PUABI’S ADORNMENT FOR THE AFTERLIFE:
MATERIALS AND TECHNOLOGIES OF JEWELRY AT UR IN MESOPOTAMIA

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This dissertation investigates one of the most important archaeological discoveries of the 20th century – the jewelry belonging to a female named Pu-abi buried in the so-called Royal Cemetery at the site of Ur in southern Mesopotamia, modern Iraq. The mid-third millennium B.C. assemblage represents one of the earliest and richest extant collections of gold and precious stones from antiquity and figures as one of the most renowned and often illustrated aspects of Sumerian culture. With a few notable exceptions most scholars have interpreted these jewels primarily as a reflection in burial of a significant level of power and prestige among the ruling kings and queens of Ur at the time. While the jewelry certainly could, and undoubtedly did, reflect the identity and status of the deceased, I believe that it might have acted as much more than a mere marker and that the identity and status thus signaled might have had a considerably more nuanced meaning, or even a different one, than that of royalty or royalty alone. Based on a thorough examination of the materials and methods used to manufacture these ornaments, I will argue that the jewelry was not simply a rich but passive collection of prestige goods, rather that jewelry that can be read in terms of active ritual, and perhaps cultic, production and display. The particular materials and techniques chosen for the making of Pu-abi’s jewelry entailed methodological operations akin to what Alfred Gell has called the “technology of enchantment and enchantment of technology” and allowed these ornaments to materialize from their creation as a group of magically and ritually charged objects.
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For my brother Neal, with love
CHAPTER I
INTRODUCTION

“...and worketh the metals Gold and Siluer with themselfes which so enricheth and
innobleth the worke that it seemeth to be the thinge it sefe even the worke of god and not
of man.”¹

~Nicholas Hilliard

Among the most important archaeological discoveries of the 20th century was the so-called Royal
Cemetery at the site of Ur in southern Mesopotamia, modern Iraq (Fig. 1). Excavations in the
cemetery yielded close to 2,000 graves and tombs, the most lavish of which contained an
extraordinary array of grave goods as well as evidence of human sacrifice (Fig. 2).² The jewelry
found buried in those tombs dating to the mid-third millennium B.C. comprises one of the
earliest and richest extant collections of gold and precious stones from antiquity and figures as
one of the most renowned and often illustrated aspects of Sumerian culture. With a few notable
exceptions most scholars have interpreted these jewels primarily as a reflection in burial of a
significant level of power and prestige among the ruling kings and queens of Ur at the time;
hence, the “Royal Cemetery.” While the jewelry certainly could, and undoubtedly did, reflect the
identity and status of the deceased, I believe that it might have acted as much more than a mere
marker of social status and that the identity and status thus signaled might have been a more
nuanced one, or even different one, from that of royalty or royalty alone. Based on a thorough

¹ Hilliard 1981, p. 62; I am indebted to Jessen Kelly (Kelly 2007) for the reference to Hilliard.
² Woolley 1934.
examination of one of the most elaborate assemblages uncovered at Ur, I will argue in this
dissertation that the jewelry was not simply a rich but passive collection of prestige goods, but
rather can be read in terms of active ritual, and perhaps cultic, production and display. I submit
that the choice of materials and techniques of manufacture for the making of this jewelry entailed
methodological operations akin to what Alfred Gell called the “technology of enchantment and
enchantment of technology.” In his terms the jewelry was not just beautiful but beautifully
made, even magically made, and thus able to activate agency at the level of its very making.

The materials and techniques of manufacture involved in the creation of works of art can
profundly affect how one understands and interprets the final products. Scholars of art history
tend to focus on the style of form and iconography of any given finished work or works; they
less frequently incorporate the processes of manufacture, or style of technology, in their
analyses. Materials are more readily considered, and increasingly so in light of the recent
popularity of materiality studies. Nonetheless, the fullest possible assessment of an object and
its meaning can be compromised when both its media and making are not taken into account and
synthesized with its form and function.

In the pages ahead I rely on my training and skill as a practicing goldsmith to examine in
detail the materials and techniques used to create one particular corpus of mid-third millennium
B.C. jewelry excavated at Ur in a tomb referred to as PG 800 and belonging to a female named

4 For a similar distinction in the field of ancient Near Eastern art studies, see Winter 2003, 2008b.
5 See Leroi-Gourhan 1993[1964] and Lechtman1977 for their groundbreaking work on the role of technology – of
technical acts and technological style – in the determining and understanding of culture. See also Harmanşah 2008
for a critique of “contemporary scholarly interests” which, in his opinion, “largely study the qualities of [an object’s]
representation, iconography, and narrative while largely ignoring [its] technologies and materials of production (pp.
124–25).”
6 Scholars of the ancient Near East who deal with the materials aspect of objects will be mentioned and cited in
Chapter II.
Pu-abi (Fig. 3). Although much of the scholarship related to Ur has included general discussions of the jewelry remains – in part by necessity because their prominence within the cemetery makes it virtually impossible to avoid them – none has focused exclusively on it. While the raw materials used to make this jewelry have been addressed repeatedly, they are most frequently interpreted in terms of trade, prestige, and other aspects of social history and rarely considered from a craftsperson’s point of view. More notably yet, no one has considered the methods of manufacture of the jewelry beyond the most summary analysis, an oddity given that the objects themselves are so visually compelling and have been the focus of endless attention over the course of the ninety or so years since their discovery.

My primary contribution to the scholarship of the Ur jewelry thus focuses on exactly such a detailed study of the materiality of Pu-abi’s jewelry, most particularly her gold ornaments, using my hands-on and experiential knowledge of the materials and technical methods involved. The many ornaments fashioned from gold appear on the surface to be rather simple in technique, made primarily of undecorated, hammered sheet; however, by examining these pieces closely, under a microscope when possible, it became apparent that the methods used to hammer and assemble the pieces were deceptively complicated and time-consuming and that they required exceptional skill. There seems to have been some sort of premium placed on fashioning the ornaments from a single piece of gold whenever possible, even at the cost of additional labor-intensity, presumably due to specifications that called for seamlessly produced objects. The making of this jewelry is also noteworthy for a prescriptive-like consistency and repetition of technique, seemingly intended to enhance properties of purity and shine already embedded or

7 Woolley 1934, pp. 73–91.
8 For existing discussions of the jewelry finds from Ur, see Woolley 1934; Maxwell-Hyslop 1960; Maxwell-Hyslop 1971; Pollack 1983; Hansen 1998; Pittman 1998; Ross 1999; Cohen 2005; Gansell 2007; and Baadsgaard 2008.
coded in the materials themselves. The process of production thus required not only substantial material resources but also a considerable and coordinated investment of human energy consisting of craftspeople both skilled in mechanical techniques and knowledgeable in the techniques of seemingly dictated (cultic?) specifications. A certain amount of advanced planning would therefore have been necessary to form Pu-abi’s assemblage because the individual pieces were clearly made in a highly prescriptive way that suggests that they were conceived together. These were not jewels collected over a lifetime or retained as heirlooms and then buried with Pu-abi simply because they belonged to her. They were made as part of one procedure and seemingly for a particular purpose, in addition to being intended for burial with Pu-abi.

From my study, I conclude that the making of Pu-abi’s jewelry constitutes a deliberately performative act at Ur; in other words, the jewelry’s material and technical components would have carried meaning and agency in the same way its iconography and context did. Elements of ritual production are evident on multiple levels and in multiple phases of becoming jewelry, several of which took place before the ornaments were even finished. A seemingly intentional progression of animation from materials to making to made is what allowed the ornaments to materialize from their creation as a group of charged – I would argue, magically and ritually charged – objects. I will propose that these jewels may even have served as cultic objects. Once thus animated, the jewelry was able to further act as an agent of transformation for the body and the personage which it adorned as well as to participate in the larger ritual of burial at Ur, a ritual in which the buried bodies continued to “perform” in the context of death.
PAST SCHOLARSHIP ON THE “ROYAL CEMETERY” AT UR

Sir Leonard Woolley began his extensive excavations at Ur in the 1920’s on behalf of the University of Pennsylvania and The British Museum. The now famous cemetery was the focus of Woolley’s work until excavations ended in 1934.9 Because of the astonishing amount of gold and precious materials found in the burials and the presence of multiple individuals interred with any given primary body, both unparalleled phenomena at the time, Woolley labeled the cemetery “royal” – in other words, for the deceased kings and queens of Ur and their retinues. To this day no other sites from ancient Mesopotamia or neighboring areas have yielded evidence of large-scale human sacrifice or artifacts that can be compared to those from Ur in degree or in kind.10 In the ninety or so years since Woolley made his discoveries scholars have yet to fully understand the situation at Ur, including how to interpret the objects associated with the cemetery, apart from focusing on the idea that the finds signal power and prestige of one sort of another. The term “Royal Cemetery” remains in use, and the cemetery itself remains enigmatic.

Woolley’s discovery came at a time when the earlier works of J.J. Bachofen, James Frazer and Robert Hertz11 on myth and symbolism in ancient fertility and funerary cults were still popular and very much in analytical use. As a consequence, various cultic interpretations of the finds at Ur were originally offered in contrast to Woolley’s designation of the Ur cemetery as royal.12 However, even Woolley himself suggested in passing that the royalty in question may

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9 Woolley 1934.
10 The 1989–1990 discovery at Nimrud of lavish graves and grave goods belonging to a number of Assyrian queens does rival the findings at Ur, especially in terms of jewelry and other objects of precious materials; however, thus far, excavations of the Nimrud tombs have yielded no evidence for accompanying retainer sacrifice on the scale seen at Ur; see Curtis et al. 2008.
12 Smith 1928; Moortgat 1945; Frankfort 1948.
have represented “sacred” or “divine” kings and queens enacting some sort of cult drama, since he deemed human sacrifice to be the prerogative of the “godhead.”\textsuperscript{13} Since then the scholarship on Ur in general has been extensive, the methodological approaches used and the resulting conclusions varied.\textsuperscript{14} A number of these studies have focused on the complicated stratigraphy of the cemetery in attempts to better understand its chronology and history (Nissen 1966; Dyson 1976; Moorey 1977, 1984; Pollack 1985; Zimmerman 1998). Some have used textual evidence in combination with chronological considerations to establish, or re-establish, the royal character of the cemetery (Reade 2001; Marchesi 2004), one of which argued for “female kings” at Ur (McCaffrey 2008). Gender issues surface in much of the overall scholarship, even if not as a primary focus. Several studies have used the archaeological, chronological, and artifactual evidence to investigate the role of the “Royal Cemetery” in Mesopotamian state formation (Pollack 1991, 2007a, b; Cohen 2005; Dickson 2006; Vidale 2011), some seeing ritual elements at work but rituals primarily related to the legitimization of kingship, whether mortal or “sacred/divine.” There have been a number of investigations that center on archaeological evidence for ritual action and iconography at Ur that is not necessarily tied to the power and prestige of the royal elite alone (Moorey 1977; Winter 1999; Sürenhagen 2002; Barrett 2007). The remaining literature on Ur concerns more concise topics such as the physical anthropology of the skeletal remains (Molleson and Hodgson 2003; Baadsgaard, Monge, Cox, and Zettler 2011), the ethno-botanonical implications of certain images (Miller 1999; Tengberg, Potts, and

\textsuperscript{13} Woolley 1934, pp. 41–42.
\textsuperscript{14} Maxwell-Hyslop 1960; Nissen 1966; Dyson 1976; Moorey 1977; Pollack 1983; Pollack 1985; Pollack 1991; Zimmerman 1998; Rakic 1998; Miller 2000; Winter 1999b; Reade 2001; Sürenhagen 2002; Molleson and Hodgson 2003; Marchesi 2004; Cohen 2005; Dickson 2006; Pollack 2007a, b; Gansell 2007; Barrett 2007; Tengberg, Potts, and Francfort 2008; McCaffrey 2008; Baadsgaard 2008; Cheng 2009; Baadsgaard, Monge, Cox, and Zettler 2011; Vidale 2011.
Francfort 2008), or evidence for music and musicians in the cemetery (Rakic 1998; Cheng 2009; Vidale 2011). Furthermore, aspects of the “Royal Cemetery” at Ur have been featured in countless volumes on a variety of general studies of the ancient Near East, as well as serving to illustrate a host of more specific topics. Whatever the methodological approach, nearly all of this research has attempted to identify the people buried at Ur, even if briefly or only in passing and seemingly to no true avail.

While many of the above-mentioned studies mention or cite the jewelry finds from Ur, very few scholars have addressed the items of adornment in their own right. Rachel Maxwell-Hyslop (known for her work on personal adornment in the ancient Near East), Susan Pollack, Holly Pittman, Amy Gansell, and Aubrey Baadsgaard are the only scholars to have done so, apart from those who commented on specific but rather limited aspects of the technology involved. However, even then, none of these scholars has taken all or a portion of the jewelry and described it in great material or technical detail. Each uses the jewelry as a means of approaching larger theoretical issues of cultic use (Maxwell-Hyslop 1960), prestige and identity (Pollack 1983), iconography and trade connections (Pittman 1998), adornment and identity (Gansell 2007), and fashion and identity (Baadsgaard 2008). Not a single scholar or conservator from any field has ever asked how any of the jewelry was made or investigated it first and foremost on the basis of its materiality.

