1.29mm}). In her description of trying to raise this asymmetrical piece she talked about abandoning the Dutch method as she was not proficient enough, to make it profitable to her and she subsequently reverted back to Angle raising.

Oppi Untracht, another American metalsmith, informs us that Dutch raising

is a process for shaping open pieces such as bowls. The work progresses from the outer edge of the disc on the convex side in spiralling blows toward the centre of the piece. A heavy cross-peen hammer is used followed by a rawhide mallet to help form the piece and even out irregularities. Instead of a series of angles being pursued, as is done in Angle raising, the piece is annealed, bouged, and shaped directly in several stages.<sup>15</sup>

It is interesting to note that Untracht uses a heavy cross-peen hammer as Thomas did (see above) but does not appear to add much more information.

The Finnish-American metalsmith Heikki Seppä, in his book, *Form Emphasis for Metalsmiths* defines Dutch Raising as:

This process begins at the edge and progresses towards the kernel.<sup>16</sup>

Using the abbreviation q.v., he suggests further information will be available in another part of the book; however, there is no further mention of this process.

The English silversmiths, Robert Goodden and Philip Popham, appear to describe Dutch raising but simply describe their approach as raising although this is different from the more common Angle raising. They suggest that their approach avoids thinning and weakening the silver.

One could start each course of raising from the line where the bottom edge of the cylinder would begin, but this would mean a



Fig 4 Assymetrical vessel silver, parcel-gilt, by Mary Beth Van Eenwyk, 1966.

13 Paul Tarantino, op cit, see note 11

14 Mary Beth Van Eenwyk, op cit, see note 12

15 Heikki Seppä, op cit, see note 1, 249

17 Robert Goodden and Philip Popham, *Silversmithing*, London, 1971, p 33

18 *Ibid*, pp 30-40.

19 Keith Smith, *op cit*, see note 6

20 *Ibid*, p 70

21 *Ibid*, p 73

22 *Ibid*, p 74

23 *Ibid*, p 74

24 Frances Loyen, *The Thames and Hudson Manual of Silversmithing*, London 1980

25 Robert Goodden and Philip Popham, *op cit*, see note 15.

Fig 5 Starting to raise, from Robert Goodden and Philip Popham, *Silversmithing*, London, 1971.



good deal more strain on the silver at this point, with consequent thinning and weakening of the metal.<sup>17</sup>

While the section on raising in many books is brief, only a paragraph or two, Goodden and Popham devote around ten pages to this process<sup>18</sup>, taking the reader through how to make three basic forms: a cylindrical vessel, a cone shaped vessel and a bowl form. The process starts with sinking on the inside of a disk, then proceeds by scribing a line on the outside about “2.5cm from the edge” where the first course of raising starts [Fig 5].

Having annealed and pickled the silver, scribe a pencil line 5mm below the point where the first raising was commenced and then start another course taking this right to the edge of what has now become a shallow dish.<sup>19</sup>

In this example a raising hammer is used and no advice for choosing a particular stake is given.

Keith Smith, who taught silversmithing at Loughborough College of Art & Design for over thirty years, discusses two distinct methods of raising in his book, *Silversmithing : A Manual of Design and Techniques*.<sup>20</sup> The first method he describes as raising from near the centre and the second involves a gradual working back towards the centre. He does not ascribe names to these techniques but simply refers to them as method 1 and 2. He further adds that

The author was taught to work with the first method but many people use the second method, or even a combination of the two.<sup>21</sup>

His description and illustration of Method 2 appears to match that of Dutch raising [Fig 6]. For example,

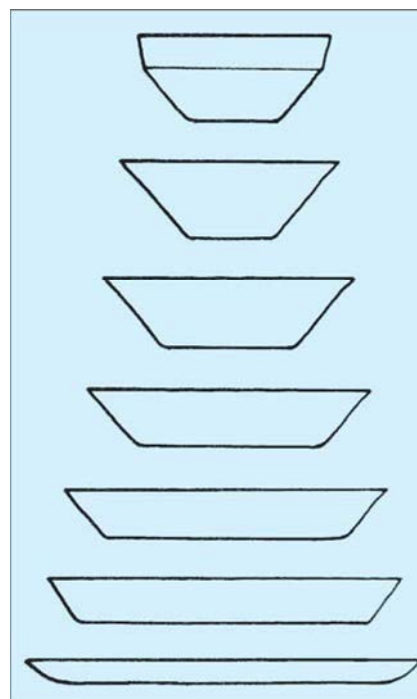


Fig 6 Method 2, from Keith Smith, *Silversmithing: A Manual of Design and Techniques*, 2000.

he discusses how a scribed line should be on the outside surface of the sunken form about 1 in (2.5cm) from the outer edge.

