

## Ancient or not ancient – that is the question

**F**raud has a long history in human civilisation. Forging seals was a popular practice throughout history affecting even the oldest items of glyptic art. Collon makes note of several Post-Akkadian cylinder seals that were later recut or re-invented by later ancient forgers, who aspired to imitate the Mesopotamian style of the late 3<sup>rd</sup> millennium BC.<sup>8</sup> On the other hand, Pliny points to the fact that at the turn of the 1<sup>st</sup> century BC/AD in Rome, gem cutters sometimes used to cheat their buyers producing glass intaglios and cameos that they sold as made of authentic gemstones. This is the first literary recorded massive example of fraudulent practices to be employed in glyptics. In his *Natural History*, Pliny subsequently advises how to tackle this problem and how to distinguish a glass forgery from a genuine stone.<sup>9</sup>

Since the Renaissance, gem engravers have attempted to equal and surpass their ancient counterparts.<sup>10</sup> Because of the high demand for classical gems among dealers and collectors, some carvers sought to pass off modern works as ancient.<sup>11</sup> Some forged only the signatures of famous Greek and Roman artists, which were added to genuine ancient stones in order to enhance their value at

the market or created series of neo-classical gems with fabricated signatures like in case of the famous Poniatowski collection.<sup>12</sup> Repetitious copying and considerable decrease in the quality of workmanship, dispersion of important collections combined with increasing number of gems of doubtful authenticity ultimately contributed to the collapse of the trade in gems in the second half of the 19<sup>th</sup> century.<sup>13</sup> As a result, archaeologists face big problems because, in terms of glyptics, it is difficult to formulate a clear-cut definition of a forgery.<sup>14</sup> The best one seems to be that proposed by Spier, who writes that a forgery is an object which is intended to deceive, but he automatically states that one cannot always determine the intention of the maker.<sup>15</sup> For as early as in the Medieval times ancient gems were reinterpreted and given completely new meanings,<sup>16</sup> while the Renaissance engravers (especially those producing cameos) worked in a style very close to that of their ancient predecessors, but usually ancient gems served as sources of inspiration rather than being directly copied, although, naturally copies and fakes were produced as well.<sup>17</sup> As to the 18<sup>th</sup> and 19<sup>th</sup> centuries, a general observation is that in the course of time and for various reasons, for instance, due to the *grand tour* phe-

8 Collon 2005, 39 and 96.

9 Pliny, *NH*, XXXVII 76. Generally speaking, Pliny lists glass as one of the materials ancient seals were made of as glass gems in ancient Rome were particularly popular. Nevertheless, his advices on how to differ a glass gem from a hardstone one clearly suggest that sometimes clients were misled and while they wished their seals to be made of hardstones, they received imitations in glass.

10 For a detailed study of this problem, see: Zwierlein-Diehl 2007, 291–304 (with further literature).

11 Plantzos 1999, 2. Not only classical gems have been falsified. This problem was and is still significant for any other kind of glyptic artefact, for instance Arabic and Persian seals, see: Porter 2017, 11–12.

12 On this problem, see: Rudoe 1993, 24–25. On Prince Stanislas Poniatowski (1754–1833) collection of engraved gems, see: Wagner 2008; Wagner 2013; Rambach 2014. However, it must be highlighted that Prince wanted illustrations of classical myth whether or not there were known glyptic examples and he had what may be the peak of neo-classical glyptic art from various artists, so that his motivations cannot be described as clear intention for production of classical forgeries. On the problem of forgeries of ‘already fake’ Poniatowski gems, see: Gołyźniak 2016.

13 Plantzos 1999, 3; Berges 2011, 151; Gołyźniak 2017, 57–58.

14 Plantzos 1999, 3; Tassinari 2018.

15 Spier 2007, 171.

16 Zwierlein-Diehl 1997.

17 Spier 2007, 171; Wagner 2017, 114–116.

nomenon and discoveries in Pompeii and Herculaneum, the demand for classical gems increased so much that many carvers specialised in production of modern gems that would not only take inspiration from ancient counterparts regarding the subject-matter, but also imitate their styles, techniques and even the gemstones used.<sup>18</sup> They were often artists and forgers in one working for greedy dealers like Thomas Jenkins (1724–1798), a notorious dealer in antiquities, mainly over-restored or forged. As reported by the English sculptor Joseph Nolekens (1737–1823), who worked for Jenkins in the 1760s, in Rome: ‘Jenkins followed the trade of supplying the foreign visitors with intaglios and cameos made by his own people, that he kept in a part of the ruins of the Coliseum, fitted up for ‘em to work in slyly by themselves. I saw ‘em at work though, and Jenkins gave a whole handful of ‘em to me to say nothing about the matter to anybody else but myself. Bless your heart! He sold ‘em as fast as they made ‘em’.<sup>19</sup> Sometimes it can be confusing because a modern artist may have not wished his work to be taken as ancient, but a greedy dealer sold the piece as an ancient work.<sup>20</sup>