In terms of methodology, the basis for the majority of studies since 1960 has been a processual anthropological approach focused on detecting depositional patterns across the cemetery. The emphasis in these studies has been to differentiate, in one way or another, one artifact assemblage from another across the cemetery in an attempt to answer questions of chronology, status, gender, class, ritual action, and so on. The conclusions have largely centered on the power and prestige deemed to be signaled by the finds and by the overall burial contexts. No one has considered how these now-famous objects, items of jewelry included, were made, only how and why they were deposited. In contrast, my research focuses on material and technical analyses of the jewelry finds, based on a close examination of the objects themselves, on how they were made rather than on the patterns of their deposition alone. The results will demonstrate that there are, in fact, distinct similarities across the cemetery in at least this one category, to the point of being definable as procedurally prescribed or dictated. Unlike most previous studies of Ur these observations allow for an interpretation based on a direct reading of the material objects – one that offers greater theoretical complexity as well as new insights into this well-known corpus of jewelry.

In my work I engage with various theoretical approaches: ones centered on the process of crafting and technological style in general, such as those offered by André Leroi-Gourhan, Heather Lechtman, Marcia-Anne Dobres, Mary Helms, and others, and for the ancient Near East through the work of Irene Winter; agency studies such as those pioneered by Alfred Gell and

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applied to the art history of the ancient Near East by Zainab Bahrani and Irene Winter;\textsuperscript{18} Gell’s work on technology and enchantment in particular;\textsuperscript{19} theories of materiality and how materiality interacts with agency, most especially the contributions of Timothy Ingold;\textsuperscript{20} recent work by Marcia Pointon and Ellen Swift that focuses on alternate ways of reading jewelry;\textsuperscript{21} and finally, theories that explore mimesis and magic, especially bodily magic, and the role of ambiguity in the operation of such agency – the theoretical foundations of which were established by the work of Marcel Mauss, Walter Benjamin, Michael Taussig, and for the ancient Near East by Gebhard Selz and Zainab Bahrani.\textsuperscript{22}

**GOALS OF THIS DISSERTATION**

Not everyone will accept the chronological sweeps that I make in the course of arguing my thesis, although I have tried to be as thoughtful, careful, and grounded as possible when making them; nor will everyone accept the idea that materials, in certain contexts, might be thought of as inherently sacred or that jewelry, in certain contexts, can be animated via its methods of making to be sacred, without either the materials or the jewelry itself being explicitly labeled with the determinative for “divine.” Nonetheless, I hope to highlight the potential conceptual importance of the material and technical stages of jewelry production in the context

\textsuperscript{18} Gell 1998; Bahrani 2003; Winter 2007a; Bahrani 2008.
\textsuperscript{19} Gell 1992.
\textsuperscript{20} Ingold 2011.
\textsuperscript{21} Pointon 2009, Swift 2009.
of Ur and demonstrate that there is considerable evidence for animation embedded in both and thus within the finished jewelry adorning Pu-abi and others. If successful, I will convince the reader to allow for some degree of sacredness, or at least cultic functioning, to be attached to this jewelry – a sacredness that was seemingly expressed through its materials and making but otherwise elusive to us today.
CHAPTER II
MATERIALS: JEWELRY MATERIALS IN MESOPOTAMIA AND AT UR

“What Goes In Is What Comes Out”23

~Victor A. Hurowitz

INTRODUCTION

Throughout the long history of the ancient Near East, there is continuous and substantial textual and archaeological evidence that the materials from which objects were made could be more than simply degrees of precious, exotic, and valuable as commodities but also inherently charged with magical properties, and perhaps even sacred or divine in nature. Although these notions are tentatively touched upon in the work of several scholars, Victor Hurowitz in the article cited above has made the material aspect of artistic production the main focus of investigation, delving specifically into the operational and theological bases for what he calls the “divinity” of materials themselves, not just the objects they become or adorn. His research centers on materials used for the production of divine statues and figurines – most particularly on the wood used for the bodily form itself and the gold used to cover and adorn it. He concludes: “For Mesopotamian iconoplasts, the materials which go into the idols are already of divine nature. They belong to the gods or embody a god, so that when the idol is produced it does not become a

23 This is the title of an article by Victor A. Hurowitz on the divine nature of materials used to make cult statues in the ancient Near East; see Hurowitz 2006.
god ex nihilo.” The internal logic for Hurowitz is that “no new divinity is brought into existence,” so “the craftsman does not face the problem of creating something beyond his power.” Hence the simple observation: what goes in is what comes out.

The issues raised by way of Hurowitz’s argument are complex and contentious theological ones and the terminology associated with them equally fraught with controversy. It is not my intention to tackle these problems here, only to draw attention to his focus on the material component of image making as a channel for pursuing my own work. It is encouraging that there is an increasingly important role assigned to materials in recent scholarship on cult images, where the consideration of materials as sacred, holy, divine, or at least related to specific deities constitutes a significant aspect of the broader discussion of the anthropomorphic and non-anthropomorphic aspects of deities and divinity in ancient Mesopotamia. Yet the concept that materials can be of a sacred or divine nature clearly has been and remains a tricky subject for scholars of the ancient Near East, mostly for theological reasons but more recently in light of current theories of agency and materiality as well. The debate about materials and materiality is another complex and controversial one, and a full treatment of it is likewise well beyond the scope of this dissertation. However, I believe the distinction between materials and materiality must be at least tangentially examined in any discussion about the agency of materials.

Furthermore, it is important to stress that the materials being singled out in this chapter naturally have a multitude of practical and/or economic functions as well, that their place in the

24 Ibid., p. 22.
26 See Ingold 2011 for an insightful and provocative presentation and critique of materiality studies.
production of Mesopotamian material culture is in no way restricted to magical or cultic contexts. While I will make every effort in the pages ahead to qualify my focus on the intersection of materials and the sacred, my interests do lie precisely in this sphere and my investigations therefore emphasize this aspect above all others. Due to an abundance of extant economic texts from the third millennium B.C. onwards, considerably more scholarly research has been done on the practical operational value of gold, silver, and other materials in the economic and administrative systems of the ancient Near East, and I will refer to as many of those publications as possible and as applicable. However, it is the less easily accessed and less frequently dealt with role of materials within the realm of the sacred that will persist throughout as my singular concern.

Finally, I will not limit any discussion of agency to the context of cult images. By combining information on materials from ancient texts, archaeological finds, and existing modern scholarship with a thorough analysis of techniques of creation – of how materials were experienced, observed, and perceived in their physical raw state, then transformed into finished products that are physically and mentally constructed – I hope to uncover, even in the absence of more explicit texts such as those that describe the making of divine statues, a process at work that was able to animate other artifacts, such as jewelry, in much the same way.

This, of course, then begs the question of how that animation works – does it simply reside in the material and by extension in the finished product, or is it achieved by the material’s interaction with its surroundings, starting with the makers who work the material and continuing with the culture that mediates, consumes and responds to the product? Much has been made in materiality studies of value and agency not being inherent in materials, only in their assigned
cultural associations; as a consequence, materials have largely been left out of the discussion of materiality and its agency. In technology theory agency of some sort is implied by way of the progression from material to finished object, usually referred to as the “châine opératoire;” however, this progression does not fully take into account the issues revolving around the material versus the materiality. In terms of animation the question is therefore what part is physical and inherent (a property) and what part is mental and assigned (a quality)? And what part of animation is a result of the conflation of the two? Joseph Koerner sees the fragmentation within the discipline of art history today as follows: “On the one hand, self-consciously cutting-edge art history emphasizes materiality but has small interest in what the materials are. […] Technical analysts, on the other hand, master materiality but have trouble communicating why materials matter culturally.” I agree that these two sides of a single coin must be carefully unpacked and better defined than they have been in most art historical treatises, then considered together to fully understand the impact of any one object or corpus of objects. Properties and

27 Friedel 1993, especially p. 46.
28 See Ingold 2011, pp. 19–32 for a discussion of this problem. It is to be noted, however, that in 1939 Marcel Mauss, building on the more immediate work of Sir James Frazer (1976) and Robert Hertz (2004), already drew attention to the long-standing and much-pondered problems of conceptualizing matter, or materials, as animated (“Conceptions Which Have Preceded the Notion of Matter” [1939], in translation in Mauss 2006, pp. 141–45). Mauss concludes (p. 145): “To summarise the notion of matter arises as an animate principle, and contrary to common belief, it is according to Aristotle a living body. These forms are quite lacking in precision, but really no more so than our own conceptions of matter.”
29 As coined by Leroi-Gourhan 1993 [1964], who theorized that technical acts were also social acts; the term and the theory were widely used thereafter in the fields of archaeology, anthropology, and art history by, among others, Lechtman 1977, Dobres 1999, and Harmanşah 2008.
30 Here I take from Ingold 2011, p. 30, who quotes David Pye’s The Nature and Art of Workmanship (1968): “The properties of materials are objective and measurable. They are out here. The qualities on the other hand are subjective: they are in here: in our heads.” Ingold expands on this further, but this basic distinction between “properties” and “qualities” is what I find useful to my discussion of materials, as these terms have thus far been used more or less interchangeably in the existing scholarship on the ancient Near East. However, the original impetus for further investigating the distinction came from Mary Helms’ excellent work on skilled crafting (Helms 1993) as well as from an article written by Irene Winter, in which she distinguishes between material properties and ascribed properties (Winter 1999a). I would like to thank Beate Pongratz-Leisten for challenging but helpful discussions about materiality, as well as for the reference to Tim Ingold cited above and below.
31 Koerner 1999, p. 5.
qualities are thus not separate entities and operations but parts of an interconnected system that must ultimately be viewed as a whole if one is to understand the agency embedded in or generating from the materials, the making, or the finished object.\textsuperscript{32} It is this holistic approach to agency that I wish to begin to tackle in the chapters ahead.

The questions and issues of presence and animation – and thus agency – are ones asked and investigated at length by the art historian David Freedberg in \textit{The Power of Images}, albeit once again primarily in the context of understanding anthropomorphic images.\textsuperscript{33} In his extensive study, Freedberg offers a characterization of presence that I find particularly helpful to the work being undertaken here. In defining presence, he focuses on what he perceives to be the main components of it: inherence and fusion. In the context of images, inherence is for him the degree of life or divinity believed to \textit{inhere} in an image or object,\textsuperscript{34} at times even in the raw or unworked materials themselves,\textsuperscript{35} and fusion the conflation of sign and signified, of image and prototype.\textsuperscript{36} Inherence as a descriptive term regularly appears in the scholarly discourse on agency in the ancient Near East but not often as a point unto itself.\textsuperscript{37} In this chapter it will take center stage. The conflation of image and prototype, on the other hand, receives considerable attention in art historical literature, including that of ancient Near Eastern art,\textsuperscript{38} and along with

\begin{footnotes}
\footnotetext[32]{Ingold 2011, pp. 19–32.}
\footnotetext[33]{Freedberg 1989.}
\footnotetext[34]{Ibid., p. 32; see also Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” in translation in Benjamin 1968, especially pp. 222–23, for a similar sense that the power of a cultic artifact, like the power of nature itself, issues independently from within.}
\footnotetext[35]{Freedberg 1989, pp. 66–74; see also Helms 1993, pp. 146–59, on “naturally endowed” versus “skillfully crafted” materials.}
\footnotetext[36]{Freedberg 1989, pp. 30–32.}
\footnotetext[37]{However, inherence has taken on greater prominence in general studies of material culture, featured, for instance, as the central aspect of a volume of edited papers titled \textit{Presence: The Inherence of the Prototype within Images and Other Objects} (Maniura and Shepherd 2006).}
\footnotetext[38]{For example, see Bahrani 1995a, 2002 and Selz 2008, among others, for some recent contributions on the topic. The idea of purposeful ambiguity and conflation in the service of operational efficacy of varying sorts, as posited by
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the concept of inherency, has interesting applications for the phenomenon of the Ur burials—both through the finished objects and through the materials and manufacture that will be addressed here.

From the third millennium B.C. onwards there is considerable evidence that the ancient Mesopotamians assigned magical qualities, in addition to economic value and prestige, to stones and metals. While the potential for magical efficacy is widely accepted with regards to such materials, their role in the production of the sacred is less frequently acknowledged, apart from their use in the making of divine statues as noted by Horowitz and others. Yet, examples of varying sorts seem to indicate otherwise. These range from Early Dynastic temple foundation deposits that include segments of raw or unworked stone and metal to Early Dynastic and later texts that imply the sacral qualities, or perceived sacral qualities, of certain stones and metals, or at least that of objects made out of certain materials in part because of those materials. This link between materials and the sacred continues through into the first millennium B.C. when analogous connections are made in documents such as the mīs pī and assorted esoteric and ritual texts. Many of these ritual texts make clear that certain metals and stones, and often the craftspeople specializing in those materials, were integral to the efficacy of each of the particular sacred and cultic rituals being described and prescribed in a way that goes beyond the merely practical, professional, and efficient. In addition, written sources from across the chronological

Alfred Gell (1992 and 1998) and later by Michael Taussig (1993 and 2006), will be briefly explored for the context of Ur in the conclusion of this dissertation.

See, for example, Lambert 1971, p. 473; Farber-Flugge 1973; van Dijk 1983; Krebernik 1986; Selz 1997; and Pongratz-Leisten 2009, p. 422.
Walker and Dick 1999.
spectrum of Mesopotamia point to the consistent use of precious materials such as gold, silver, and lapis lazuli in the building of temples, as materials uniquely appropriate to a divine abode and its divine efficacy.\(^{43}\) Similarly, objects made of those very materials are regularly cited in texts as especially suitable for cultic use, a feature that is indeed corroborated archaeologically by finds from temple contexts.\(^{44}\) In fact, it seems that materials such as gold, silver, lapis lazuli and carnelian were regularly stored in temple storehouses, inventoried by temples as the property of the deity, or referred to in literary and administrative texts as belonging to the deities themselves.\(^{45}\) Finally, a significant number of literary compositions from a variety of periods refer to these same precious materials – as raw or as finished products – in terms that are logically best understood as closely associated with the sacred.\(^{46}\)

It is all the more remarkable then that the feature of sacredness has rarely been part of scholarly discussions of jewelry, an object category that is overwhelmingly constituted by the very materials – gold, silver, lapis lazuli, and carnelian – most often connected to the sacred in the abundant literary examples just cited, among scores of others not mentioned, and a category that is known to have been produced in great quantities precisely for the adorning of cult statues of deities that are widely accepted as functionally divine.\(^{47}\) In fact, it is clear from the ritual


\(^{44}\) See, for example, Leemans 1971, p. 507; Sachs 1969, p. 334, ll. 385–95; Moorey 1994, p. 221; and Ross 1999, especially, p. 156ff.