The metal should be raised from this point and the final edge should be malleted onto the stake. After annealing and pickling, a new line should be scribed about 6mm closer to the centre of the vessel, and another complete course of raising to the outer edge undertaken. This procedure should be repeated until you have worked back to the vicinity of the base of your design.<sup>22</sup>

Smith also briefly discusses another process used in silversmithing that he describes as

thickening the bottom of a raised form to make it strong enough for a base.<sup>23</sup>

This technique is also called “back raising”<sup>24</sup> [Fig 7] or “raising in”<sup>25</sup> and can also be used to





Fig 7 Back raising, from Frances Loyen, *The Thames and Hudson Manual of Silversmithing*, London, 1980.

reduce the height of a vessel. In my discussions with contemporary silversmiths Dutch raising was frequently mistaken for “back raising”. The latter is where you scribe from the base line and work facing towards the centre:

raising the metal in towards the centre. Close to the centre a pimple will be formed and it will need some force to drive it down to the stake.<sup>26</sup>

Back raising then is a technique used most commonly at the end of the process to thicken a base or reduce the height of a vessel whereas Dutch raising is a complete process from start to finish for forming a vessel. Another key difference between Dutch raising and back raising is the position of the vessel on the stake and the direction of the blows: with Dutch raising the blows are directed towards the outside edge, in contrast to back raising where the blows are directed towards the centre.

John G Miller, in *Metal Art Crafts*,<sup>27</sup> also talks about raising a shallow bowl after blocking

begin raising along the outer edge . . . working in concentric circles towards the centre of the disc,

which suggests Dutch raising. This also appears to be consistent with the advice given by Untracht that Dutch raising is suited to open pieces such as bowls.<sup>28</sup> Martin also uses this expression of “concentric circles” in outlining his approach to raising, which also starts raising at the outside edge.<sup>29</sup>

More recently in *H21: Handouts for the 21st Century*, a collection of handouts and teaching aids collated by the Society of North American Goldsmiths (SNAG) in honour of J Fred Woell, there is a reference to Dutch raising in a handout by Randy Long from Indiana University. This handout refers to “Dutch angle raising”, seemingly suggesting that Dutch raising is another type of Angle raising. Long however, discusses a key difference from angle raising:

Fig 8 Adrian Hope, silversmith. (Photo: Shannon Tafts)



26 Keith Smith, op cit, see note 6, p 74

27 John G Miller, *Metal Art Crafts*, New York, 1948, p 87

28 Opi Untracht, op cit, see note 1, 249

29 Robert J Martin, *Working with Silver – The Story of a Practical Chemist’s Adventures*, New South Wales, 1996, pp 9 and 10.

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30 Randy Long, *Metalsmithing in Handouts for the 21st Century: A collection of handouts and teaching aids*, SNAG, 2016, p 69

31 Tim McCreight, *op cit*, see note 7, p 58

32 *Ibid*, p 58

33 Erhard Brepohl (ed), Tim McCreight, *The Theory and Practice of Goldsmithing*, Maine, 2001, p 247

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that the metal is raised from the outer edge towards the centre. All other procedures being the same as previously noted in angle raising. The reason for this seemingly backward approach is the shape of the piece to be raised, personal preference and/or training. The outer edge in both angle raising techniques invariably thickens, by starting from the outer edge, it is said that it is easier to control any warping that may occur and the diameter of the opening because the outer edge is work hardened in the beginning of the coursing.<sup>30</sup>

Other authors allude to different methods of raising without naming them or specifying any differences. McCreight,<sup>31</sup> for example, suggests that

methods will differ depending on the size and shape of the piece, the tool available and the metal being raised,

but he does not elaborate further. Ultimately, he suggests

There is only one way to raise – the way that works.<sup>32</sup>

Brepohl suggests that

Readers who go onto pursue silversmithing will discover other methods both in their experimentation and continued reading, and are encouraged to try every possible technique before settling on a favourite.<sup>33</sup>

He also suggests that different methods have their advantages and proponents.

Unfortunately, he does not specify what these advantages might be. The justification he gives for this is that he does not wish to not to confuse the reader! Both focus on the more common method of angle raising.