Today it is difficult to understand the basic principles of the 18<sup>th</sup> century gem trade and collecting intertwining at that time with first truly scholarly works. A good illustration of that is Baron Philipp von Stosch (1691–1757) who published one of the most influential treatise on engraved gems signed by ancient carvers.<sup>21</sup> His book was well-received and gained Stosch great popularity and appreciation as a gem connoisseur. Moreover, it laid foundations for what may be considered as modern glyptic studies. However, recent critical investigations reveal that some of the gems published by Stosch in his book are not ancient.<sup>22</sup> It is problematic to say whether the author was aware of that or not since even his great knowledge and extraordinary taste could be deceived by the high number of already existing fakes. On the other hand, it is

evidenced that modern gem engravers like Flavio Sirletti (1683–1737) or Lorenz Natter (1705–1763) worked at Stosch’s atelier in Rome and Florence respectively cutting some copies of ancient masterpieces or creating new artworks inspired by ancient ones but probably not intended to be taken as genuine.<sup>23</sup> Those most skilful artists were able to produce the best copies that do not differ from ancient prototypes at all. Their works are still taken as genuine unless their documentation emerges proving them to be copies like in case of an intaglio bearing one of the episodes from Homer’s *Iliad* once in the celebrated Medina, Bessborough and Marlborough collections and now housed in the Walters Art Museum in Baltimore.<sup>24</sup>

As time passed and enthusiasm towards gem collecting in western Europe was slowly cooling off in the second half of the 19<sup>th</sup> century, production of fake engraved gems was still considerable in other parts of the world. Count Michael Tyszkiewicz (1828–1897) in his *Memoires of an Old Collector* mentions that at the turn of the 18<sup>th</sup> and 19<sup>th</sup> century forgery of ancient intaglios indeed blossomed into a particularly flourishing business. Nevertheless, it is intriguing what he says about his own times because, towards the end of the 19<sup>th</sup> century, frauds were scarcely produced in Italy, which was the most productive location for gem engraving in the Neo-Classical era, while a great number of fakes were manufactured in the Near East by the cleverest forgers. He even tells a story about the discovery of a group of truly ancient undecorated scarabs in Cyprus which once taken by forgers were given decoration at the highest level of craftsmanship and were virtually indistinguishable from the fully genuine objects.<sup>25</sup>

Although, as it has been said, the trade in engraved gems fell apart almost completely in the second half of the 19<sup>th</sup> century, still in the 20<sup>th</sup> century and even today, fake antiquities, including intaglios

18 Berges 2011, 131–158; Platz-Horster 2012, 36–37; London 2014. On this subject in particular see: Zwierlein-Diehl 1993; Tassinari 2015; Tassinari 2018.

19 Smith 1895, 222.

20 Jaffé 1993. A particularly intriguing case is Lorenz Natter (1705–1763) who admits that he cut copies of ancient masterpieces but claims that he never intended his works to be taken as ancient (1754).

21 Stosch 1724. On Stosch as one of the most prominent figures of the 18th century antiquarianism, see: Furtwängler 1900, vol. III, 409–410 and 415–417; MacKay Quynn 1941; Lewis 1961, 38–90; 1967; Borroni Salvadori 1978, 565–614; Zazoff, Zazoff 1983, 3–67; Zwierlein-Diehl 2007, 274–275; Hansson 2014, 13–33; Rambach (forthcoming).

22 Rambach (forthcoming).

23 Natter 1754, XXXII; Hansson 2014, 15–16 and 22; Tassinari 2018. Actually, many more gem engravers were active in Stosch’s atelier and produced copies of ancient gems for him, see: Hansson 2014, 22, note 58.

24 For the gem, see: Boardman *et al.* 2009, no. 339. For the discussion on its genuineness, see: Tassinari 2018.

25 Tyszkiewicz 1898, 157–158.

and cameos, continue to be produced. This is especially the case of the Near East region, which in the first half of the 20<sup>th</sup> century produced a sophisticated series of fake cylinder seals that can be now grouped together according to their peculiar styles.<sup>26</sup> After the Second World War the regions like Syria, Levant and surroundings yield with the most ambitious and numerous forgeries of all types of antiquities. Regarding the early Christian and Byzantine engraved gems, Spier observes that such a phenomenon was or still is considerable and its products flood the art markets in Western Europe.<sup>27</sup> This applies to other categories of gems, especially the good Roman ones and cylinder seals which have been abundantly recovered in the Near Eastern area quite freely without control of the state and regional officials. Such a state of affairs provokes forgers to create their products without limits and having direct access to original ancient works, they can easily and successfully mislead potential clients and scholars alike. Collon reports remarkable Achaemenid-style forgeries made of agate now on the market and Neo-Babylonian and Sassanian gems have been always popular among forgers because they are relatively quick and easy to make.<sup>28</sup> It is difficult to find a good solution to this problem that would satisfy collectors, authorities, scholars and others involved alike. As long as there is increasing demand for antiquities and prices for engraved gems and seals get higher and higher, their buyers will continue to be cheated by malicious mischief makers and forgers. An idealist's advice would be to avoid purchasing unprovenanced antiquities and this rule is applied by some collectors. Yet, others will always be focused on making a profit, which cannot be fully unrooted and pours fuel to the current production of fakes.