\(^{46}\) Jennifer Ross has provided a nearly complete collection and detailed discussion of many of these references and sources in her dissertation on precious metals and political development in the third millennium B.C. (Ross 1999) so I will not repeat the exercise here, beyond what has been mentioned above and cited in the accompanying footnotes. However, I will reiterate and emphasize certain examples and introduce additional ones as they relate to my arguments or to material not included in Ross’ discussion.

progression of the first millennium B.C. examples of the akītu Festival that not only were artisans, gold, and precious stones ordered to the temple for the making of jewelry to adorn the cult statues used in the ritual but that those jewels were then destroyed along with the statues at the end of the ritual, suggesting that the jewelry was integral to all aspects of the ritual’s efficacy and empowered and decommissioned in much the same manner as the divine statues themselves. How does jewelry attain such agency – only by virtue of its association with the statue it adorns, or is it perhaps also animated by the materials of which and the techniques by which it is made?

In an Old Babylonian ritual text describing the worship of Ishtar, the goddess’ jewelry is publically displayed and apparently the object of ritual libations as an emblem of the goddess herself, independent of but in addition to its already close association with the identity of Ishtar and the worship of Ishtar herself. By what means does this jewelry become seemingly divine in its own right? As already demonstrated in earlier periods by the compositions known as the Descent of Inanna and the Descent of Ishtar, jewelry is not merely bodily embellishment; it is

48 Goff 1963, p. 178; Sachs 1969, pp. 331–34; M. Cohen 1993, pp. 406–53; Bidmead 2002, pp. 46ff. It is interesting and noteworthy to me that the jewelry for the statues was created and destroyed along with the statues. This very fact speaks to my point that will follow of jewelry being analogous to the statues themselves in terms of having potential agency. Furthermore, I wonder whether the fact that fire – burning – was used in the akītu ritual for the deactivating of the statues was not just symbolic of purification (as opposed to simple decommissioning by breaking) but deliberately took into account the most effective and complete way of erasing the form of the jewelry – by melting it. A similar expression of jewelry’s potential agency can be found in a curse that accompanied the lavish tombs of Assyrian queens found at Nimrud in 1989, in which it is specifically stated that the curse will apply not only to one who removes or desecrates the queen’s body but also to whomever touches her jewelry (Damerji 1999, p. 52, fig. 18). This overall concept of making, destroying, and protecting against the destruction of both jewelry and statues jibes well with the reasons behind the Biblical prohibition against both categories – images and jewelry – in Isaiah 3:18 (Wildberger 1991, pp. 151–52). Although not often linked together in ancient Near Eastern scholarship, jewelry and the cult statues they adorn seem to travel similar pathways and embody similar potential for efficacy and agency, together and independently of each other (see Benzel 2008, p. 25).

49 Groeneberg 1997, especially pp. 18, 136; see also Leemans 1952, Sladek 1974, and A. Cohen 2005 for the association of jewelry and Ishtar.

50 Sladek 1974.

51 Ibid.
inextricably linked to the identity(ies) of the goddess(es) and moreover, in these contexts, to the
totality of the divine powers of the goddess(es) in question – begging for an application of
current theories of embodiment. Once again, one must ask how jewelry becomes both
multivalent and potent in this way.

Similarly, jewels of certain priestesses, in third millennium B.C. through first millennium
B.C. contexts, are described not simply as insignia of office but also seem to be among the
essential agents that allow for the priestesses’ connection to and operation within the sacred or
divine sphere.52 Jewelry made of gold, silver, lapis lazuli, and carnelian is thus mentioned in
connection with the sacred, and as if sacred or even divine, in enough literary examples that it
seems one should be obliged to consider more seriously what is capable of giving certain jewels
such power, or more to the point, such potent – possibly even sacred – agency. While it is not my
intention to project the idea that all Mesopotamian jewelry falls into this category, since it
certainly does not, I do wish to call out examples that seem to fall into the realm of possibly
sacred ornaments in order to establish the potential existence of such agency for the discussions
that follow.

The only scholar to even suggest such possibilities for jewelry as a category was Rachel
Maxwell-Hyslop, known for her early work on personal adornment in the ancient Near East.53
Maxwell-Hyslop contended that the Ur jewelry, like most jewelry finds dating before the end of
the third millennium B.C., was primarily religious and ritual in nature and fashioned by
craftspeople connected to the temple establishment, out of materials that were the property of the

52 See, for example, Gadd 1951; Menzel 1981, no. 2(T2–4); Winter 1987; Westenholz 1989, pp. 254, 260; Frayne
temples and thus the gods.\textsuperscript{54} In addition, she underscored the magical properties and ritual efficacy attributed to precious metals and stones in general in the ancient Near East, in their raw states and as finished products, as well as the fact that many of those same materials were specified in written sources to be linked with individual deities.\textsuperscript{55} She singled out the Ur jewelry in particular as having connections to the divine based on references in Sumerian literary sources in which precious stones, metals, and jewelry are repeatedly associated with various deities or used as metaphors for a variety of religious or mythical concepts.\textsuperscript{56} Most important, she made a passing reference to jewelry as a category of object that can be ritually prescribed or performed – in other words, what today might be called performative.\textsuperscript{57} She even suggested that the bodies buried at Ur reminded her of reenactments in burial of the Mesopotamian Sacred Marriage ritual or of cult statues related to the same and other rituals in the way that the Ur bodies were adorned, processed, conceived of, and treated in general.\textsuperscript{58} Maxwell-Hyslop never delved into these observations much more deeply than just mentioned, and the evidence for her remarks was often scanty; however, as will be seen in many aspects of this dissertation, her insights have provided me with myriad ways to approach the Ur jewelry anew.

In order to explore all the above issues and questions properly, one must look at the making of jewelry in ways similar to those employed by scholars for the making of divine statues, starting with the nature of the raw materials used – including but not just their

\textsuperscript{54} Maxwell-Hyslop 1960, pp. 106–7; see p. 108 for Maxwell-Hyslop’s assessment that the jeweler’s art gradually became secularized towards the end of the third millennium B.C., during and after the Akkadian period, although the evidence for this is limited at best.
\textsuperscript{55} Ibid., pp. 106–7.
\textsuperscript{56} Ibid., p. 107.
\textsuperscript{57} Ibid., p. 107; this is not to say, however, that she considered the technology of making the jewelry performative, as will be presented in a subsequent chapter of this dissertation.
\textsuperscript{58} Ibid., and personal communication during a visit with Maxwell-Hyslop and Zainab Bahrani, 2006 (see Fig. 4); see also A. Cohen (2005, pp. 150–51) who expands on this idea and Gansell (2007, p. 44) who cites Cohen.
procurement, \(^59\) economic value, \(^60\) as well as practical and symbolic functions within the social, political and religious spheres. \(^61\) In the absence of explanatory texts, can one identify what it is about a given material that in certain contexts seems to link it to the sacred or the divine, or give it sacred- or divine-like qualities? Is there some property original to a given material that might account for the association? Can certain materials be capable of further transforming and animating the objects they become – like statues, temples, or jewelry – rather than simply reflecting the sacredness or divinity that is perceived to reside therein? Materials and their role in agency are not often considered adequately enough in studies of ancient Near Eastern artifacts, despite the textual evidence so clearly pointing in that direction. \(^62\) At the same time, when agency is investigated, it seems to be sourced in a way that does not truly consider the material, just the materiality of the object it becomes.

While scholars like Mary Helms, Roger Moorey, and Jennifer Ross have made significant contributions to our understanding of the practical application, archaeological context, symbolic values, and ideological impact of prized materials – as distinct from finished – no one has fully addressed \textit{what it is} about these materials that give them such import and power. \(^63\) Helms and Ross most especially emphasize the ideological, cosmological, and metaphorical connections between materials and the political and/or divine spheres – one on the level of procurement of materials and crafting processes, the other on the level of the materials themselves – but neither accounts for the potential agency (let alone sacred agency) of the actual materials, only for the

\(^{59}\) See, for example, Helms 1993 and Moorey 1994.

\(^{60}\) See, for example, Simmel 1990 [1900]; Moorey 1994; Ross 1999; and Van De Mieroop 2002.

\(^{61}\) See, for example, Helms 1993 and Ross 1999.

\(^{62}\) Recent scholarship has begun to more fully address and embrace the notion of agency, thanks in large part to the work of Alfred Gell (1992 and 1998). The impact has been quite noticeable in the realms of art history and anthropology (for example, Bahrani 1995a, 2002, 2003, 2008; Winter 2007a, 2008a, 2012) but is now also evident in the area of philology (for example, Selz 1997, 2008; Pongratz-Leisten 2011).

\(^{63}\) Helms 1993; Moorey 1994; Ross 1999.
symbolic political impact associated with procuring them and making objects out of them.\textsuperscript{64} In contrast, Erica Reiner has written about the efficacy of certain raw materials but mostly from the perspective of popular magic, medicine, and apotropaic functioning, not as these materials relate to the production, or reproduction, of the sacred or sacred objects.\textsuperscript{65} Nonetheless, her contribution is essential to the aspect of inherency that will be discussed in this chapter.

To my knowledge, Irene Winter is alone in having investigated the operational values of materials within the wider context of Mesopotamian artifact production, often with an emphasis on those works associated with the sacred and the divine. Winter’s seminal explorations of materials and crafting in the ancient Near East provide a crucial foundation for the analysis I undertake in this dissertation. Although she has addressed issues of agency with respect to finished objects, her studies of materials and crafting were done from a mostly semiotic and reflective, rather than an agentive, point of view\textsuperscript{66} – leaving room for continued probes into both areas. For instance, Winter describes lapis lazuli as “yielding a kind of lustrousness that is seen as particularly positive and auspicious, so that persons and things that are holy, ritually pure, joyous or beautiful are generally described in terms of light.”\textsuperscript{67} In other words, the person or object is holy or ritually pure, and the material of lapis lazuli reflects that state through its physical luster or sheen, qualities perceived to be associated with purity and/or holiness.

\textsuperscript{64} For Helms raw materials can be endowed with magical or even divine potency, but it is their acquisition and crafting, not their own natural state, that gives them their true supernatural charge (Helms 1993, especially pp. 2–3, 14ff.). I would argue that it is all three that make for such agency. See also Winter 2012.

\textsuperscript{65} Reiner 1995; see also Goff 1963, pp. 162–211 and Ebeling 1931. For instance, Ebeling cites first millennium B.C. incantations that call for specific jewelry and stones (headband, necklace, finger rings, bracelets and precious stones) to adorn figurines used in magic against evil spirits, as a means of controlling those figurines and thereby the spirits themselves.

\textsuperscript{66} For example, see Winter 1995, 1999a, 2003, and 2012; see also Summers 2003, p. 83, for a similar emphasis on the symbolism of materials, of gold in particular, versus any potential agentive aspects. Martina Zanon has recently contributed to the discussion as well but again focusing on what materials (especially metals) reflect rather than what they might have been perceived to activate (Zanon 2012).

\textsuperscript{67} Winter 1999a, p. 46.
material is thus a metaphor, not an agent. Yet, in the same article, Winter remarks in a footnote “that it is possible in Mesopotamia […], what we tend to see as mere references to valuable materials could instead represent very purposeful selections of materia with associated instrumental agencies.” With this comment Winter indicates that she believes there may be more than the symbolic or metaphorical attached to her “ascribed properties” for lapis lazuli. Furthermore, she concludes the article by saying that “it is essential to take into consideration the multivalent associations of lapis and its underlying (sacred) properties.”

Winter has so often implied the possible sacred nature of materials. In this dissertation I would like to explore where Winter enticingly and generously leaves off – first of all, by redirecting sacredness to be a quality, not a property, and secondly, by taking “sacred” out of parentheses when it comes to certain materials, specifically those that are prominently featured in the jewelry at Ur. In general, the existing scholarship tends to confuse and conflate what are properties and what are qualities of materials, thereby confusing and conflating what is inherent to a given material versus what is culturally assigned to it, as well as what might be the agency of a material versus the agency of an object. This goes right to the heart of the debate about materials and materiality. I would like to submit that, in certain contexts, the natural and inherent properties of some the materials dealt with in this study have the intrinsic potential to give to humans (the makers and consumers) a perception of inherent sacredness or divinity that, in turn, allows for those makers and consumers to assign holiness or divinity as a quality back to the material itself, not just to the object it becomes. Such an object, in its finished form, can therefore be perceived as holy, sacred, or divine, both because of the materials of which it is

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68 Ibid., p. 57n35.
69 Ibid., p. 53.
made and because of its functional association with the sacred or divine. Thus, the agency is not unidirectional; it is multidirectional and multidimensional – a live interaction of sorts.\textsuperscript{70} And that interaction, ironically, thrives on conflation, or ambiguity, for its operational efficacy.\textsuperscript{71} Furthermore, I believe that this interaction is embedded, or inherent, in the Sumerian language itself when it comes to some of the materials that will be discussed here.