A defining feature of Dutch raising appears to be starting to raise from the outside edge and adding additional courses behind the previous ones, working backwards to the centre whilst the hammer blows are directed to the outside edge. It is not, however, always ascribed this name and is often simply described as just raising. So far we have considered references to Dutch raising in books, but is there any evidence today of Dutch raising being practised by contemporary silversmiths?

### Contemporary Silversmiths

Adrian Hope [Fig 8] is a contemporary British silversmith, based in the Borders, who raises from the outside edge, working backwards towards the centre. Hope trained in both Sheffield and Edinburgh and spent time with the Danish silversmith Mogens Bjørn-Andersen (1911–2014), adopting his approach to raising. Andersen was apprenticed to Georg Jensen (1866–1935), who had established the renowned Danish Silverware company. Andersen graduated from Jensen in 1934. Hope describes his way of working as “an alternative approach”, as it differs from the more common approach adopted by the majority of UK silversmiths. Hope met Andersen in 1992, following an exhibition in Edinburgh at the Danish Institute, where the work of various Danish silversmiths was on display. After spending time with Andersen in Copenhagen, Hope’s work took a different direction. He also commented on how

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Fig 9 Raising stakes in Adrian Hope’s workshop.  
(Photo: Sandra Wilson)





Fig 10 Whisky tumbler, round bowl and open bowl, Sandra Wilson, 2016. (Photo: Sandra Wilson)

the stakes were completely different shapes. They had long arms so that you could get right down inside the pieces.<sup>34</sup>

This is also supported by a comment from Andrea Harvin-Kennington in the US, who originally trained in Sweden in 1982.<sup>35</sup> This stake [Fig 9] is longer than traditional British stakes and also appears to support Tarantino's conclusion that Dutch raising is especially suited to tall cylindrical forms.

I was fortunate enough to learn Hope's approach to raising while taking his weekend workshop three times over the course of two years. During this time I created a whisky

tumbler, a small bowl and a larger round bowl [Fig 10]. In the small open bowl (right) I was able to create the form relatively quickly compared to angle raising and using wooden hammers and mallets meant I could achieve a good matt finish without the need for any planishing. On this piece I was also able to experience back raising in order to create the foot of the vessel and understand the key differences between the two techniques. The forms of the whisky tumbler and round bowl could also be better controlled as you are focusing more on achieving the final diameter of the work. As a maker myself, learning the technique was an important aspect of this

Fig 11 Jan van Nouhuys, silversmith. (Photo: Frank Peters)



34 John Andrew and Derek Styles, *British Designer Silver from Studios established 1930-1985*, Woodbridge, 2015, p 264

35 Andrea Harvin-Kennington, Creative Metal Forming Group, post 7 September 2017 see <http://bit.ly/2gDga0U>

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36 J W Frederiks, *Dutch Silver: Embossed Ecclesiastical and Secular Plate from the Renaissance until the Eng of the Eighteenth Century*, The Hague, 1961, p 37

37 Ibid, p 39

38 Ibid, p 50

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Fig 13 Ewer and basin, Christian van Vianen.  
(© The Department for Digital, Culture, Media and Sport)

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Fig 12 Covered ewer, Adam van Vianen, Utrecht, 1614.  
(© The Rijksmuseum)



research. Knowing where to stand in relation to the stake, the position of my elbow tight against my body, the relationship of my hammer blows relative to the stake all had to be learned through repeated actions until it started to feel less forced and more natural.

Contemporary silversmith, Jan van Nouhuys [Fig 11], based in Schoonhoven in the Netherlands, also found a reference to Dutch raising in an English book about silver when working at the English company Wakely and Wheeler in the 1970s and was intrigued. He spent around two years conducting research into what this could be referring to and in particular studied the work of the sixteenth- and seventeenth-century silversmiths, the Van Vianens.

Adam van Vianen was born in 1565 a son of the Utrecht silversmith Willem Eerstensz van Vianen. His work went through several different periods and it is his later “auricular” style, (named after its organic and flowing style) that is of interest here [Fig 12].<sup>36</sup> Considered by many to be the Rembrandt of

silversmithing, Adam, together with his younger brother Paulus and his son Christiaen, produced a considerable body of work. Adam stayed at Utrecht while Paulus lived abroad for the greater part of his life: working initially for the Bavarian Court in Munich and then in Prague for Emperor Rudolph II.