For all these reasons, it is extremely difficult to judge and classify every single collection of engraved gems originating from the Near East and neighbouring areas, especially if it presents an eclectic mixture of all kinds of glyptic objects imaginable and virtually lacks provenance information, as it is the case of the one occupying this volume. Modern forgeries of seals, intaglios and cameos often qualify as works of art in their own right, but not as antiquities, hence, they are often neglected.<sup>29</sup> However, it is imperative to publish

research on such objects too as they help us to understand the differences between the originals and fakes. Thanks to this, it is possible to identify the latter and to tackle the problem of their production. Scholars, authorities and collectors alike would benefit from such an action as the first will be aware of existence of fakes and could identify further examples even in already published collections, the second could more successfully fight against smugglers and forgers, while collectors could avoid being deceived by untrustworthy sellers.<sup>30</sup> For the archaeological community such research is of crucial importance for two reasons. First, every single genuine object enriches our understanding of past societies. It provides new information about the makers and users, the craft and taste, religious and political beliefs, and many more. Moreover, the study of collections of engraved gems, even private ones, raises interest in this form of art locally and internationally as well as appreciation of the cultural heritage of the country where they are formed, like it is the case here. Second, forgeries distort our picture of antiquity sometimes to a considerable degree, for example, if a group of their products is accepted as a peculiar local style. The relationships between the truly existing peoples become blurred and unintelligible, which often leads to a great puzzle tackled by unnecessarily complex and unbelievable hypotheses, while simple means, e.g. forgery identification, is set aside. Hence, it is hoped that all the research presented here and supported by the Georgian authorities provides sufficient evidence for the superiority of even mediocre but truly ancient artefacts over sometimes more appealing modern and contemporary forgeries. Furthermore, many items in this collection are controversial and remain so even after their careful examination. Sometimes this is due to the fact that there is limited comparanda material or saying it another way if there were more unpopular, probably fake gems published, their identification would be much easier.

In the late 19<sup>th</sup> century, Middleton stated as follows: 'In no other branch of art is it so difficult to distinguish the genuine antique from the modern forgery; partly because age does nothing to alter or decompose in any way the surface of a hard gem, and secondly because, owing to the hardness

26 Collon 2005, 94.

27 Spier 2007, 171.

28 Collon 2005, 94.

29 Collon 2005, 94.

30 Porada 1968, 149.

of the material and the laborious method of working it, there is necessarily something mechanical in the cut and bite of the graving tools, and this diminishes the prominence of the artist's personal peculiarities and touch'.<sup>31</sup> Despite the fact that almost 130 years have passed, these words still have great meaning for every person pursuing the study engraved gems, no matter whether they be an archaeologist, art historian, connoisseur or a collector. This fact sounds very discouraging and indeed many scholars and collectors are deterred by the nature of glyptics, its complexity and huge number of various issues, among which, genuineness seems the most important. One may ask how to study them since every judgment can be easily questioned? In answer to that can be recalled the words of Goethe, who was a keen gem collector and said this: 'Those, who wish to cast doubt on everything, will especially do so when discussing gems. Might this piece be a classical copy or is it a modern reproduction? Could it be another version of a known original or is it a mere imitation? One moment the stone itself raises doubts, the next moment the inscription – which should otherwise be of particular interest – is called into question. To engage with gems is thus even trickier than to get involved with ancient coins, although the latter also require considerable circumspection (...)'.<sup>32</sup> Indeed, no fully objective scientific method exists for proving the antiquity of engraved gems and probably it will never be discovered or invented.

Count Tyszkiewicz claimed that a person who seeks to estimate the value of engraved gems needs to be born with a sort of special instinct because hard work is not enough. Further, he thought that nothing is more important than cultivation of one's gift for gems most importantly by maintaining continuous contact with the objects themselves.<sup>33</sup> This is one of the fundamental and still very significant principle in the study of engraved gems because constantly developed experience with all kinds of glyptic objects guarantee reduction of potential risk of being cheated and misled by forgeries. Count Ty-

szkiewicz is the best example of that because his first collection of engraved gems was a complete failure: 'In fifteen months I had expended 125,000 francs (5,000 l) in gems, two-thirds of them at least being modern – a fact we were both [with Alessandro Castellani] far from guessing. But towards the end of this time my eyes became a little sharper in detecting the good from the bad, thanks to the counsel of more learned friends, and also from the comparison of the bulk of my acquisitions with a few that were really first class, which, luckily, had been sold me with the rest. Saddened at my own folly, I sold the whole collection to Castellani for the fourth part of what it had cost me, and he, with more sense than I had shown, weeded out the palpably false gems, left the doubtful ones (a large number), added some that he had bought at a later date, and ended by selling them all to the British Museum. It was a lesson for me, and a good lesson too. From that time I understood that I must study the science of gems from the very beginning, and I threw myself into it with an ardour which was soon its own reward. And that was the history of my first collection of gems'.<sup>34</sup> However, the second collection of intaglios and cameos created by this extraordinary connoisseur and collector many years later was admirable and gained considerable fame and appreciation.<sup>35</sup>

Usually imitations of ancient gems, unless they are made by very skilful, clever and learned forgers who have access to original ancient gems and studied and copied their characteristics, are inconsistent at one point or another. In other words, it is sometimes the stone, technique, style, iconography or another detail which betrays the misleading intention and proves the object to be a forgery.<sup>36</sup> If one has to question all the knowledge, logic and rationality in their analysis of the item to believe its authenticity, then one is most likely dealing with a fake. In this short essay, I would like to outline the methodology that helps to understand how scholars of the present-day approach whole collections and individual objects in order to determine which intaglios and cameos are or may be truly

31 Middleton 1892, 30.

32 Zazoff, Zazoff 1983, 190. The original text sounds as follows: 'Nun aber findet die Zweifelsucht kein reicheres Feld sich zu ergehen als gerade bei geschnittenen Steinen; bald heißt es eine alte, bald eine modernę Copie, eine Wiederholung, eine Nachahmung; bald erregt der Stein Verdacht, bald eine Inschrift, die von besonderem Werth sein sollte, und so ist es gefährlicher sich auf Gemmen einzulassen, als auf antike Münzen, obgleich auch hier eine große Umsicht gefordert wird (...)'. On the gem collection of Wolfgang von Goethe (1749–1832), see: Femmel, Heres 1977.