**Materials at Early Dynastic Ur**

Of the extant assemblages of jewelry attributed to ancient Near Eastern contexts, it seems to me that none is better suited for study in this regard than those found at Ur in its Early Dynastic period graves and tombs, despite the fact that the cemetery as a whole is generally considered a royal rather than a sacred burial ground.\textsuperscript{72} The materials used repeatedly and predominantly, and in great quantities, in the making of the Ur jewelry are gold, silver, lapis lazuli, and carnelian – interspersed with some agate and small amounts of limestone, shell, white paste and bitumen. Thus, the very materials that greet us in an overwhelming fashion when we turn our attention to the various jewelry assemblages at Ur are the very *same* materials as those used in temple and other foundation deposits, cited in lists of “inanimate” yet deified objects, prescribed for use in religious and royal rituals and assorted magical procedures, employed to adorn temples, fashioned into a variety of cultic equipment, inventoried in temples and temple

\textsuperscript{70} I am indebted to Tim Ingold here for an introduction to this potential interaction (Ingold 2011). See also papers from a recent symposium presented by the Bard Graduate Center and The Institute of Fine Arts/New York University titled *Beyond Representation: an Interdisciplinary Approach to the Nature of Things*, September 27–29, 2012. Several speakers likewise stressed the complex and interactive character of agency.

\textsuperscript{71} See, for example, Bahrani 1995a, 2002, 2003 (most especially); Selz 2008; and Taussig 1993, 2006, pp. 121–155.

\textsuperscript{72} See Moorey 1977 for a contrasting opinion.
storehouses, and referred to in conjunction with deities in a seemingly endless array of literary compositions throughout several millennia (see above). In other words, there is every reason to think that there is more behind the use of these precious materials at Ur than the simple marking of prestige and wealth, as has been posited most frequently. However, in order to discuss the potential agency, especially sacred agency, of these materials, I will need to draw on supporting archaeological and textual evidence that stems from a variety of times and places. Here I invoke Ross by quoting and paraphrasing from her dissertation: “I would argue that the conservative nature of Mesopotamian mythology (and of religious systems in general) suggests that correlations of gods and precious metals existed as early as the third millennium [B.C.],” even though the majority of the literary works substantiating those correlations derive from later periods.73

Much has been written on each of the materials prevalent at Ur so I will cite those sources only as necessary, or for general reference, and rather concentrate on the properties and qualities associated with each type of material that I believe have been understudied or not sufficiently stressed in general discussions of the materials in question – specifically those that relate to how one might assign agency to these presumed inanimate substances known from economic and administrative texts to also have functioned in secular and pragmatic ways. As this dissertation is concerned primarily with the jewelry found buried with Pu-abi, I will focus on the materials that dominate her assemblage: gold (and by extension, silver, although there is very little found with Pu-abi), lapis lazuli, and carnelian with a brief mention of agate, as it accounts for a sizable portion of the beads found strewn all over her body and thought to be a cloak (Fig. 3). However, I will refer to Pu-abi’s actual jewelry infrequently in this chapter, concentrating

instead on the materials that it is made of in a general sense and within the broader scope of Mesopotamian material culture. When I do discuss the material and manufacture of Pu-abi’s individual ornaments in the pages and chapters ahead, I do so for those from her tomb chamber and body proper, not those belonging to the attendants in her tomb chamber or those from bodies in her supposed “death pit.” My claim is that what applies to Pu-abi’s assemblage of jewelry in terms of materials and manufacture can likewise be applied to the many similar items adorning other bodies and found in other Early Dynastic burials at Ur, possibly only to greater or lesser degrees, and perhaps methodologically to other jewelry assemblages within the wider material culture of the ancient Near East and beyond.

GOLD (AND SILVER)

Gold is what one most immediately and intensely encounters when confronted with the spectacular discoveries made at Ur in its tombs and graves, most especially in the form of jewelry. The ornaments worn by Pu-abi, the focus of this dissertation, are among the most notable and lavish of these golden jewels (Fig. 5). While there is abundant textual and archaeological evidence pointing to the potentially animated nature of certain materials in certain contexts – gold and silver prominently among them – an overwhelming amount of scholarship on Ur has concentrated on the economic and trade values of these two metals and the accompanying

74 See Zimmerman 1998 for a discussion of why Pu-abi’s so-called death pit cannot be associated archaeologically (stratigraphically) with her tomb chamber and thus not with Pu-abi. Pu-abi’s so-called diadem (B16684/ U.10948; Woolley 1934, Plates, Pls. 140–41), found in her tomb chamber proper but resting next to her body, not actually on it, will also not be treated here but separately in a future study.
symbolic value of prestige. In turn, the element of prestige is what is most often credited with further informing the use of these metals for religious, royal, and elite artifact production, ritual and magical formulae, foundation deposits, and most especially, as metaphors for the shine and divine radiance of gods and temples. While the trade, acquisition, and prestige components of gold and silver are hugely significant in ways that go well beyond simply economic considerations and while the metals undoubtedly had many different functions and conceptual associations in Mesopotamia depending on context and period, it is their connection with the sacred that will be examined here.

The term for gold in Sumerian is denoted by the ideogram, KÙ.GI – the reading of which is not entirely clear and therefore in dispute among Sumerologists. Nonetheless, there is now a general, if weak, consensus that the ideogram should be read kù-sig₁⁷, or phonetically as guškin. The element or qualifier, kù [also ku₃, ku(g), or ku(-g)], in this context is translated by philologists as simply “metal” (sometimes “precious metal”), and kù-sig₁⁷ is then interpreted as “yellow precious metal,” or gold. Such readings parallel the structure of the Sumerian word for silver – KÙ-BABBAR or kù-babbar – with its more generally agreed upon meaning of “white
precious metal,” or silver. While a philological analysis of these terms is not my intention, I would like to focus on the fact that both share in common the qualifier kù and the extent to which this element might have meaning and import beyond what is most commonly acknowledged in this particular linguistic context. Although gold is the more prevalent of the two metals in Pu-abi’s tomb, it is difficult to discuss one without the other, from both a material and a philological standpoint.

While the accepted translations of yellow and white precious metal for gold and silver are perfectly rational from strictly metallurgical and/or economic points of view, I want to suggest that during certain periods – such as the Early Dynastic period of the Ur burials – and in certain contexts the two metals and their terms may have had metaphysical values that are recognized but not fully applied to how these metals were experienced practically and conceived of cognitively, and therefore how they were named and may have functioned in certain of their cultural contexts. In order to make my point I will begin with the Akkadian equivalent to kù, the term ellu. The definitions given for ellu are several. The first is “clean or pure;” the second is “holy or sacred;” and the third is “free or noble.” The last meaning is of little use to this discussion, as it is attested only from the Old Assyrian and Old Babylonian periods onwards. In the Assyrian dictionary the first meaning of “clean or pure” is also extended to incorporate

84 I am well aware that on its own, the term kù is accorded a variety of other meanings, as will be discussed below. However, my focus here is on the prevailing translation of kù [or ku₃, ku(g), or ku(-g)], when associated with terms for metals, as simply “metal” or “precious metals,” as already mentioned and cited. See also, Pongratz-Leisten 2009 (especially pp. 417–18, 422) for a brief summary of assorted readings of the term, kù [or ku₃, ku(g), or ku(-g)], as well as for her more nuanced understanding of the full kù-sig17 (p. 422) that informs and supports my own below.
85 Here I follow a methodological tack along the lines of how Winter redefines “value” in the context of Mesopotamian artifact production (Winter 1994, 1995, 1999a, 2003, 2012) and how she uses “marked agency” (Winter 2007a) to better understand the operational value of artifacts. In doing so, however, I am extremely conscious of the fact that, on a practical level, the Sumerians were keenly aware of the varying degrees of compositional value to gold, depending on purity (i.e. alloys and loss) – see, for example, Van De Mieroop 1986.
86 See CAD E: 102–6, ellu.
concepts of “bright” and “shining” in the sense of “shining purity.” Indeed, “pure” is listed as an alternate value for kù [also ku₃, ku(g), or ku(-g)] in the Sumerian dictionary, and “(to be) bright, shiny” is offered as a secondary meaning for the same under its entry for “metal.” Yet, neither “pure” nor “bright, shiny” is incorporated or considered in the form of kù which translates as “metal.”

Outside the field of philology, Winter, in a vein similar to Elena Cassin, Françoise Bruschwieler, and Howard Morphy, has used the terms kù/ellu quite extensively in her art historical scholarship on radiance as an aesthetic value in Mesopotamia, specifically linking them to the shining brightness of gleaming metals and lustrous or highly polished stones. However, Winter, like others, suggests that this quality of “shining purity,” or luminosity, in objects and imagery is “achieved through contact with the sacred or the divine,” thereby crediting the originary divine presence or emanation to the objects rather than to the metals and/or stones from which they are made or with which they are adorned. In other words, the tendency has been to conflate or collapse together the ideas of purity, luminosity, and holiness – as well as the materials and object – when it comes to the application of the terms kù/ellu, assigning the combined qualities to objects and images that are associated with already

87 Ibid.: 104.
88 ePSD K: kug [PURE], wr. kug.
89 ePSD K: kug [METAL], wr. kug.
90 Ibid.
91 Cassin 1968.
94 Winter 1994; 1995, p. 2573; 1999a; 2007; 2012. This, however, seems not to have influenced how the terms for gold and silver are read and understood by philologists.
established cultic activities and therefore predetermined to be holy, sacred, and/or divine.\textsuperscript{96} The materials therefore serve as little more than metaphors. While the conflation of these aspects may itself be part of the equation, it is worth looking more closely at the actual properties of gold and silver and through those properties unpacking the concepts of purity, luminosity, and holiness/sacredness into separate entities. In doing so, I will stress the notion of inherency introduced by Freedberg in the hopes of showing how one might more fully, or differently, understand both kù and agency as it relates to the two materials.

In this regard the definition of simply “metal” for the kù components of kù-sig\textsubscript{17} and kù-babbar, given in a majority of philological sources, seems to dismiss important aspects of gold and silver as materials. The translation “metal” does not acknowledge the various conceptual meanings of purity, holiness/sacredness, and shining light given in the dictionary for its seemingly uncontested Akkadian equivalent, \textit{ellu},\textsuperscript{97} and discussed so extensively by Winter and others, nor does it recognize the practical meaning of purity in terms of gold and silver that were in various states of compositional purity (alloys) – a physical reality that was clearly understood and manipulated by Mesopotamian metallurgists.\textsuperscript{98} By contrast, the translation of “precious metal” comes closer to a sense of at least the physical properties of both gold and silver, in that it perhaps implies a level of purity (read as preciousness) inherent to their (but not all metals’) metallurgical makeup, of which more will be said below. Nonetheless, I take the translation of “precious metal” to refer primarily to the practical and economic implications of metallurgical

\textsuperscript{96} See Pongratz-Leisten 2009, especially pp. 417ff., for a discussion of this conflation and confusion of the meanings attached to the term kù; also see Cooper 1999 and Selz 1997, p. 191n78, who likewise struggle with how to untangle the various senses of the term.

\textsuperscript{97} This is despite the fact that, as already mentioned, a secondary meaning for kù [also ku₃, ku(g), or ku(-g)] is given as “(to be) bright, shiny” in the entry for kug [METAL] (see ePSD K: kug [METAL]) and an alternate entry of “pure” is also indicated (see ePSD K: kug [PURE]).

\textsuperscript{98} See, for example, Hallo 1963, p. 139; Boese and Rüß 1971, p. 519ff.; Van De Mieroop 1986; Moorey 1994, pp. 217–19; Van De Mieroop 1999, p. 116ff.; and Ross 1999, pp. 5–8, among others.
purity, which were undeniably of critical importance to the Mesopotamians, but not to the possible conceptual or metaphysical ones, which I believe were equally crucial. While art historians like Winter have thankfully redirected our understanding of gold and silver, as they relate to works of art, to include the concepts of purity, holiness/sacredness, and light (or radiance) that I hope to show are organic to the metals and thus to the Sumerian terms used for them, it seems that the individual components of the three have not been clearly distinguished from each other because the properties versus qualities of the material have not been properly characterized. In fact, the various meanings of kù, even on its own, seem to be applied a bit arbitrarily, or at least fluidly, in the literature – almost as if cherry-picked for the individual occasion or context.99 Scholars tend to select one meaning or the other, without considering that, at times, all the meanings might be collapsed together and come into play, or that an altogether different aspect might be the most potent one of all. The associated direction(s) of attributed agency(ies), therefore, has (have) also not been fully realized.

Admittedly stepping dangerously into both Sumerological and theological territories, I would like to submit that the qualifier kù was used for both metals because the metals themselves were originally100 observed to be inherently pure and lustrous (physically) and therefore

99 Cooper 1999.
100 Here I speak mainly in terms of the fourth and third millennia B.C. when I say “originally.” There is evidence that the uses of both gold and silver begin to change towards the end of the third millennium B.C. to notably more commercial purposes and that their semantic meanings therefore change accordingly, if only in nuanced ways. This change reflects one of the main premises of Ross’ dissertation (1999), seen there in terms of contemporary archaeological and textual evidence, and is suggested as well by Pongratz-Leisten (2009, pp. 423ff. and below in this chapter) from a purely philological perspective. This is not to say that a ritual use of and agency for gold and silver did not persist into the first millennium B.C., and even beyond (see later in this chapter; see also Winter 2012 regarding the as-of-yet uninvestigated comparison between the uses of gold in Mesopotamia and the Late Antique and Medieval Christian traditions).
considered inherently holy or sacred (metaphysically). Holiness or sacredness is a mental construct, or quality, that can encompass purity because all things holy or sacred are often assumed to be conceptually (ritually or theologically) pure, and shine or light is often thought to conceptually radiate from such a state of purity. In this case, however, the purity and shine are founded in the very essence or nature of the metals themselves and observed as such. They are inherent properties of the metals, not ones achieved by human intervention (via refining or ritual cleansing and incantations) or garnered from contact with already holy or sacred objects. Nor are these properties that are attributed or assigned to the metals by humans – they reside in the materials themselves and emanate from there. Thus, I believe that these metals were used in the manner in which they were used and for the purposes for which they were used because they were deemed to be inherently holy or sacred in quality – because of their inherent properties of purity and shine – and therefore thought to have the capacity to animate the inanimate objects and images they become with the same holiness or sacredness, or at the very least, activate further ritual efficacy to produce or reproduce the sacred.