He used the same mollusk style as his brother, but probably started several years earlier.<sup>37</sup>

Adam’s son Christiaen worked in Utrecht and then in 1635 he entered the service of Charles I of England who ordered him to make a series of seventeen pieces for St George’s Chapel at Windsor Castle.<sup>38</sup> In 2012, a temporary export ban was placed on a silver ewer and basin [Fig 13] by Christiaen van Vianen, with his mark for 1632, to stop the work from leaving the UK. It was argued that:

The ewer and basin are superb examples of a rare moment in the history of art when a branch of decorative arts developed a striking and innovative style. The auricular





Fig 14 Pair of candlesticks by Jan van Nouhuys, Schoonhoven, 1999.  
(© The Victoria and Albert Museum)

style – so called by modern art historians because it was thought to resemble the fleshy curves of a human ear – was pioneered by the Van Vianens. They came from an established family of Utrecht goldsmiths and were famed for their innovative pieces which explored the possibilities of rendering the liquid properties of metal in sculptural form.<sup>39</sup>

Philippa Glanville, a member of the Reviewing Committee, said:

The ewer and basin are stunning objects that were made with extraordinary technical skill. The influence of the Van Vianens' works on their contemporaries and future generations of silversmiths are important elements in the study of European decorative arts.<sup>40</sup>

The suggested purchase price was £7,500,000 and, unfortunately, a buyer could not be found and so the ban on exporting the work to the USA was lifted.

Following Van Nouhuys's period of research into the Van Vianens he spent a number of years playing with this technique and continued to learn more about it through making. During this period, he produced a set of candlesticks [Fig 14], which are in the collection of the V&A and shows the influence of his study of the Van Vianens. Van Nouhuys distinguishes between what he calls "treating metal as sheet and treating metal as clay". He believes that the term Dutch raising in books could more appropriately be described as working with thicker metal sheet "as clay" up to as much as 5mm thick, as in the work of the Van Vianens. Contemporary silversmith Brian Clarke has also heard of people describing what he knows as peening as being Dutch raising.

In America during the 1950s this method of working with a thick ingot of metal that is hammered on the inside and thinned was described as stretching. The method is also referred to as peening,<sup>41</sup> or pressing<sup>42</sup>, or dishing.<sup>43</sup> Several older books also refer to this method,<sup>44</sup> in the case of Cellini dating from the sixteenth century, where he suggests that stretching was encountered in Paris by Theophilus as early as the tenth century. Thomas describes pressing as

probably the oldest method of raising metals

and yet most practitioners and authors would agree this is not a raising method related to compressing the metal but rather a separate method in its own right because of the way the metal thins rather than thickens. Frederick Miller [Fig 15], who taught at the Cleveland Institute of Art, is worth examining here as he practised and published on this technique.<sup>45</sup> Miller describes it as

a forming method particularly well-suited to the development of contemporary designs of irregular or free shapes that call for unbroken lines and yet have the strength and richness of a thick edge.<sup>46</sup>

39 Department for Culture, Media and Sport 2012/13, p 25

40 Ibid

41 Brian Hill and Andrew Putland, *Silversmithing: A Contemporary Guide to Making*, Marlborough, 2014

42 Richard Thomas, op cit, see note 1

43 Robert Goodden and Philip Popham, op cit, see note 15

44 C R Ashbee (translator), *The Treatises of Benvenuto Cellini on Goldsmithing and Sculpture*, USA, 1967

45 Frederick Miller, *Contemporary Silversmithing: The Stretching Method*, film and accompanying booklet, Handy & Harman, 1952.  
[http://library.clevelandart.org/museum\\_archives/audio\\_visual/contemporary-silversmithing-stretching-method](http://library.clevelandart.org/museum_archives/audio_visual/contemporary-silversmithing-stretching-method)

46 Ibid, p 4

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- 47 Ibid; and Rupert Finegold and William Seitz, *Silversmithing*, Krause, 1983, p 416
- 48 Miller, *ibid*, p 4
- 49 'Silversmith to His Majesty the King', *The Rotarian*, 1949, <http://www.smpub.com/ubb/Forum12/HTML/000294.html> accessed on 6 September 2017
- 50 Dennis Dooley, *Frederick A Miller, Silversmith 1913-2000*, [http://clevelandartsprize.org/awardees/frederick\\_miller.html](http://clevelandartsprize.org/awardees/frederick_miller.html) accessed 9 August 2017
- 51 *Ibid*
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It is quite instructive to watch the video that Miller produced for Handy & Harman. He starts with a thick ingot of metal approximately 3.5mm thick and strikes the metal on the inside with a ball peen hammer on a flat metal stake. Eventually when he can no longer stretch the metal from the inside he moves to raising around the outside edge to shrink the diameter of the design and give shape to the piece. This technique is sometimes referred to as "shrinking" as it reduces the diameter of the work<sup>47</sup> Miller describes stretching as follows:

The stretching method allows for great freedom of design. It takes advantage of one of silver's most important characteristics – malleability. It enables you to start work in the material immediately, with only a general design for the piece you want to make. As you work the thick silver your understanding of it will grow and you will often find that the silver assumes a shape during stretching that will suggest



Fig 15 Frederick Miller, silversmith. (Photo: John Paul Miller)

improvements over your original design. This is more characteristic of the stretching method than of any other methods of forming.<sup>48</sup>

The stretching method was introduced to Miller by Baron Erik Fleming at the 1948 National Silversmithing Workshop Conference in Rhode Island. Fleming was court silversmith to the King of Sweden.<sup>49</sup>

Stretching was a novel method of thinning a disc of metal into the desired shape . . . whereas the time honoured way was to hammer a thin piece of metal into shape by striking primarily the outside surface of the cup or the bowl coming into existence, stretching began with a relatively thick disc and most of the hammering was done on the interior of the emerging form.<sup>50</sup>

The workshop organiser argued that this method

was ideal for irregular shapes, since it permits the smith to vary his form easily as he goes along, combining in a free form a freely flowing design idea

and that

the metal actually flows under the blows of the hammer.<sup>51</sup>

Fig 16 Fruit bowl by Frederick Miller, Cleveland, 1955 (© The Cleveland Museum of Art).





Fig 17 Margaret Craver, silversmith (1907-2010)  
(Photo: Silver Salon Forum)

Elizabeth Nutt, a student of Miller's at the Cleveland Institute, has a vivid memory of his raising a large piece

while squatting on top of the studio's center table, a position that seemed to defy gravity.<sup>52</sup>

You can see in his *Free Form Fruit Bowl* [Fig 16] the thick edge associated with stretching. It is observed by Maryon<sup>53</sup> and Van Nouhuys<sup>54</sup> how with this method you canpeen a coin into a little bowl and the text around the edge will still be intact.

This renewed attention for stretching came out of a series of summer workshops run from 1947-51 by Handy & Harman and organised by the silversmith Margret Craver (1907-2010) [Fig 17]. The advertisements used to promote the workshops in *Craft Horizons* magazine [Fig 18] appear to demonstrate angle raising and stretching. During the Second World War, Craver entered into a partnership with the leading metal refinery Handy & Harman in

order to offer metalsmithing to wounded veterans as a means of occupational therapy.

What started out as a therapeutic endeavour, however, would ultimately have a significant impact on the field of American silver.<sup>55</sup>

Many of the participants at these workshops went on to found their own metalsmithing programmes in the USA that still exist today.

Interestingly Craver was invited by George Ravensworth Hughes, a member of the

Fig 18 Advertisements for the Handy & Harman workshops 3-5 from *Craft Horizons*.



52 Ibid

53 Herbert Maryon, *Metalwork and Enamelling*, London, 1954, p 92

54 Jan Nouhuys, Interview with the author in Schoonhoven, 31 July 2017

55 Elisabeth McGoe, *American Silver in the Art Institute of Chicago*, New Haven, 2016, pp 227-228

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- 56 Vicki Halper and Diane Douglas, *Choosing Craft: The Artists Viewpoint*, 2009, p 115.
- 57 Margret Craver, 'An Ancient Method goes Modern', *Craft Horizons*, Winter 1949, pp 15 – 18. See <https://digital.craftcouncil.org/digital/collection/p15785coll2/id/2237/rec/1>
- 58 Elisabeth McGoey, op cit, see note 52, p 226.
- 59 Bruce Metcalf, correspondence with the author, 5 September 2017.
- 60 John Andrew and Derek Styles, op cit, see note 31, p 506.
- 61 William E Bennett, Ralph Graeter; Margret Craver Withers and Paul Killiam, *Handwrought Silver. A Silver Bowl – Part one –* <https://www.youtube.com/watch?v=DQoiVnYYnjs> and Part two – <https://www.youtube.com/watch?v=TehpJlTuM4> accessed 7 September 2017. Science Pictures for Handy & Harman, 1948.
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Fig 19 Teapot by Margaret Craver, Wichita, Kansas circa 1936. (© Museum of Fine Arts Boston)



Goldsmiths' Company to talk about her work with various British government departments who were interested in doing something to support their veterans.<sup>56</sup> She spoke to them in 1946 around the same time that she participated in a two-week refresher course at the Central School of Art in London for British silver and goldsmiths. These two events were a key influence for her in starting the series of workshops in the USA that took place between 1947 and 1951. Around forty-five people applied for twelve places available at these workshops. The first three workshops were held at the Rhode Island School for Design and the latter two at the Rochester Institute of Technology.