33 Tyszkiewicz 1898, 18–20.

34 Tyszkiewicz 1898, 33–34.

35 Tyszkiewicz 1898, 77–81 and 188; Furtwängler 1900, vol. III, 428; Snitkuvienė 2007, 199–201; Gałczyńska 2008, 217 (with further literature).

36 Middleton 1892, 30; Tyszkiewicz 1898, 20–21.

ancient and which are not. Owing to the fact that the number of published gems, and thus available to all, has sharply increased over the past century, undoubtedly, scholars are in a better position now than Middleton was in the late 19<sup>th</sup> century. The year 1900 and publication of a systematic and thorough study of ancient engraved gems by Furtwängler is still a landmark of the greatest revolution in the studies of glyptic art in history.<sup>37</sup> For only a meticulous and careful investigation of many gems, especially those with certain provenance, e.g. from stratigraphic archaeological excavations, enables to determine their date and cultural significance. The text below includes references to the material presented in this book since many objects are perfect illustrations of most of the problems.

## Provenance

The first step in determining whether a cameo, intaglio, cylinder seal or a scarab is a genuine ancient object or not is analysis of all the information concerning its provenance and if applicable also ascertaining context. For instance, Platz-Horster proved this method to be particularly helpful for dating some cameos in Berlin that were found in 1876 in Petescia (Turania today) and several more discovered in 1920 in a burial next to Rome.<sup>38</sup> Her study of those finds is a wonderful example, not only because 18 objects in total unquestionably proved to be ancient works, but because they now serve as points of reference for other similar objects scattered throughout various public and private collections. Moreover, a great amount of the insight into the context of use of these gems and their durability and preciousness since some Hellenistic cameos, although created hundred years earlier than the rest of the hoard, were still in use at the point of its deposit. There are many more examples of such situations,<sup>39</sup> thus, all the controlled and well-docu-

mented archaeological finds of engraved gems are so important for the studies of glyptic art. In fact, finding a glyptic object during controlled excavations is the only fully objective and secure way to prove that it is truly ancient. Less secure are also finds of engraved gems in the areas already confirmed as glyptic centres like Aquileia or hoards, for instance Xanten and Carnuntum.<sup>40</sup>

Regrettably, none of the specimens presented in this book entirely accounts to this category of evidence. Most of the cylinder and stamp seals (nos 3–11 and 156–162) originally had soil on their surfaces and inside of the drilled points (the latter has not been removed) prior to the beginning of my investigations, which may imply that some of these were unearthed at some point at unspecified archaeological sites and then delivered to the collector directly or purchased through the art market (the latter seems more likely as there is no record of his direct interest in archaeology as a science or method for obtaining antiquities). However, forgers use highly sophisticated techniques and methods, for instance, to create the bronze or glass patina, so it is not a big deal for them to make a piece dirty and rub it so that it would look recently excavated. This is the case of several cylinder seals in this collection (nos 156–162) since other, more reliable methods like analysis of iconography and inscriptions proved them to be fakes too. The same is the case of the gold glass medallion (no. 76), which has been only partially cleaned from the soil so that the original patina was not removed during the process. Much of it is preserved in the hanger and again, one wonders if this object was unearthed somewhere or just deliberately soiled to make it look more ancient and authentic. In this case though, in some parts the soil strongly adhered (or literary rooted) to the original patina which is not easy to make by artificial

37 Furtwängler 1900. Foundations for Furtwängler's great systematisation of ancient glyptics was the outstanding collection in Berlin which he catalogued in 1896. Yet, even his work was not free of error as it turned out in the recent study of Berlin's cameos, see: Platz-Horster 2012, 36. This by no means decreases Furtwängler's merits in the study of glyptics art, but only makes one aware that even the greatest scholarly authorities can be sometimes misled by clever forgeries.

38 Platz-Horster 2012, 49–59.

39 For example, many of the gems amassed by Henig in his corpus of engraved gems from Britain have been found by archaeologists during regular excavations, see: Henig 2007. The same is the case of many gems recovered archaeologically in France, see: Guiraud 1988–2008. There is no point in bringing here more examples since it is obvious that every single recorded gem-find significantly contributes to our understanding of the nature of the craft, methods of engraving, specific dating system, cultural and material value of the piece and, of course, to the matter of distinction between ancient gems and modern creations. In addition, gems found in places like Pompeii and Herculaneum, now housed in the Museo Archeologico Nazionale in Naples, are also of great help for the studies of gems chronology and authenticity because they are provided with *terminus ante quem* of 79 AD, see: Pannuti 1983; 1994.