But where might this perception of gold and silver have come from? When relatively pure, gold and silver share the same innate ability to shine continually, a property that

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101 My aim here is not to suggest that kù, on its own, is not translated correctly, although its various meanings are chosen a bit arbitrarily for any given circumstance, as already noted: rather, I am attempting to highlight what I perceive to be the inadequacy of its translation when related to the Sumerian terms for gold and silver as a qualifier.

102 The issue of what constitutes relative purity is a difficult and to some degree, subjective one. For the purposes of the present discussion, I use the term “relative purity,” as it relates to gold, to indicate what might also be called native, or naturally-occurring, gold. Native gold is never entirely pure; in its natural state, and depending on region, it is found combined with varying amounts of silver (10–30%) and sometimes with traces of copper (1–2%) and/or other metals (Ross 1999, p. 21). Although only a minimal number of scientific compositional analyses have been undertaken for the gold found at Ur (Plenderleith 1934, pp. 292–93, 294, Table III; Moorey 1994, pp. 231–32; Tony Frantz, Department of Scientific Research, The Metropolitan Museum of Art, personal communication regarding an unpublished analysis of gold headdress from Ur, MMA 33.35.3, 2010; and forthcoming joint study between the University of Pennsylvania Museum of Archaeology and Anthropology and Deutsches Bergbau-Museum, Bochum, Germany), it appears that its average composition is consistent with natural occurrences of gold as they are thought to have been exploited during the Early Dynastic period in Mesopotamia (Ross 1999, pp. 21, 32ff.; Tony Frantz,
distinguishes them from other materials, even from other metals. Neither gold nor silver in such a state of relative purity oxidizes with time and exposure to oxygen while copper, lead, and most other metals do, even in their purest forms. In other words, they do not turn black or green or discolored in any way, they do not become “dirty,” they do not lose their shine. In more modern times, both gold and silver are counted among the “noble metals” – metals that are resistant to corrosion. It is from this physical property that the definition of “precious metal,” as assigned by Sumerologists, probably derives. However, “precious metal,” as it is used commonly today, is a market, or economic, term that replaces the more scientific term “noble metals” and I believe therefore inadvertently undermines the full impact of their physical properties.

A number of noble or precious metals exist, but gold and silver (or, in combination, electrum) are the only two noble metals actively used in the ancient Near East. As such, they retained their shine and brilliance, as long as they were not combined with significant amounts of baser elements, such as lower alloys or solder (see Chapter IV for the importance and further discussion of this point from a technological perspective). Gold and silver, therefore, may have

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personal communication, 2010). Furthermore, it is likely that much of the gold used in Mesopotamia during this period was in actuality electrum, an alloy of gold and silver that also occurs naturally and in similar ratios of gold to silver as native gold, although it may also have been alloyed deliberately (Moorey 1994, pp. 217–19; Tony Frantz, personal communication, 2010). While there is some evidence that Mesopotamian goldsmiths had the technology to purposefully manipulate the composition of metals by the middle of the third millennium B.C. (Boese and Rüß 1971, p. 519ff.; Moorey 1994, pp. 217–19; Ross 1999, pp. 5–8), at present it is thought that most of the gold used at Ur represents the naturally occurring form of either gold or electrum (Tony Frantz, personal communication, 2010). Of relevance to the argument above is that, based on the few existing analyses of the gold or electrum used at Ur, the average composition of the metal is “pure” enough (70–90% gold) that it would have been able to resist corrosion. Silver, on its own and when not combined with gold to constitute electrum, is quite a different matter, as it is not found at all pure – not even relatively so – in its natural state. Thus, I use the term “relative purity,” as it relates to silver, to indicate its state after extraction and deliberate refining. The nuances and implications of this difference between gold and silver for the purposes of this dissertation will be discussed in greater detail in the pages that follow. For the moment, the fact remains that both (and therefore electrum as well) are resistant to corrosion when “relatively pure,” regardless of the divergent natural states of gold and silver.

103 Cushing 1967. The others are: ruthenium, rhodium, palladium, osmium, iridium, and platinum. Electrum may be considered a noble metal as it combines gold and silver. I thank Debbie Schorsch of the Department of Objects Conservation of The Metropolitan Museum of Art for the reference to Cushing and for her assistance with the scientific aspects of this section of my dissertation. If there are any misunderstandings or misstatements in the above text, they are mine alone.
had the physical distinction, among the metals known at the time, of being essentially **immutable** and **eternal**, **inside and out**. For obvious reasons, these are properties that were considered to metaphorically and metaphysically correlate well with conceptions of the holy, the sacred, or the divine.\textsuperscript{104} In fact, they remain so today in many cultures and religions across the globe.\textsuperscript{105} Likewise, one cannot help but think of the underlying premises of alchemy and how the physical and metaphysical are similarly conflated and intertwined in its practice and perception, and how alchemy tries to directly challenge, even defy, the very property of immutability associated with gold and silver.\textsuperscript{106}

> However, it is very important to note that purity, shine, and their immutability are properties inherent to the materials of gold and silver, not yet to the objects they become. It is therefore likely that the perception, or quality, of holiness or sacredness was also first and foremost assigned to the raw metals, then to the objects made out of them. Of further interest is that kù on its own in the context of the sacred or the divine, unrelated to gold and silver, can also be translated as “irrevocable” or “unchangeable” – as in the irrevocable or unchangeable word of a deity.\textsuperscript{107} This sense of the term kù is so organically and physically related to gold and silver’s property of inherent immutability that one wonders if it might have actually derived from there. Perhaps “holiness” or ‘sacredness” per se is not actually at issue; perhaps “immutability” is what

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\textsuperscript{104} Some have argued for a cosmic significance of gold and silver to the Mesopotamians, based on the fact that the metals derive from underground and rise to the surface and were obtained from distant mountains. As such, they were thought to form a vertical connection between the earthly realm and the underworld, as well as a horizontal connection between the mythical and distant mountains and the low-lying urban centers of the Mesopotamian heartland. However, even in this scenario, the metals and their attributes are used metaphorically to describe the geographic origins and acquisition of gold and silver, not any agency related to the divine. While these metaphors are key aspects of the mythology surrounding both metals, they are ones already addressed elsewhere and beyond the scope of this dissertation. See Helms 1993 for a thorough study of exactly this topic; also Berjelung 1998, p. 132; Hurowitz 2006, pp. 9–10.

\textsuperscript{105} See Winter 2012.

\textsuperscript{106} See, for example, Eliade 1962.

\textsuperscript{107} See, for example, Pongratz-Leisten 2009, pp. 418–20, 423.
the Sumerian language was after in the term kù in its ideational aspect, a concept that is so closely aligned with the holy, the sacred, and the divine that it is just as easily interpreted as such. In the same vein, perhaps KÙ-GI (or kù-sig₁⁷) and KÙ-BABBAR (or kù-babbar) should be translated as yellow and white “immutable metal,” rather than yellow and white “precious metal” – thus covering both the physical and metaphysical, the properties and qualities, at the same time. This sense of the Sumerian terms would also better express the use of the metals in royal contexts; Mesopotamian rulers were just as concerned with eternity and immutability as were those in sacred spheres. We may never truly know the answer. However, it is easy to see how the elements of purity, luminosity, and holiness/sacredness might conflate and overlap, physically and cognitively, in the materials of gold and silver – both then and now. On the other hand, what does seem clear is that the direction(s) of agency(ies) between the materials of gold and silver and the objects they supposedly only describe is not comprised of a single route.

Here, there is a crucial physical distinction to be made between gold and silver. While native gold is often found in an already relatively pure state that does not necessarily require refining in order to be worked, silver is most frequently mined from ores that contain notable amounts of other metals and impurities and therefore does necessitate further processing before it can be used as “pure” or “relatively pure” silver.¹⁰⁸ This begs the question of how silver could be considered holy, sacred, divine, or immutable, even without an origin in an inherent state of relative physical purity. Perhaps the reasoning for assigning the qualifier kù to silver relates mainly to the property of shine or brilliance already noted for the Akkadian equivalent, ellsu,¹⁰⁹ and focused on by the scholars mentioned earlier – properties that both metals have in their

¹⁰⁸ Moorey 1994, p. 234; Ross 1999, pp. 21–22; see also above, p. 32n102, for a discussion of “relative purity” with regard to gold and silver in this dissertation.
¹⁰⁹ And as an alternate meaning for the entry kù [also ku₃, ku(g), or ku(-g)] as “metal” (see ePSD K: kug [METAL]).
relatively pure state, regardless of how this state was achieved, as distinct from other metals known and used at the time. Hurowitz emphasizes a “virgin” state as being the pure and, for him divine, one for metals and stones – the state of the materials before they are worked into objects (for him, cult statues).\(^{110}\) Perhaps this is the sense intended by kù, and one that in some way then accounts for (or is blind to) the fact that silver has to be manipulated (extracted and refined) into a “virgin” state and that neither gold nor silver is ever truly pure in its native form. In Hurowitz’s interpretation, the inherent purity and divinity derives from the stage before the skilled crafting takes place, not necessarily from the metallurgically original state. The end result is the same and still distinguishes them from other metals: once pure, both metals retain their purity; once made to shine, they retain their brilliance. In other words, they are immutable, in a way that other metals and materials simply are not.

Hurowitz, however, does not adequately consider the source of this inherency, other than that it is derived from the gods theologically speaking, nor the finer distinctions between purity and divinity.\(^{111}\) Of crucial importance is that the property of purity is completely natural to gold, even in a completely untouched state, and that the property of shine is natural to “virgin” gold and silver alike. In both cases, the capacities to shine in perpetuity and to be eternally pure and clean are not bestowed upon them from any outside entity or agent; they are truly inherent to the material. As such, the Sumerian gold- or silversmith would have experienced exactly those properties when working the metals and noted their exceptional nature. In terms of Mesopotamian theology, these materials did not require ritual cleansing or purifying (unless

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\(^{110}\) Hurowitz 2006, pp. 9, 11.

\(^{111}\) Ibid., pp. 9–10, where Horowitz discusses not only the exotic, mountainous origins of gold but also the inherent divinity of the gold and precious stones used for cult statues as a divinity not “natural” to the materials but rather instilled into the materials by a divine source, such as Ea.
subsequently tainted) – they were inherently “pure” and remained so for eternity. Thus, perhaps it was the inherency and immutability of the purity and shine that the Mesopotamians reacted to and cognitively absorbed as sacred, or even divine. Purity and shine, in a manipulated form, can be reproduced by human intervention; inherent purity and shine cannot. Likewise, manipulated shine wears off on most materials, thus requiring constant polishing and renewing of the surface. Most materials are therefore not immutable either. One can see how the Sumerians might have conceived of these phenomena as deriving from a sacred or divine source.

Thus, to my mind, the purity, shine, and immutability of gold and silver are inherent and natural properties, and observed as such by the makers who interacted with the materials, while holiness, sacredness, divinity, and/or immutability were conceptualized as inherent qualities, constructed and assigned by the makers and consumers who interacted with the materials and the objects they became. This is distinctly different from how these particular properties and qualities are most often distinguished and portrayed. For example, Winter concludes: “Objects that are holy or ritually pure and clean (KU₃/SIKIL; ellu, ebbu) are said to be imbued with light, their luminosity achieved through contact with the sacred or the divine.” Or elsewhere: “To the extent that shine is a signal of purity and sacredness, the shining vessel is declared manifestly appropriate for use in the cult.” I would suggest instead that because purity and shine are inherent to gold and silver, they emanate from there first and foremost. In other words, purity and shine both signal and activate the sacredness that is then assigned.

Freedberg addresses the notion of inherence with respect to materials as well as to images and objects, and in doing so makes a similar distinction between raw and unworked materials. In

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112 Ingold 2011, pp. 29–30
his chapter on aniconism, he traces the impulse to impart inherent divinity onto unworked materials back to the ancient world, specifically to the ancient Asiatic cultures. Indeed there are examples from many cultures, past and present, of natural stones, unworked and untouched by humans, being set up and worshipped as cult objects. Freedberg offers the possible explanation that “their form suggested some kind of inherence,” that “their divine origins were self-evident.” Here, he essentially points to the natural or geological state of such stones as the impetus for assigning the quality of holiness or sacredness. In other words, something in their physicality suggested the sacred or divine. For instance, in the case of Greek *baitulia*, or meteoric stones, it was the fact that they fell from heaven; thus their assigned sacredness was perceived as inherent. Perhaps the Sumerian perception of gold and silver followed a similar cognitive pathway as that for *baitulia*. After all, as Mauss pointed out, the act of technological creation begins with “matter which man has not created.” Enticingly connected to this point is that at least one other metal was assigned the qualifier *kù* in the Sumerian language – meteoric iron, or *KÙ-AN*, a substance also imbued with the properties of inherent shine and resistance to tarnish. Additionally, in the context of the present discussion, the greater significance of its clear and observable origins in the heavens can hardly be considered a mere coincidence.