Craver, covering the third workshop for *Craft Horizons* magazine in 1949, lists

four methods by which nearly all raising is done – wrinkling, angle, stretching, and Dutch (so-called for want of a better name and because it is being used in Amsterdam).<sup>57</sup>

So Craver appears to have been responsible for the term Dutch raising in 1949 and her justification for doing this is because a silversmith in Amsterdam was using this technique. It is not clear whether she knew someone personally who was using this technique as there is no reference to this. Alternatively she could have heard about this from someone else when she worked at Stone Associates in Massachusetts or Wilson Weir at Tiffany & Company or even Arthur Nevill Kirk (1881-1958) at Cranbrook.<sup>58</sup> For a teapot made by Craver under Kirk's instruction see Fig 19. This Cranbrook connection also gives us a link to Richard Thomas, although the two men never met. Kirk was taught silversmithing at the London School of Arts & Crafts in the 1920s and was subsequently invited to come to Detroit and teach at the Detroit Society of Arts and Crafts. In 1929 he was appointed head of the Silver Shop at the Cranbrook Academy of Art: a position that he held until 1933. Stone (1847-1938) was born and trained in Sheffield before moving to Massachusetts in 1896, although it is unlikely that he and Craver ever met.

Bruce Metcalf, an American contemporary jeweller and author remembers Dutch raising being mentioned in passing during his training at Syracuse University under Michael Jerry (b 1937) and believes it was known as an English technique.<sup>59</sup> Two English silversmiths were involved with the Handy & Harman Craft Service series sponsored summer workshops. William E Bennett (1906-67), who taught at the first workshop in 1947, began his training at the Sheffield School of Art and then continued at the London School of Arts and Crafts, under the guidance of Omar Ramsden. Following this training it is known that he travelled to Europe.<sup>60</sup> In 1948 Bennett was involved in making a film on handwrought silver with Craver and others.<sup>61</sup> This film is also said to have influenced Fred Miller when he made his film on the stretching method. Bennett may



have been involved with the 1946 refresher course, as Craver talks about how, later, one of the teachers would become directly involved with Handy & Harman.<sup>62</sup> She also talks about how Bennett became the first teacher and opened the first Handy & Harman workshop:

Mr Bennett gave a blocking demonstration and twenty minutes later twelve hammers were at work, miracles beginning.<sup>63</sup>

Another English silversmith Reginald H. Hill (1914-75) taught at the 1950 workshop. He was a design instructor in silver and jewellery at the Central School of Arts & Crafts in London and he was also a design advisor to the Design and Research Centre at Goldsmiths' Hall in London.

Craver's decision to settle on the term Dutch raising may have come from the time that she trained under Fleming in 1938 in his Atila Borgila workshop in Stockholm. Fleming was also known as an authority on working with gold and silver.<sup>64</sup> With Fleming Craver learned the traditional techniques for creating silver hollowware as can be seen in the muffineer of 1946 in Fig 20.

Lois Etherington Betteridge (b 1928) is a Canadian metalsmith who trained at the University of Kansas under Carlyle H Smith (1912-2004) who attended the first Handy & Harman workshop series where Bennett had delivered a workshop.<sup>65</sup> She was also subsequently mentored by Thomas at Cranbrook, where she remembers trying the "outside edge" method. In addition, she took an

Fig 20 Muffineer by Margaret Craver, 1946.  
(© Smithsonian American Art Museum)



evening class in chasing with the master jeweller and silversmith, Hero Kielman (1919-2008). Kielman had just arrived from the Netherlands, where he had studied at the Vakschool voor Goud en Zilversmeden (Vocational School for Gold and Silversmiths) in Schoonhoven. Betteridge thinks that Kielman may have coined the term Dutch raising.<sup>66</sup> Anne Barros (b 1939), another North American metalworker also recalls Kielman talking about the Dutch method, although she does not think it was too different from the Scandinavian method employed by Hans Christiansen.<sup>67</sup> Hans Christensen (1924-83), a Danish silversmith,

62 Vicki Halper and Diane Douglas, op cit, see note 56, p 116

63 Ibid, p 118

64 Op cit, see note 50.

65 Ross Fox, 'Lois Etherington Betteridge. Pioneer of a Craft Revival in Canada', *Silver Studies, the Journal of the Silver Society*, No 25, 2009, pp 5-13. See [http://www.loisbetteridge.com/images/LoisBetteridge\\_RossFox.pdf](http://www.loisbetteridge.com/images/LoisBetteridge_RossFox.pdf)

66 Lois Etherington Betteridge, e-mail correspondence with the author, 2017

67 Anne Barros, e-mail correspondence with the author, 2017

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68 Janet Koplos and Bruce Metcalf, *Makers: A History of American Studio Craft*, North Carolina, 2010, p 243.