40 On Aquileia as a glyptic centre in antiquity, see: Sena Chiesa 1966. On Xanten and Carnuntum as regular gem-find locations, see: Platz-Horster 1987; 1994; Dembski 2005.

means and may indicate that the object was buried for a long period of time. Perhaps then, one should not be too suspicious and dismiss every piece of evidence straight away. It is not good to take everything at face value, but if there is no other contradictory argument, such a detail like the soiling of the object should be taken as an asset in the judgment of its authenticity. Sometimes there are more worrying elements which suggest otherwise, and those cases will be further discussed below. As stated in the history of the collection, it seems quite likely that a good portion of ancient gems in the Natsvlishvili Family collection originate from Georgia itself and neighbouring countries. This might be the case especially for the Graeco-Persian, Hellenistic, Roman Republican, Roman, magical gems and Sassanian (nos 25–82) categories which are found on Georgian archaeological sites and represent the most distinctive groups in the museum collections.<sup>41</sup> Whether they were bought from reliable sources or obtained from local dealers and finders will remain a mystery forever because none of the art market or else transactions have been recorded. Nevertheless, it is tempting to perceive Konstantine Natsvlishvili's stays during realisations of engineering projects in Tbilisi (close to Mtskheta), Kutaisi and Odessa as potential occasions for extension of his collection of antiquities. Perhaps some mentioned gems could have originated from those areas. Unfortunately, there is also no information as to the previous owners of the clearly modern gems.

## State of preservation

The state of preservation of an object and its general condition are equally important for authenticity investigations of engraved gems as provenance studies. In this term, the first thing to be observed is whether the intaglios and cameos presented to us are completely clean or betray signs of being stored for many years which usually result in dust and dirt accumulated in their nooks and crannies. If that is the case, it may be assumed that the objects did not leave the workshop a couple days or months ago and are fresh fakes. In case of the collection in question here, all the gems presented themselves as stored for many years, requiring considerable efforts to be properly cleaned. Furthermore, the incomplete,

chipped and damaged pieces may be sold for considerably lower prices on the art market, which is generally undesirable by the forgers, thus, all the major imperfections may speak in favour of the authenticity of the object, unless this was made on a purpose to take it as such (mostly in case of small chips but some forgers also tend to break their seals to make them more authentic).<sup>42</sup> Small chips on the stones' edges are usually the effect of pulling the object out of its original setting, usually a ring, which could raise higher interest to the re-user, possessor or finder as it was often made of a precious metal, easier to sell or melt than a gem. Such chips are observable on many ancient stones in this collection (for example, nos 30–33, 42–44, 46–47, 49–50, 55–56, 59–60 and 75). Sometimes the contours of ancient gemstones are frayed or strongly worn on one side or another due to their long use and imperfect setting in the ring. The best example of that is the glass intaglio presenting emperor Caracalla on no. 51, where the gem is considerably worn on the right side behind the head due to a chip in the ring's bezel and it is generally chipped on the edges because the object was set too highly in the ring and its edges protruded, which exposed them to danger. Basing on this, similar features have, for instance, nos 30–33, 35, 46–49, 53, 55–56, 62, 68, 78 and 81. The cracks and chips may also appear on modern gems for the same reasons but usually, they do not and if the stone has perfect contours and edges and its surface is highly polished without any traces of its actual use and wearing so that its unequivocal brilliance makes a direct impression – this makes an object a suspicious one. This feature can be observed on almost all intaglios classified here as modern (nos 83–96, 102–118 and 120–122).

Furthermore, the much-worn effect is often observable on ancient intaglios of which the best illustration here are nos 30, 47, 78 and 81–82. Of course, this is not an ultimate proof for a gem to be taken as a genuine ancient piece. Middleton informs us about an intriguing method employed by gem forgers who used to give the freshly cut gems their chickens and turkeys to eat because the acid and gravel in birds' craws and stomachs altered the surface of the gemstones so that they looked worn and ancient and ultimately the carvers could mislead their clients this way.<sup>43</sup> Regarding forg-

41 Lordkipanidze 1954–1967; Javakhishvili 1972; Ramishvili 1979. However, it must be stressed that only a selection of gems from the National Museum of Georgia in Tbilisi is published, while other museum collections remain unpublished. Therefore, the control group was relatively small in number and it is evident that publication of other museum collections from Georgia is absolutely necessary.

42 Feingold 2014, 78–79.

43 Middleton 1891, 101.

ers of Egyptian scarabs, Wakeling describes their techniques as follows: ‘In some cases scarabs are brought straight from the manufactory and placed upon the market. In other cases they are buried in dung-heaps to give the odour of antiquity, then taken out, oiled and rubbed with dirt, which makes the look old and worn. Then the man will carry about with him for a considerable time, and eventually they get ready to be offered to the unwary collector’.<sup>44</sup> In other cases, freshly cut cameos and intaglios are given the marks of age through a very mechanical process of rubbing and scratching the surface of the stone with the use of various substances including acid or diamond powder mixture combined with iron tools. This feature is observed on no. 192 whose iconography, composition and style also pose some problems, and if all the aspects are taken into consideration, it appears the object is a fraud. One observes the same effect also on more obvious modern works like nos 86, 93 and contemporary ones – 174 and 188–189. Of course, some ancient gems have been preserved with almost intact surfaces if hidden in a tomb for centuries or have been re-polished in modern times to increase their value at the market, which was a popular practice in the 17<sup>th</sup> and 18<sup>th</sup> century and affected such celebrated cabinets of gems like the Marlborough or Devonshire.<sup>45</sup> Therefore, the criterion of stone’s condition is by no means a definite one, but the features described above help to prove that some specimens were carved in antiquity, while other are modern or contemporary products only imitating the ancient spirit.