I would therefore suggest that the qualifier *kù* for the metals not only designates a physically pure, refined gold or silver versus a less refined gold or silver as mediated or not by human intervention, nor only expresses economic and symbolic values of “precious” as assigned

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117 Ibid., pp. 33–34.
119 *ePSD K*: kugan [METAL], wr. kug-an, “a metal, perhaps meteoric iron;” see also, *CAD A*: 97–98, *amātu*. I am grateful to Marc Van De Mieroop for drawing my attention to the existence of *kù*(or kug)-an and its relevance to this discussion.
or ascribed by human agents, nor refers to the shining qualities of the metals gained *only* from association with a “holy or sacred” object. Could the kù, on the one hand, quite literally signal the natural purity, luster, and immutability of the metals as physically experienced and conveyed to those who worked and used the metals while *at the same time* activating the mental perception of inherent holiness and/or immutability that was conveyed back upon the metals by those same human agents? If so, the kù would mark agency in more than one direction, or better yet, express interaction – an interaction that takes place between the materials and the consumers on the level of the materials themselves before they become objects, and again, or *as well as*, when they have been formed into finished works. Thus, the conflation of the concepts of purity, luminosity, and holiness/sacredness that is so prevalent in the scholarship on kù/ellu is one that is therefore ultimately logical but along the way may have obfuscated critical aspects of difference that can help us to understand how and why a culturally ascribed sacred, or even divine, agency may have been assigned to the actual materials of gold and silver in certain and distinct contexts.

A recent article by Beate Pongratz-Leisten has further illuminated the nuances of kù from a philological standpoint and given support to the notions I propose above.¹²⁰ In her paper Pongratz-Leisten takes on the translatability of the Sumerian concept of “holy.” In doing so she considers in detail the Sumerian terms KÙ/ku(-g) [=kù] and dadag, both of which can be understood to mean “pure.” She goes on to make the distinction between dadag – as a state of purity brought about by means of ritual action (ritual cleansing or literally, purification), “not original in nature” – and kù as a state of purity that is inherent.¹²¹ Pongratz-Leisten uses the materials of gold and silver to further define her argument:

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¹²¹ Ibid., p. 422.
“The fact that cleanliness has to be produced either by means of purification or extispicy explains the equation of [the term, i.e. dadag] primarily with the Akkadian ebbu and distinguishes it from the word ku(-g), “pure,” equated with the Akkadian ellu. The term ku(-g) occurs as a component in terms for metals such as silver (kù-babbar) and gold (kù-sig), and therefore, in contrast to … dadag, it denotes a state that is inherently pure. Owing to its association with metals, it describes a shining and lustrous quality that characterizes anything associated with the divine, the cultic equipment such as the kettle included and extends to the food offerings, the priestly office as well as the prayers addressed to the deities. The fluid notion of the divine as attested in early lists that list deified professions, offices, cultural achievements, and cultic equipment might explain the choice of the qualifying adjective ku(-g) to indicate the inherent sacredness of anything related the god.”\textsuperscript{122}

Pongratz-Leisten makes an important point here in differentiating something that is \textit{inherently} pure from something that is \textit{made pure} by human or divine intervention. However, in focusing on inherency, I wonder whether she is not missing a crucial and very physical aspect of inherency in this context. She seems to be suggesting that the silver and gold themselves were inherently pure but not deemed inherently holy or sacred, such as “the cultic equipment such as the kettle included…food offerings, the priestly office as well as the prayers addressed to the deities.” It seems that she believes “anything associated with the divine” only shines \textit{like} gold and silver shine. These two metals are thus once again being given the function of a metaphor.\textsuperscript{123}

But since the kù describes the shine and luster characteristic of “anything associated with the divine” \textit{and} as discussed above, it also describes the inherent physical shine and luster of gold and silver themselves that derives directly from their inherent physical purity, could the kù not also be describing an inherent holiness or sacredness of the metals as culturally assigned to the

\textsuperscript{122} Ibid.

\textsuperscript{123} See Selz 2008, p. 19, for a discussion of Sumerian metaphors, in which he argues that they can be “statement[s] of essentiality” versus simply representing the literary technique of simile. But this aspect is not fully treated or unpacked anywhere. There seems to be a persistent conflation and confusion of modern terms and values in use when discussing ancient Near Eastern concepts of agency.
metals rather to the objects? Perhaps all this inherency is the most important aspect of kù, on all levels, and why kù is even inherent to the terms for gold and silver.124

There is also the aspect of immutability as it relates to kù. Pongratz-Leisten, elsewhere in this same article, uses the translation of “irrevocable” or “unchangeable” for kù – as in the irrevocable or unchangeable word of a deity.125 Here, the sense of kù is closely linked to, even a variation of, “holy.” With this, the question becomes: is it possible to truly separate the various meanings or values of kù from each other, or to selectively apply them to fit different contexts, as is so often done in the scholarship? The Sumerologist Jerrold Cooper even questioned this practice from inside his own field, focusing on kù in particular.126 Perhaps part of the problem is that the modern intellect is more comfortable assigning a single value at a time, while the ancient Sumerian mindset was quite happy to fold many values and nuances together at once. I am not qualified to say more than that about the issue but feel obliged to point out that all of these values – purity, shine, immutability – are present in the material properties of gold and silver.127 Maybe the English word “immutability” would therefore also better suit the conceptual value of kù than the theologically difficult term “holy.” It would be worth investigating if “immutable” would fit a greater number of contexts than the perpetually problematic “holy.” Whatever the

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124 Stefan Maul’s article, “The Ancient Middle Eastern Capital City – Reflection and Navel of the World,” comes to mind in this connection (Maul 1997 in English; 1994 for original German). Maul argues convincingly for a Mesopotamian worldview in which their concept of the “ideal” always returns to their primeval history rather than looks towards the future. Of import to this discussion is that this primeval quality permeates all aspects of Mesopotamian cognition and almost always owes its origins (mythologically) to the gods. This is illustrated in the me, or cultural achievements, that were given to humans by the god Ea at the beginning of time (p. 3), as well as in any number of other examples given by Maul. What strikes me is that Maul’s insistence on a central, primeval quality somehow resonates with my insistence on inherency as a main component of the term kù, in that inherency as a concept has a similar perspective of looking backwards, to the originary source.


126 Cooper 1999, p. 700.

127 See also Winter 1995 (especially p. 2575) for a similar sense of “simultaneous properties” in Mesopotamia.
case may be, I return to the fact that the qualifier kù must be part of the Sumerian terms for gold and silver for a reason other than simply indicating “metal.”

Pongratz-Leisten concludes by saying that “the qualifying adjective ku(-g) [indicates] the inherent sacredness of anything related to the god” and reiterates her list of items that would fall under this category. Why would the kù indicating the inherent sacredness then not also apply to the actual metals which have the qualifier kù directly embedded in the terms assigned to them in the Sumerian language and which are, in fact, the most inherently pure and shiny of all the listed items? If so, and if the sacredness or holiness is inherent, is the kù then not also assigning some degree of divine agency to the metals, as it does to the cultic equipment and other items? The kù as it describes or qualifies gold and silver signals or “marks,” to use Winter’s term,128 both the properties of the metals and the sacred qualities then bestowed upon the metals. While finished objects that are qualified with the term kù are usually considered to be holy or sacred because of their functional relationship to the gods, via a form of distributed agency or personhood,129 perhaps objects made of certain materials like gold and silver are kù because of, or in addition to, an activation that takes place on a material level. In other words, the materials of gold and silver may have been seen as the originary agents themselves, since they are kù in their raw or unworked state, before they are even made into an object. To me this exemplifies the distinction made by Winter for finished works of art while qualifying of Alfred Gell’s theory of agency, where she stresses that the “hierarchy from the inherently agentive to the delegated agent is important when theorizing the agency of “art” – whether established through performative

129 As coined by Alfred Gell (Gell 1998); for the use of the terms and their application in the field of Mesopotamian studies, see, for example, Bahrani 2003, 2008; Winter 2007a; Selz 2008; and Pongratz-Leisten 2011.
sacralization or merely by social accord."130 Perhaps this can be extended to the materials themselves, which in their case may not require “performative sacralization,” only social accord.

Is it possible, then, that with gold and silver used to make jewelry in the third millennium at Ur we might have a case of Winter’s “inherently agentive,” Freedberg’s physical “inherence,” or a situation similar to that referred to by Hurowitz with regards to the production of cult statues, with which I began this chapter? Hurowitz counts gold among the materials that are already “divine” when it comes to the making of first millennium B.C. cult statues, and indeed it is well attested in various periods that gold was used abundantly as an overlay indicating the skin of the divinity in the form of a cult statue131 as well as for the jewels and garments that adorned the statue.132 Therefore, it seems to me that gold and silver could be explored for a similar designation of sacredness, and for a similar agency, in the context of certain aspects of third millennium B.C. artifact production, especially when the artifact is jewelry – a category of object already associated with ritual activity, albeit not exclusively so, in other circumstances and periods. Combined with the textual and archaeological evidence previously mentioned (that gold and silver were used in foundation deposits, cited in lists of inanimate yet deified objects, prescribed for use in religious rituals and assorted magical procedures, employed to adorn temples, fashioned into a variety of cultic equipment, inventoried in temples and temple storehouses as the property of the gods, and referred to in conjunction with deities in a seemingly endless array of literary compositions), it becomes increasingly possible to think of these metals as at least able to participate in a similar “what goes in is what comes out” operation for objects

130 Winter 2007a, p. 55; but here Winter, too, uses the term “inherently” descriptively rather than essentially.
131 See, for example, Oppenheim 1949; Archi 1990 and 2005; Zettler 1992; Lewis 2005; and Winter 2012.
from earlier periods, including and especially jewelry, as will be argued in the pages and chapters that follow. I must repeat once more that this possibility seems all the more fitting given the direct lexical hint that is openly presented by the term kù!

At this point I will make some chronological leaps between the third and first millennia B.C. to show that perhaps the conceptual leaps with respect to this discussion are less extreme. As stated several times so far, the conceptual underpinnings of the Mesopotamian worldview change surprisingly little over millennia so that such chronological comparisons, when consciously made, are not as radical as they would seem.\(^\text{133}\) For example, although the materials of gold and silver seem to have taken on more and more commercial value and import by the first millennium B.C., they clearly remained in use for rituals related to both official cult and popular magic, in ways similar to those known from much earlier sources.

A Neo-Assyrian ritual to “block the entry of the enemy in someone’s house” is one that falls into the category of popular magic.\(^\text{134}\) It seems to be one of many that illustrate the distinction discussed by Hurowitz and Pongratz-Leisten between materials that are inherently pure and therefore ritually “ready” and those that need to be “made” pure to be ritually effective. In the ritual gold and silver seem to be among the materials that are inherently “pure” (ready) and able to effect further ritual efficacy, while other types of material need to first be purified in order to be fit for ritual use.\(^\text{135}\) Keeping in mind the distinction between inherent and manipulated purity made by Pongratz-Leisten and discussed above, what is most interesting to

\(^{133}\) See also Ross 1999, p. 306.
\(^{134}\) See Wiggermann 1992, pp. 1–32, for a full transcription and translation of this ritual.
\(^{135}\) Interestingly, Selz gives the additional meaning of “fit for cultic purposes” to the term kù in his article on third millennium B.C. deified objects (Selz 1997, p. 195n154). See also Winter 1995, p. 2573, for a similar and added sense of the term.
me is that gold and silver (and in one instance, carnelian, which foreshadows an upcoming section) are materials used in the process of making those other “not yet pure” materials “pure”:

“[When you make the statues of cornel wood]
[in the morning at sunrise you shall go to the wood,]
you shall take a golden axe and a [silver] saw,
with censer, torch and [holy] water you shall consecrate
[the cornel tree], …
With the golden axe and the silver saw you shall touch the cornel tree and
Cut it down with a hatchet; …”\textsuperscript{136}

And:

“in the morning at sunrise you shall go to the clay pit and consecrate the clay pit; with censer, torch and holy water you shall [purify] the clay pit, seven grains of silver, seven grains of gold, carnelian, \textit{hulā} [lu-stone]
you shall throw into the pit, the prepare the setting for Šamaš,…”\textsuperscript{137}

In this ritual it appears that the material of cornel wood, being collected for the making of an efficacious statue, requires purification and is being \textit{made pure} by way of the various procedures detailed, while the golden axe, the silver saw, the grains of gold and silver, and carnelian are raw or unworked materials and objects made of those materials that are being used to collect the cornel wood and purify the clay pit which will be part of the ritual. Nowhere is there mention of these precious materials needing their own purification or consecration; they simply “exist” in the text as materials ready to consecrate the other, not-so-ready materials

\textsuperscript{136} Wiggermann 1992, p. 7, l. 28–32 and l. 41–42.
\textsuperscript{137} Ibid., p. 13, ll. 145–48.
needed for the ritual. In other words, they are doing the purifying and/or consecrating and are thus presumably already consecrated.

From various other textual sources, primarily dated again to the first millennium B.C. and including the mīš pî and namburbi rituals, it is likewise clear that these same materials of gold, silver, and stones (such as lapis lazuli, carnelian, and agate) are almost always included in the initial or preparatory purification of the “holy water” that is so often used as an essential component in the further ritual purification of people, places, and things. For example, the holy-water basin that in the mīš pî ritual will purify the temple and “wash” the mouths of the gods (their statues) – so that all becomes “pure” and “bright” – is itself consecrated by materials such as gold, silver, and the lapis lazuli, carnelian, and agate (?) that will be discussed below. Similarly, Stefan Maul deliberately mentions, albeit in passing, the “purifying powers of gold and silver” in the context of namburbi rituals. In doing so, he seems to be suggesting qualities or powers for gold and silver that go beyond the simply magical or apotropaic associated with almost all namburbi rituals and other magical and medical incantations.