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trained at the School of Arts & Crafts in Copenhagen and the School for Arts & Crafts in Oslo and worked for ten years with Georg Jensen, the famous Danish silversmith. On emigrating to the USA, he taught at the Rochester Institute of Technology. So, perhaps there is another connection here to Georg Jensen? Interestingly, Bruce Metcalf's teacher, Michael Jerry, studied under Hans Christensen at Rochester and briefly with Richard Thomas at Cranbrook before going on to teach metals himself at Syracuse University.

#### Conclusion

In trying to unravel the mystery of Dutch raising, books on silversmithing have been considered as well as the practice of contemporary silversmiths. From books we can see that some ascribe the term Dutch raising and others do not, although it is clear that, regardless of how they describe it there is a specific technique here that appears to share many common features. A defining characteristic of Dutch raising as described in books is starting to raise from the outside edge, adding further courses behind this until the centre is reached. Hammer blows are all the time directed towards the outside edge. In this way an entire vessel form can be raised. This approach is distinct from "back raising", in which the hammer blows are directed towards the centre and aimed at thickening the base or reducing the height of a vessel. In America, a cross-peen hammer is used whilst English books advocate a raising hammer although in practice these are virtually the same. Only a T stake is discussed and the silver sheet used is between 0.7mm and 1.29mm. Some books also suggest the method is more suited to open pieces such as bowls, although Tarantino suggests tall cylindrical forms.

Amongst contemporary silversmiths I have been unable to find anyone who describes this technique as "Dutch". There are around twenty

contemporary silversmiths in the Netherlands today and I have been unable to find one using this technique. This search has included a visit to the silver museum in Schoonhoven and discussions with contemporary practitioners at Hammerclub, the annual gathering of European silversmiths. Whilst in America "Dutch" is often used to describe those from Germanic countries, as in the Pennsylvania Dutch; Craver's reference to Amsterdam suggests this is not the case here.

All of the references to Dutch raising have emerged from a rich and vibrant silversmithing scene in 1950s America; a movement that was initiated by Margret Craver and supported by her organization and co-ordination with the Handy & Harman silversmithing workshops that subsequently spawned a wealth of silversmiths who established themselves in academia. We can conclude that Margret Craver in 1949 was the first to use the term Dutch raising in print, although it is not clear whether she had personal contact with a silversmith in Amsterdam using this technique or heard about the practice from someone else. This could have been through her contact with William E Bennett, Reginald Hill or Arthur Nevill Kirk, all of whom were associated with the London School of Arts & Crafts, or from Baron Erik Fleming, who considered himself an authority on working with gold and silver and taught at the Stockholm Arts & Crafts School. Hero Keilman and Hans Christiansen are also two North American Silversmiths who may have influenced the use of the term. There is a historical connection to Georg Jensen's workshop in Copenhagen and certainly many American silversmiths looked to Scandinavian silver

in which smooth, soft, biomorphic forms predominated.<sup>68</sup>

Amongst contemporary practitioners only British Silversmith Adrian Hope appears to use Dutch raising although he does not use that label and describes it as an alternative approach. Jan van Nouhuys argues that “treating metal as clay” working with a thick ingot of metal and stretching it should more appropriately be described as Dutch. This is perhaps one of the oldest methods known to us for creating vessel forms in metal. Regardless of the origins of the term Dutch raising the silversmithing field may in time come to identify a better and more appropriate descriptor for this valuable method.

There appears therefore to be four distinct methods for creating vessels or hollow forms; angle raising, Dutch raising, stretching and a fourth method which this article has not touched on: creasing.<sup>69</sup> Creasing is also known as crimping,<sup>70</sup> and wrinkling.<sup>71</sup> Some authors also distinguish between raising that compresses and thickens the metal and blocking, pressing or sinking that stretches and thins the metal, although these are contested terms.<sup>72</sup> The desired diameter and controlling the diameter appears to be a key decision when considering which method to choose. In stretching, the diameter of the disc chosen determines the final diameter of the work and in Dutch raising it is suggested that the diameter of the final design can be more easily controlled.