## Stones: type, shape, form, colour and quality

Concerning the stones themselves, these are also to some degree indicative of gems’ genuineness. First of all, some gemstones types were inaccessible in ancient times or engraved very rarely.<sup>46</sup> Mineralogical studies of engraved gems sometimes offer help in the determination of the authenticity and date of intaglios, cameos and other objects

made of precious and semi-precious stones.<sup>47</sup> For example, non-destructive PIXE analysis aids in differentiating genuine local products from forgeries imported in modern times from other parts of the world.<sup>48</sup> This is limited to mostly unusual and rarely cut stones and while, for example, most of the Roman intaglios are made of carnelian, agate and other popular gemstones, the usefulness of this method is relatively low. The types of gemstones used also help to determine the chronology of gems within individual classes. For instance, lapis lazuli was widely employed for cylinder seals in the 3<sup>rd</sup> millennium Mesopotamia (no. 3), while chalcedony was in the Neo-Babylonian period (nos 6–7). Banded agate was the most preferable stone used in the Roman Republic glyptics (nos 30 and 38), in turn, red jasper was fashionable for 2<sup>nd</sup> century AD Roman Imperial gems (no. 40) and yellow jasper was at its peak in the 3<sup>rd</sup> century AD (nos 50 and 56). Some materials are extremely rare, but possible to be used in ancient glyptics like peridot (no. 66). Others are completely alien for antiquity like malachite (no. 133).<sup>49</sup> A step further in a stone’s analysis is to determine if the type was used in a specific period of time to which the gem aspires iconographically and stylistically. Forms, shapes and sizes of engraved gems have changed over time and each cultural circle has its own repertoire. Clever forgers are aware of the preferences towards particular stones in antiquity, but the less learned ones make mistakes as in case of no. 157, which is made of serpentine that ceased to be a popular material for seals in the Post-Akkadian period and no. 159, which is an utterly atypical kind of chalcedony for the period it was intended to be taken for (Kassite).<sup>50</sup> The inconsistencies in materials used are usually compatible with other fraudulent aspects of gem engraving like the meaningless inscription and iconographical errors (no. 157) or a subject-matter inspired by coins (no. 166).<sup>51</sup>

Typologies of ancient engraved gems have been much developed by scholars for each class of

44 Wakeling 1912, 83–84.

45 Middleton 1891, 100. This issue has been well illustrated and explained in a study by Zazoff, see: Zazoff 2011.

46 For a full account on this issue, see: Thoresen 2017.

47 Gołyźniak *et al.* 2016.

48 Craddock 2009, 416.

49 Starting at the beginning of the 18<sup>th</sup> century, malachite was mined in the southern part of the Ural Mountains region in Russia and the discoveries of new sources of this material made ca. 1835 around Chelyabinsk resulted in its greater availability for various kinds of arts. For more on this issue, see: Platz-Horster 2012, no. 772.

50 For other examples of this practice concerning cylinder seals, see: Collon 2005, 94.

51 Regarding forgeries of cylinder seals, see a good account on this problem in: Collon 2005, 94–96.

seals, intaglios and scarabs and they are useful for discovering forgeries as well.<sup>52</sup> For example, the forms of some Egyptian scarabs in the collection in question are problematic (nos 151–153 and 163) as they do not follow classical types. In case of nos 95, 167–169 and 188–191 the forms are abnormal for Roman glyptics to which these gems probably aspired, and in cases of nos 84–85, 102, 106, 108 and 110, the exceedingly large sizes clearly indicate the decorative character of those pieces rather than the utilitarian (sealing) one as it should be in case of most ancient gems.<sup>53</sup> Generally speaking, observation of the average sizes of specific classes of gems is useful for detection of forgeries since their makers often made them slightly bigger than ancient ones. The features described above are not easy to spot at first glance, but it is noteworthy to mention that sometimes it is much easier to decide whether an object is modern, for instance, when it has faceting, which started to be practiced only in the thirteenth century and became widely fashionable in the modern period.<sup>54</sup> But even modern intaglios and cameos, although usually less appreciated than ancient ones, can be falsified by contemporary forgers. Shell was a popular material for cameo production in 19<sup>th</sup> century Italy and there is one particularly well-accomplished example in this collection (no. 145). Starting in ca. 1910, celluloid, an essentially plastic material, started to be used for cheap fake cameos. There are several criteria to distinguish those from original shell cameos. The latter usually have at least slightly concave (curved) back side because that is the natural shape of most shells. Shell is partially translucent in the tiny parts (background) while plastic is less likely to be so. But above all, shell cameos are carved, and traces of this process are easily observable on their surfaces, whereas plastic cameos are simply moulded from a matrix, thus, having no such marks.

Apart from those, colour and overall quality of the stones should also be taken into account.<sup>55</sup> For instance, according to the stylistic criteria, nos 89, 91 and 96 were clearly cut in the same workshop, possibly even by the same hand. Basically, the gems share subject-matters and all of them were made