Maul also reminds us of the use of specifically these same materials, along with a few others, for amuletic necklaces that were known to have served not just as items designed to protect the wearer but also as virtual substitutes for the person himself or herself. This is an extraordinary illustration of the powers or efficacy of these particular materials – here as a stand

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138 See also Hurowitz (2006, pp. 17ff.) for the corollary concept of using “tainted” materials and its reverse agency.
139 For example, see Walker and Dick 1999, pp. 77, 87, 102, and Maul 1994, pp. 95, 122.
140 See especially, Walker and Dick 1999, p. 102.
141 Maul 1994, p. 95.
142 There is much to be said about the distinction between magical and medical uses of metals and stones and their use in the production of the divine; however, such an analysis is beyond the scope of this dissertation.
143 Maul 1994, p. 107. Maul bases this statement on a prayer to Šamaš, in which the supplicant pronounces that he wears on his body silver, gold, and various other metals and stones (presumably in the form of a necklace) that would serve both amuletic purposes and as a veritable substitute, or replacement, for himself in the event of potential bodily, even mortal, threat.
in for a biological being – and beyond what is, to me, simply magical. This conflation of the biological and the conceptual is one that reminds us of the materials and jewelry that are so closely tied to the identity and powers of Inanna/Ishtar, or of the materials, garments, and jewelry that are part of the creation, identity, and efficacy of cult statues. Zainab Bahrani has eloquently described this Mesopotamian phenomenon of identity inhering in both the organic body and in inorganic objects that were in contact with the body.144 More will be said in the conclusion about this type of agency in particular and the seemingly codified use of certain raw materials, as well as jewelry itself, for the purposes of ritual activation at the locus of the body at Ur.

While purity and holiness or sacredness are not necessarily linked or related, and it is difficult to clearly distinguish between magical and divine efficacy when it comes to materials, one can only assume that from this sampling of references that these are indeed examples of inherently pure materials that are also inherently able to consecrate and that because of this capacity, they are able to animate subsequent aspects of a variety of ritual procedures that produce or reproduce the magical, the sacred, or even the divine – such as “holy water” and divine statues. For Winter, following Gell,145 this would constitute a case analogous to one in which “the agency of the image is only able to be autonomous once the agency of the referent behind has been (ritually or by belief) transferred in to the image in a chain linking the originating source or person to the extended or distributed material person.”146 For me, gold and silver might be considered such originating sources in this context. Here, I am reminded of the Greek myth of the Golden Fleece, which Sir John Boardman recently mentioned in a lecture on

146 Winter 2007a, p. 54.
noting that the fleece becomes divine presumably by virtue of being inundated with gold – and I would add that the perceived “divine” efficacy of gold in this instance seemingly required no further explanation, culturally speaking.

A scenario from the third millennium B.C., from a site contemporary with Early Dynastic Ur, in my opinion provides a close archaeological corollary for the ability of raw or unworked gold, silver, and precious stones to consecrate in a manner similar to the one described by the later ritual texts mentioned above. At Khafaje in central Mesopotamia foundation deposits were uncovered in the two preserved corners of the Temple Oval foundation. These foundation deposits consisted of two separate groupings of neatly arranged rectangular pieces of raw materials (Fig. 6): gold, carnelian, lapis lazuli, and slate (as seen in the top row of the excavation photo); and slate, lapis lazuli, gold, and copper (as seen in the bottom row of the same photo). Clearly, the materials were purposefully selected and intentionally formed into rectangles, but otherwise unworked, then arranged and placed into the foundation of the temple. Such precise selection, forming, and placement of materials are not unlike those found in purification procedures known from the later ritual texts discussed earlier.

Foundation deposits in Mesopotamia come in various forms and are composed of various materials and objects, even animal sacrifices (Fig. 7). They are usually found in the corners of buildings and in the foundation – hence the name. In general, they have been interpreted as components of building rites undertaken to ensure a fortuitous completion of the edifice as well as luck and protection for its inhabitants. As such, they are considered to have some sort of ceremonial or magical efficacy and purpose but beyond that thought of simply as “deposits of

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147 Boardman 2012, p. 3.
148 Delougaz 1940, pp. 85–86, figs. 78, 79; Ellis 1968, p. 132, 140.
149 See Ellis 1968.
formless and miscellaneous objects...[that] rendered the whole proceeding more solemn and numinous."\textsuperscript{150} However, even Richard Ellis, whose scholarship is not inclined to magical thinking, observed: “In the case of two particular deposits it must be admitted that some symbolism at present inaccessible to us may have governed the deposit of materials. The rectangular plaques deposited in the Temple Oval at Khafajah...are not casual fragments or objects intended for some other use.”\textsuperscript{151} Likewise, the excavator of Khafaje, Pinhas Delougaz, remarked: “The materials alone seem to have been important.”\textsuperscript{152} I take this to mean that the materials were deemed by the excavator to have importance and efficacy independent of the foundation deposit itself. Donald Hansen noted the same for Ur III and Old Babylonian foundation deposits, which similarly included these very materials in chipped or bead form and compared the potential efficacy of the materials in these deposits to that of identical materials used in jewelry.\textsuperscript{153} Nicholas Postgate most directly expressed the possibility of agency for the materials included in foundation deposits: “The point here is the copper is attributed properties, security and firmness or safeness and solidity, which are to stand for the properties the royal builder wishes to impart to the building itself. It is recognized as partaking of a substance, and is put into the foundation for the properties which its substance confers, not for its appearance or its function.”\textsuperscript{154}

While the Khafaje deposit is not accompanied by a text that explains the operational value of these materials, it is apparent that they constituted unworked pieces of the same raw materials that are typically used in first millennium B.C. ritual texts and were therefore capable

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\textsuperscript{150} Ibid., p. 140.
\textsuperscript{151} Ibid.
\textsuperscript{152} Delougaz 1940, p. 88.
\textsuperscript{153} Hansen 1998, p. 48.
\textsuperscript{154} Postgate 1997, p. 211.
\end{flushleft}
of an analogous magical, and I would propose, sacralizing efficacy.\textsuperscript{155} As pointed out several times thus far, temples are often described as adorned with gold, silver, lapis lazuli, and carnelian – materials seen by most scholars as reflecting the holiness or sacredness of the edifice. While it is possible to argue the reflective aspect of the materials for the completed temple, it is less easy to do so for the foundation deposits. The fact that these materials were already there before the building process began, in the same raw or unworked form that has been much discussed in this chapter, attests to an operational progression that begins with the perceived \textit{inherent} efficacy of these particular materials and continues with their capacity to further consecrate or animate the objects, or in this case buildings, they become. Like the many examples – literary and archaeological – of the potency of gold, silver, and precious stones mentioned and cited thus far, the bits of raw material in the Temple Oval foundation must have been placed there not as a \textit{reflection} of the sacred embodied by the temple (which was not yet built!) but as a perceived means of animating or activating the very foundation of the building \textit{to become sacred} (which, of course, was the intention and which it would be once built).\textsuperscript{156}

Returning again to the first millennium B.C., there are numerous building inscriptions that corroborate in written form the evidence found at Khafaje in an archaeological context, demonstrating the same conservatism towards the character of foundation deposits that marks so much of Mesopotamian ritual action and overall conceptual thinking. Ellis cites and discusses several of these inscriptions so I will reproduce only one here: “The walls of the temple upon

\textsuperscript{155} It is in the context of foundation deposits that Winter comments (Winter 1999a, p. 50n35): “At least it is possible that in Mesopotamia as well, what we tend to see as mere references to valuable materials could instead represent very purposeful selections of \textit{materia} with associative instrumental agencies.”

\textsuperscript{156} Irene Winter has suggested (personal communication) that each bit of raw material may have stood for a specific deity, a phenomenon for which there is evidence from other contexts in Mesopotamia (see also below, p. 52n161).
silver, gold, lapis lazuli and carnelian (I laid) [Šamši-Adad I].” Once again, the ritual practices involving these materials seem to be as eternal and immutable as the materials and the finished objects and buildings themselves.

However, it must also be said that many of these same materials were used to decorate the outside of the temple and seem to remain efficacious in that context as well, not simply placed there to reflect the holiness or sacredness of the completed edifice. Evidence for this can be seen in the various examples of the *Sumerian Temple Hymns* which refer to the divine gifts of civilization, or the *me*, as adorning temples. Since it is well established that temples were most often ornamented with the materials of gold, silver, and lapis lazuli, it makes one stop to think if the *me*, in this case, were not tied directly to the materials. In fact, at least one other Sumerian composition refers to the divine powers as being “golden.”

This would further explain why an Early Dynastic period text from Girsu in southern Mesopotamia describes the burning of temples and palaces and the taking away of their “precious metals and lapis lazuli.” The phrase designating “precious metals and lapis lazuli” is repeated fourteen times in this short text and is distinguished from the destroying of statues, so the point is clearly an important one – one that gives as much agency to the materials as to the statues and temples which they become. The taking away of the materials is translated as either “bundled off” or “plundered;” however, I wonder whether the sense intended here is not one more closely related to the literal deactivation of the sacredness and efficacy of the temples,

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158 Sjöberg and Bergmann 1969, TH no. 26, 30, 40; *ETCSL*, 4.80.1, ll. 204–208, 315–320, 379–391, 500–505; parts of the epic titled *Enmerkar and the Lord of Aratta*, which speaks about the procuring of materials for the building of temples, also suggest that the *me* may be associated with the materials that are commonly used for temple decoration (Kramer 1952).
159 Black et al. 2004, p. 197.
160 Cooper 1986, pp. 78–9, La 9.5.
much like statues and monuments were taken away or destroyed as a means of removing the power and efficacy of the respective gods or rulers they depicted. These monuments were not just booty in an economic or political sense or objects of senseless destruction; they embodied the living presence and power of the depicted that were thus being ritually decommissioned according to principles of Mesopotamian technology and theology. Furthermore, it seems that what is also being conveyed in the above-mentioned passage is the removal of an integral and organic component of the temple – essentially a bodily component – the skin of the temple, reminding us of the gold “skin” of cult statues mentioned earlier. Hence, the materials here may not have been just “valuable” booty either but materials that had efficacy or agency directly related to, even responsible for, the efficacy and agency of the temples themselves. Is it possible that material, temple, and deity were, in this context, all being conflated into one concept of the divine? I will return to this notion in the conclusion, specifically as it applies to the body and person of Pu-abi.

As a final point on the topic of animated, sacred, or possibly even divine, materials I would like to draw attention to some of the more recent scholarship on anthropomorphic and non-anthropomorphic deities in which there is increasing mention being made of materials, not just objects and images, as potentially non-anthropomorphic conceptions of the holy and the divine. For example, Gebhard Selz’s work on third millennium B.C. lexical texts underscores the inclusion of various animals and objects in lists of deified entities but also takes into account temple records that indicate offerings were made to a variety of non-anthropomorphic items,

161 If Winter’s suggestion (above, p. 50n156) is correct that specific materials stood in for specific deities, then perhaps the taking away of the materials was conceptually analogous to the taking away of cult statues, in that the materials may have been alternate forms or manifestations of the deities in question. It is a well attested fact that deities were represented (presenced) in manifold ways in Mesopotamia (e.g. as their animal attribute, in emblematic form, etc.).
including metals. Additionally, Alasdair Livingstone has published esoteric texts from later periods in which certain materials – including gold and silver – are very clearly and directly equated with specific deities. In one such text the materials of gold and silver are even assigned the *dingir* sign, a lexical indicator of holiness. Perhaps most interesting of all in this regard is the idea put forth by Stefan Maul in a lecture given at Harvard University in 1999 that “many of the gods of Mesopotamia were closely linked to particular metals, stones, or other material objects and at times appear to have been represented by such objects, or in some sense even equated with them.” Sadly, this lecture remains unpublished.

Herman Vanstiphout has noted the fluidity that may have existed in the Mesopotamian concept of the divine, fluidity that we today, generally speaking, do not easily accept: “What if we differentiate between deity, divinity, and holiness, but to them, the idea of *dingir* is a unity with different aspects, a *dingir* is something that has the property of holiness and/or power.” If a *dingir* can be “something that has the property of holiness” (although I would phrase it as quality), then the materials of gold and silver as described in this chapter and in the contexts discussed would certainly qualify. I believe it is this notion of the sacred or holy that can be conveyed by the materials of gold and silver and on multiple levels – the physical, the metaphorical, the metaphysical, and the lexical. The insistence on the part of most scholars today that a substance or thing cannot be sacred, holy, or divine unless specifically deified, or marked with a *dingir* sign, seems too restrictive for the Mesopotamian mindset that is anything but.

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162 Selz 1997.
163 Livingstone 1986, pp. 177, 182.
164 Ibid., p. 182.
165 Porter 2009, p. 195, for a mention and brief summary of Maul’s lecture; see also Winter, above p. 50n156.
166 Porter 2009, pp. 202–3. For the concept of fluidity with respect to Mesopotamian concepts of the divine, see also Pongratz-Leisten 2011.
For this reason, I have presented a portion of what is a seemingly endless number of textual and archaeological instances from disparate periods of Mesopotamian history that point to the presence and use of gold and silver in situations that are clearly associated with one or another aspect of the sacred or divine. However, a number of scholars have steadfastly resisted the conclusion that the materials of gold and silver, in certain contexts, might have been considered sacred (or divine) or to have had sacralized (or divine) agency in their own right. Most have felt compelled to acknowledge a persistent connection between these materials and the divine yet seem to retreat when nearing the conclusion that a material substance might in fact have been perceived as animate – that it might have been assigned sacralized or divine agency, not simply reflected the sacredness or divinity of the object into which it was made or acted as a metaphor for the sacred or the divine. And, as discussed above, scholars continually conflate purity, shine, and holiness in the process of trying to evaluate the connection between gold and silver and the gods. Ross demonstrates these tendencies with the comment: “Gods are often described as kù, “holy” or “pure,” linking them with the purity of precious metals.”\(^\text{167}\) Even she – who studied these precious metals in their material aspects as closely and well as anyone – finds herself in a muddled equation that denies the metals of their inherent properties, confuses their properties with qualities assigned to them, and therefore, leaves her unable to access the agency of the materials themselves. Ross concludes by suggesting that any existing agency is social and political rather than one stemming from the materials themselves and by once again presenting the link between certain materials and the gods as a metaphorical one: “The rulers and elite classes manipulated the ideology of precious metals use, in which gold and silver stood for divine qualities and ritual purity, and where these metals were employed in strategies of

affiliation and processes of political and social differentiation, to justify and portray their own uses and active limitation of supplies.”