Over time we can see how silversmithing as a practice has become more differentiated and we can only speculate as to when techniques such as angle raising or Dutch raising became identified as separate approaches in their own right. Perhaps it was as silversmithing entered academia in both America and Britain and there was a growth in instructional books that this differentiation has increased.

It is difficult however, for us to study the objects themselves to determine by which method they were created. Gans has suggested there is no way to tell if a piece has been raised or cast and similarly, there is no way to tell if a piece has been raised using angle raising or Dutch raising,<sup>73</sup> especially if it has been planished. It is perhaps easier to identify if a piece has been created through stretching as the rim will be quite thick. With both angle raising and Dutch raising the thickness of a piece should remain relatively consistent with stretching, however, the thickness of the metal will vary across the piece depending on where it has been stretched.

Ultimately, a practice seeks embodied knowledge and does not necessarily ascribe names or titles to techniques. Embodied knowledge is built up over time with repeated actions, and habits until the body knows how to act and lives the practice. Embodied knowledge also has a lineage, where techniques have been passed on from one practitioner to the next through the generations. Within academia *a priori* and *a posteriori* knowledge are emphasised. *A priori* can be considered as knowledge that is independent of experience for example as in mathematics and is based on pure reason and *a posteriori* which depends on experience and in particular empirical evidence. Academic knowledge, therefore, is largely based on the reasoning of the mind and is written down. Traditionally silversmithing techniques are not written down, perhaps because it is very difficult to translate the knowledge of the body into the knowledge of the mind. These different types of knowledge however should not be viewed in competition with each other but rather seen as complementary and mutually enhancing.

This research has highlighted a problem with nomenclature. Dutch raising is referred to as a method, a technique, method 2 or simply just

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69 Brian Hill and Andrew Putland, op cit, see note 41, 2014

70 Rupert Finegold and William Seitz, op cit, see note 47

71 Margret Craver, op cit, see note 57.

72 Bonnie Gallacher, Treatise on combined metalworking techniques: paged elements and chased raised shapes, Thesis, Rochester Institute of Technology 1972: 27 and Opi Untracht, op cit, see note 1, p 240

73 Mozes Heiman Gans and Th M Duyvene De Wite-Klinkhammer, op cit, see note 3

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74 Smith, 2000

75 Ulrich Lehmann, 'Making as Knowing: Epistemology and Technique in Craft', 2012  
<http://www.tandfonline.com/doi/pdf/10.2752/174967812X13346796877950?needAccess=true&instName=University+of+Dundee> accessed 17 August 2017

76 Tim Ingold, 'Knowing from the Inside', 2017, correspondences.  
<https://knowingfromtheinside.org/files/correspondences.pdf> accessed September 2017

77 Van Nouhuys 2017

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as raising. Several different expressions are also used to describe stretching (peening, pressing, dishing) and creasing (crimping and wrinkling). Likewise, thickening the bottom of a vessel is also referred to as “back raising” or “raising in”. It may greatly assist the discipline if there was more general agreement on language and key terms.

It is particularly frustrating that, in the process of this research, I found very few of these instructional and educational books contained bibliographies (eg Smith<sup>74</sup>). Some chapters read, therefore, as if the author is describing a technique they themselves use. There are, however, apparent connections between the language used in the books that suggest they are in fact referencing a technique identified by another author without this being acknowledged.

As a way of learning more about, and understanding historical and technical approaches, practice-based research is a growing area that is particularly valuable when considering embodied knowledge. Practice-based research can be defined as seeking to create new knowledge through the generation of creative artefacts. Dutch raising would, therefore, benefit from a more thorough practice-based research study with established practitioners that can identify the appropriate hammers, stakes and benefits of this approach for different vessel forms. This would also go some way towards demonstrating the value of embodied knowledge to academia and add to the recent attempts to argue for “making as knowing”<sup>75</sup> and “knowing from the inside”.<sup>76</sup>

Acquiring embodied knowledge and learning traditional raising takes a great deal of time and patience. As university-trained designers and makers focus more on the contemporary and pushing boundaries with technology, they are

exploring and exploiting new methods such as scoring and folding or tig welding to create new forms.

Raising as a technique is not in its own right enough to justify its continued use; an expanded knowledge and practice of different raising methods can, however, only enhance the field and expand the range of forms achievable. As Van Nouhuys notes, as the emphasis has shifted from

production to artisan we should really promote that every design is asking for its specific technique. This emphasis on design dictating the technique can only enrich the discipline.<sup>77</sup>

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