from the same stone source. As a result, one must dismiss all three as fakes. Similarly, very problematic is a group of three green chalcedony or chrysoprase intaglios (nos 37, 63 and 196). If chrysoprase, the material was rarely used in ancient times and here, if one took some of them as ancient, they would belong to either Roman Republican, Roman Imperial and Sassanian glyptics which does not make much sense owing to their homogenous forms and shapes. Yet, there are differences in style, all three are not carved by the same hand and consequently nos 37 and 63 due to the technical and stylistic criteria are more likely to be taken as ancient, especially no. 63, but the image is distorted by no. 196, which shares the stone type, its form and shape with the other two. Perhaps only that gem is not ancient, but there is some risk that all three intaglios were made relatively recent. The question is if the stylistic criteria are misleading here and observations of the stones alone should be taken as uncovering a fraud? The next problematic group is what the author has named the ‘red jasper workshop’ group. Nos 175–180 were certainly engraved by the same artist on the stones of the very same quality (veined red jasper). This quality is unusual because the casual Roman red jasper intaglios are made of clear red variant with no imperfections like these (cf. no. 40). Besides those issues, there are some iconographical inconsistencies and stylistic oddities which raise many doubts about the genuineness of the intaglios in question. There are a few more objects also cut in similar style but on slightly better stones, which are probably also products of the same workshop (nos 170–172, 185 and 194–195). Finally, several carnelians were engraved in one contemporary workshop due to their distinctive style (nos 181–182, 183 and 186), however, in this case, the stones themselves are not as suspicious as the previous cases. In contrary, carnelian was one of the most popular materials among local Georgian gem engravers in the Roman Imperial period.<sup>56</sup> The two indicated workshops will be more broadly commented below (cf. pp. 34–36).

In antiquity there was often a connection between gem’s colour and the depiction appearing on its sur-

52 For some general typologies of ancient engraved gems, see: AGDS II, pls 49–50 – for Etruscan scarabs; Boardman 2001 – for Greek gems and finger rings; Plantzos 1999, 36 – for Hellenistic gems; Golyźniak 2017, 90 – for Roman Republican and Roman Imperial gems; Berges 2011, 166 – for modern intaglios. See also useful commentary on this issue in: Spier 2007, 12–13.

53 Henig, Scarisbrick, Whiting 1994, 281–283.

54 Middleton 1892, 37; Craddock 2009, 416.

55 On the issue of colour preferences of Greek, Phoenician and Etruscan gem engravers, see: Boardman 1991.

56 Lordkipanidze 1971, 107; Golyźniak 2017, 63.

face.<sup>57</sup> For example, in antiquity, a rare gemstone aquamarine was employed for cutting marine subjects and significant portraits.<sup>58</sup> Forgers are usually unaware of this fact, thus it is possible to detect a forgery if the subject does not match the type and colour of the gemstone normally used in a specific period of time for a specific representation.

Regarding cameos and the stones used for them, a general mineralogical observation is that in majority the quality of ancient agates, onyxes and sardonyxes was improved by heating and boiling in honey (Corsican in particular) as described by Pliny the Elder in order to give them more decorative colours.<sup>59</sup> One observes that in case of no. 67 here. Naturally, even famous engravers like Eutyches, son of Dioscurides occasionally did not use that technique for their works, but this is far more typical for modern cameos.<sup>60</sup> Like in the case of intaglios, cameos made of unusual stones and variations of agates and chalcedony that are not typically of two (white over dark) or three layers (dark over white and dark) should be immediately taken under suspicion.<sup>61</sup> This applies to a number of cameos in the collection presented here, therefore, nos 98–99, 101, 127–129, 133, 138–142 and 146–148 are all classified as modern products. In the cabinet there are several carnelian cameos too (nos 132, 135–136, 143 and 150). This material was indeed employed for cameos in antiquity but very rarely and the motifs and portraits appearing on the examples in this collection by no means should be accounted for as ancient.

## Techniques

After examination of the stones, one turns his eyes to the engraving techniques and methods. These changed very little over time and ancient gem engravers used the same kinds of drills and bits as their modern and contemporary counterparts.<sup>62</sup>

A 4<sup>th</sup> century BC Etruscan scarab in London probably presents a gem engraver at work using a bow and drill,<sup>63</sup> and a 2<sup>nd</sup> century AD gravestone of a gem carver found in Philadelphia in Asia Minor (Alaşehir in modern Turkey) illustrates the same tool (bow) to be used six hundred years later.<sup>64</sup> Both examples significantly contribute to our understanding of the organisation of a workshop, tools used and methods practised by ancient gem engravers. Thanks to the illustration and extensive description by Mariette, one has an idea how the famous gem carver Jacques Guy (1711–1793) worked in his studio in the mid-18<sup>th</sup> century and both, the tools (bow and drill) and methods are surprisingly similar to the ancient ones.<sup>65</sup> Another valuable testimony comes from a German gem engraver and medallist Lorenz Natter (1705–1763) who explained not only details of his profession but also gave insight into copies of some famous ancient gems cut by his hand and compared methods used for gem engraving by his contemporaries with the ancient ones.<sup>66</sup> Interestingly enough, Natter explains that copying of ancient gems was a natural part of gem engraver's training which was not meant to deceive anyone and he personally considered it as his ultimate goal to reach the level of mastery of ancient artists.<sup>67</sup> A far more recent example is the contribution of Schmidt, who presents the approach to the material and cutting gems by contemporary gem engravers active in Idar-Oberstein,<sup>68</sup> as well as Zwierlein-Diehl, who focused on the techniques of cameo carving.<sup>69</sup>

As one can see, the basic principles of the craft remain the same for centuries or even millennia and the only true innovation is the electrically driven bow used in the present day. Therefore, distinction between ancient and modern gems is highly problematic from a technical point of view. Only detailed analyses, for instance with the use of scanning electron microscope (SEM), offer some

<sup>57</sup> Boardman 1991; Sagiv 2018, 149–160.

<sup>58</sup> Gołyźniak 2019, 6–7.

<sup>59</sup> Pliny, *NH*, XXXVII 74.

<sup>60</sup> Platz-Horster 2012, 31.

<sup>61</sup> Platz-Horster 2012, 33.

<sup>62</sup> Ogden 1982, 171; Plantzos 1999, 3. For an extensive and up-to-date commentary on this issue, see: Zwierlein-Diehl 2007, 315–325.

<sup>63</sup> Walters 1926, no. 645; Richter 1971, no. 771. However, recently, the piece has been reinterpreted as depicting a carpenter given the scale on which he is working, see: Bruschetti *et al.* 2014, no. III.47.

<sup>64</sup> Zwierlein-Diehl 2007, 316–318 and figs 337 and 959–960.

<sup>65</sup> Mariette 1750, 207–208.

<sup>66</sup> Natter 1754.

<sup>67</sup> Natter 1754, V.

<sup>68</sup> Schmidt 2008.

<sup>69</sup> Zwierlein-Diehl 2008, 14–25.

help. For instance, Gorelick and Gwinnett found out that it is possible to differentiate 19<sup>th</sup> and early 20<sup>th</sup> fake cylinder seals and those produced contemporarily from genuine ancient ones by examination of their bores structure.<sup>70</sup> In antiquity, cylinder seals (and scarabs alike) were usually pierced longitudinally, and the holes were drilled from each end. As a result, it is more likely for an object to be genuine if the holes do not precisely meet in the centre and there is often an interruption where they meet. Contemporary fakes usually have almost perfectly straight bores because they are pierced from one end only, and they usually lack chipping around the hole and on the edge.<sup>71</sup> In turn, Maaskant-Kleibrink proved SEM to be promising for distinguishing specific styles within one class, for example, Roman Republican or Roman Imperial gems.<sup>72</sup> Such analyses require specific and expensive equipment, but even if these are unavailable to the examiner of the seals and gems, they are not totally powerless as long as they pay attention to details that have often been executed with the use of very specific tools in certain periods. For instance, at the beginning of the second millennium BC some cylinder seals have lines made up of drilled holes, the drill having been partly used as a milling tool, moving laterally.<sup>73</sup> Roman Republican gems cut in the Republican Extinguishing Pellet Style are distinctive for the details accentuated with very tiny blobs used for hair, beards, knees and feet. They are narrowly dated to the second half of the 1<sup>st</sup> century BC–first half of the 1<sup>st</sup> century AD and the particularly minute detailing was accomplished with use of the tools having peculiarly small round heads.<sup>74</sup> It is often the case that forgers do not pay sufficient attention to such details. They successfully imitate general rules of a specific class of gems whereas peculiarities of the art of engraving are often omitted or misunderstood because their work is usually mechanical.<sup>75</sup> They do not learn their craft in the way ancient engravers did, thus, make mistakes, omissions and shortcuts that become visible if the

examiner has well-trained eyes and is familiar with ancient styles and techniques.<sup>76</sup> Such knowledge is essential, but if one deals with material that possibly originates from poorly researched areas (like Georgia), one ought to stay open-minded for the possibility of existence of local and provincial styles that are insufficiently documented. This might be the case of gems nos 53–54 since they perhaps belong to a local tradition as evidenced by similar gems to have been found around Mtskheta (cf. pp. 32).<sup>77</sup>

Concerning techniques of engraving, there are some more general rules that a person who aims to distinguish a genuine ancient work from a fake should pay attention to. For instance, many modern cameos have the relief undercut on the borders to increase decorative value of the piece as the image is clearly separated from the background, while Hellenistic and Roman ones seldom possess this feature, unless one deals with the Late Antique cameos (no. 65). This is observable on nos 64 and 66–70 and even though the cameos are cut in high relief, the images are not strongly undercut, but rather emerge from the background, while many modern cameos in the collection discussed here have their images undercut (nos 98, 128–129, 135, 137, 139–143 and 146). Nevertheless, better copies of ancient works imitate that feature as evidenced on no. 134.<sup>78</sup> Polishing of the surface might be another indicator of dubious genuineness as the clouding of the internal parts of engraving is typical for ancient gems and not so much for the modern ones.<sup>79</sup> In antiquity, handwork was the only way for polishing surfaces of intaglios and cameos and it leaves specific traces, while relatively recent cut forgeries are usually polished mechanically, which gives them different, usually perfect-lustre look.<sup>80</sup> The fresh and sharp edges of the cuts and wheels constituting the image engraved upon the stone and high internal polishing are suspicious because contours of the engraved image usually turn dull and blunt

70 Gorelick, Gwinnett 1978.

71 Gorelick, Gwinnett 1978, 43–44; Teissier 1984, 109.

72 Maaskant-Kleibrink 1978, 59–62; Plantzos 1999, 3; Craddock 2009, 414. However, see the opinion of Zazoff in: Zazoff 2011, 535–540.

73 Craddock 2009, 412.

74 Maaskant-Kleibrink 1978, 145.

75 See a very good analysis of little elements on several cylinder seals analysed in: Porada 1968, 146–147.

76 Porada 1968, 145–146.

77 Lordkipanidze 1971, 105.

78 It must be highlighted that such observations are not definite and individual gems may vary but the general observations like that regarding cameos undercutting may help in making a decision whether the piece is ancient or not.

79 Ogdén 1982, 172; Zazoff 2011, 535–540.

80 Craddock 2009, 413–414.