Whoever the scholar and no matter how close he or she gets, the result is inevitably phrased at best in terms of the symbolic or ideological impact of gold and silver, not in terms of any actual agency to produce or reproduce the sacred or the divine. I am in no way suggesting that the metaphors of purity, shine, and holiness should not remain important and viable operative aspects of gold and silver; however, I believe that the metaphorical represents only one of many levels associated with the materials. I trust that the collective examples given and cited above, as well as the various arguments put forth, make it increasingly possible to consider gold and silver as more than inanimate, or a mere reflection of the animate.

Years ago, A. Leo Oppenheim provided, in his usual uncanny and prescient way, a rare hint in the existing scholarship before the most recent contributions that metals, particularly gold, might have had such agency. He does not use the word “inherent” but comes closer than most to inferring it. In his seminal article on “the golden garments of the gods” he raised, then abandoned, the topic with one tantalizing comment: “The use of gold and the specific technique involved for the decoration of these garments was obviously intimately linked to a specific functional value of the ornaments utilized; they alone have endowed these garments with the aura of sacredness which could not be transferred to other media.” Furthermore, Oppenheim understood, even if he did not otherwise investigate, the connection between material and technique in terms of a ritual progression – the very same ritual progression that Winter refers to

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168 Ibid., p. 379.
169 Oppenheim 1949, p. 191.
as the “chain linking the originating source or person to the extended or distributed material person”\textsuperscript{170} and the same ritual progression that forms the underlying premise of this dissertation.

**LAPIS LAZULI**

After gold and silver, lapis lazuli was clearly the next most prized material in ancient Mesopotamia. The stone was, and still is, most appreciated in its opaque, dark blue form, although it occurs in many color variations depending on the amounts of calcite and pyrite that are found as inclusions in the predominant blue mineral.\textsuperscript{171} In the Sumerian language lapis lazuli is denoted by the term NA₄.ZA.GÌN (or na₄.za-gìn, za-gìn); the Akkadian equivalent is the term *uqnû*.\textsuperscript{172}

Lapis lazuli, like gold and silver, has been the focus of an overwhelming amount of scholarship concentrated on its economic value and the accompanying symbolic value of prestige.\textsuperscript{173} In turn, and also like the case for gold and silver, the element of prestige is what is most often credited with further informing the use of lapis lazuli for religious, royal and elite artifact production, ritual and magical formulae, foundation deposits, and once again, as a metaphor for the shine and divine radiance of gods and temples. While prestige certainly accounts for a large component of lapis lazuli’s functional capability, it is by no means the only factor. By extension, the role of lapis lazuli in the trade networks of the ancient Near East has

\textsuperscript{170} Winter 2007a, p. 54.
\textsuperscript{171} See Moorey 1994, especially pp. 85–92, for a thorough description of lapis lazuli from its ancient and modern sources to its recovery, scientific composition and properties, techniques of workmanship, and appearance in the textual and archaeological records. I will not be covering all of these aspects in a general sense here but refer you to Moorey as an excellent resource, despite the singular focus on trade and exchange.
\textsuperscript{173} For the emphasis on prestige, see, for example, Pollack 1983; Moorey 1994; Moorey 1999; and Van De Mieroop 2002.
also been the topic of much scholarly discussion, even more so than for gold and silver. What is mentioned in this context yet not often stressed is that – and why – the height of the lapis lazuli trade in Mesopotamia took place exactly at the time of Ur’s so-called Royal Cemetery. It is correct to interpret this aggressive acquisition and prolific use of lapis lazuli (and other materials of exotic origin and high value) in terms of the ideological quest for prestige associated with the development of kingship and its accompanying elites, as Ross and others have argued for precious metals; but it can also be seen as a more conceptually complicated enterprise, the results of which, like the materials themselves, were intended to confuse and conflate the royal and the divine, especially in this particular period. Helms has explored this metaphysical, or cosmological, aspect in great detail but not specifically for Mesopotamian artifacts. While lapis lazuli undoubtedly had many different functions and associations in Mesopotamia depending on context and period, its physical properties and the operation by which those properties might manifest, or even embody, the sacred are rarely addressed. Once again, it is Irene Winter who has most prominently delved into these issues and beyond for the field of art history, particularly with respect to the perceived connection of lapis lazuli to the divine that will be the focus here, albeit in abbreviated form thanks to her work.

In her article “The Aesthetic Value of Lapis Lazuli in Mesopotamia,” Winter makes an eloquent case for how lapis lazuli was valued, not just that it was valued. As was observed above for gold and silver, she too, points out the number of textual references and archaeological finds

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174 See, for example, Herrmann 1968; Pinnock 1986a, 1986b; and Casanova 1995, 2008. See also Moorey 1994, pp. 85–92, where nearly the entirety of his summary of lapis lazuli centers on its procurement and trade connections; the same emphasis is evident in Moorey 1993 and 1999.
175 Moorey 1994, p. 89.
176 Ross 1999; see also Helms 1993; Van De Mieroop 2002.
177 Helms 1993.
179 Winter 1999a.
across the chronological span of Mesopotamian history that more than amply attest to the esteemed place of lapis lazuli in the cultural mindset. In fact, lapis lazuli has already been mentioned several times in this dissertation due to its frequent coupling with gold and/or silver. Winter goes on to distinguish for her discussion the difference between the material properties and the ascribed properties of lapis lazuli, or the visual versus the symbolic aspects of the stone. In doing so, she essentially separates the properties of the stone from its qualities (albeit not using exactly that terminological dichotomy) in much the same way that was done for gold and silver in the previous section (in large part inspired by the distinctions made by Winter for lapis lazuli). As mentioned in the introduction to this chapter, Winter emphasizes in her work the reflective and semiotic aspects of lapis lazuli – whether in reference to the physical properties of the actual stone or to physical properties of other materials and objects that are like those of the stone, or in reference to the myriad of additional properties that could be ascribed to the stone – over any possible agentive ones. Of course, Winter’s objective was exactly that: to investigate the aesthetic value of lapis lazuli. As such, the focus would naturally be reflective and semiotic.

The important aspect for the purposes of this dissertation is that the primary positive aesthetic value of lapis lazuli put forward by Winter in this article and elsewhere is one that is once again based largely on physical luster and ability to shine. This dominant physical property of lapis lazuli closely connects it to gold and silver in how it was perceived in Mesopotamia and how it was incorporated into Mesopotamian conceptions of the sacred and the divine. Indeed, as was the case for gold and silver, lapis lazuli is consistently featured in texts describing images and other manifestations of the sacred, as well as being found in great abundance in archaeological contexts that are likewise related to the divine. In fact, much of what was said

180 See also Winter 1994, 1995.
above by way of cultural background for gold and silver in Mesopotamia can be just as easily applied to lapis lazuli. The three materials are frequently – I would even say most often – mentioned or found together in contexts related to deities and temples. And, just as with gold and silver, modern scholarship more often than not assigns to lapis lazuli, depending on context, the role of a metaphor for the sacred or the divine rather than an agent thereof. When direct agency is acknowledged, it tends to be framed in terms of magical, political, or social rather than sacralized or divine efficacy.

In an attempt to understand whether lapis lazuli had the potential for agency in the way that I argued was true of gold and silver, I must rely almost exclusively on cultural context and association without the help of linguistic or geological support. There is no lexical hint of purity, shine, sacredness, or immutability for lapis lazuli in its Sumerian term, za-gìn, as there is in the qualifier kù for the Sumerian terms for gold and silver. Nor is lapis lazuli “pure” in any state. It is most often found embedded in marble and must be extracted with great effort from this matrix before it can be even begin to be worked,¹⁸¹ and even in its virgin state it is typically full of various inclusions such as pyrite and calcite, as well as trace amounts of other minerals.¹⁸² Thus, there is nothing inherently “pure” about the stone. It must therefore be the shine that can be achieved when polished that connects lapis lazuli to the two metals with which it is so frequently featured in texts and in artifacts. However, if one returns to Horowitz’s observation above, that the virgin or unworked state of materials is the critical one in terms of assessing value and efficacy, it is difficult to make sense of lapis lazuli’s attraction in this context. In its unworked state, it is rather dull and waxy. Its lacks luster. It is therefore not possessed of inherent shine

¹⁸¹ Moorey, pp. 86–87.
¹⁸² Ibid., p. 85.
anymore than it is possessed of inherent purity. It is only by working the stone, by polishing it – by means of human intervention – that the material takes on the luster for which it is known and admired in Mesopotamia. Furthermore, stones – unlike metals – cannot be fully reconstituted once fashioned into objects. Metals can be melted down and reused; stones can be reused only in so far that the next product is smaller in mass than the first. There is always some loss of material. Thus, it is also not immutable. Is this perhaps why the Sumerians did not assign a qualifier such as kù to the term for lapis lazuli – because there is no inherent purity or shine or immutability? Does this bring one back to the aspect of inherency that was so strongly stressed in the sections on gold and silver?

Yet, the contextual evidence firmly points to lapis lazuli being used and placed on a nearly analogous plane with gold and silver, especially when the context is a ritual or cultic (divine) one. If one returns to the many textual and archaeological examples given earlier for gold and silver, one would find lapis lazuli mentioned or found in a great majority of them and in the same conceptual contexts as the two metals. For example, it is found in temple foundation deposits that include segments of raw or unworked stone and metal; cited in texts that imply the sacredness or even divinity of certain stones and metals, or at least that of objects made out of certain materials in part because of those materials; functioned as a medium for the purifying of the clay pit and “holy water” in documents such as the mīs pī and assorted esoteric and ritual texts; used in the building of temples, as a material uniquely appropriate to a divine abode and its divine efficacy; employed for the fabrication of objects intended for cultic use; designated as a raw material that was kept in temple storehouses, inventoried by temples as the property of the deity, or referred to in literary and administrative texts as belonging to the deities themselves;
and attested in literary compositions from a variety of periods in terms that are logically best understood as closely associated with the sacred or the divine.

While lapis lazuli does not seem to be inherently kù, or at least does not have kù lexically embedded into its Sumerian term, at times the term for lapis lazuli, za-gin, is used synonymously with the term kù or ellu – for instance, when referencing the lustrous sheen of a temple.¹⁸³ Lapis lazuli can also be qualified by kù or ellu.¹⁸⁴ Both of these constructions make sense in that the stone is also frequently coupled, physically in art and architecture and conceptually in literary texts, with the metals that do contain kù and that shine. Winter has presented in detail the aesthetic appeal of the dark, lustrous sheen of worked lapis lazuli, especially as it contrasts to the light brilliance of gold and silver.¹⁸⁵ There is little question that the luster of the stone is what relates lapis lazuli to the term kù in its aspect of shine, and also links it to the materials of gold and silver as well as to temples and other objects and images related to the sacred.

But why is lapis lazuli distinguished this way, in contrast to most other stones? Perhaps it is based on exactly the point made by Winter, that its aesthetic value accounts for this. Because of its hardness, opaqueness, and dark color, lapis lazuli naturally reflects greater sheen and luster when polished than do stones softer and lighter, and more translucent, in color. In fact, the stone can be so richly lustrous that it is at times described as “wet” looking.¹⁸⁶ Very few other stones known from the third to first millennia B.C. in Mesopotamia possess this quality of dark, rich, opaque color that can be brought to the same level of shine as lapis lazuli, no matter how much work is put into polishing. Hematite is one that rivals lapis lazuli in its ability to achieve a dark,

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¹⁸⁵ Winter 1999a, p. 48.
¹⁸⁶ Sjöberg 1988, p. 171
metallic luster but is not used much in the mid-third millennium B.C., the time of the Ur graves.\textsuperscript{187} As such, lapis lazuli not only rivals gold and silver in potential sheen but, as noted by Winter, also makes for an appealing, even arresting, visual contrast to them. Thus, while there is nothing inherently kù about lapis lazuli other than its opaque darkness which, in turn, allows for a particularly rich shine, the stone seems to have attained a conceptual and aesthetic equivalency to the metals that allowed for yet another semantic operation in which kù is indirectly applied to lapis lazuli by way of simile or adjective, versus the direct and inherent manner in which it relates to gold and silver.

The work of Erica Reiner on the “nature” of stones is useful in further examining how lapis lazuli might have been cognitively conceived in Mesopotamia.\textsuperscript{188} In studying the Akkadian text known as the “\textit{Abnu šikinšu},” a fragmentary but extraordinary document about stones and minerals – a handbook of sorts – Reiner reinterprets the term \textit{šiknu}, which had traditionally been translated as “form,” to mean “nature.”\textsuperscript{189} Her reasoning is based on evidence both internal and external to the handbook and related to the usage of the term that indicates it is “the material, the substance, the nature of the stone – its \textit{šiknu} – that gives it its power.”\textsuperscript{190} In other words, the power or efficacy resides not only in the form, or object, into which the material is made by human hands; the power or efficacy is also something physically inherent to each stone in its raw or natural, material state. Reiner cites the example of human-headed bull guardians in Assyrian palaces that are clearly apotropaic in function and more often than not considered so primarily

\textsuperscript{187} Moorey 1994, p. 84.
\textsuperscript{188} Reiner 1995.
\textsuperscript{189} See \textit{CAD Š}: 436–39, \textit{šiknu}, where the term is translated as “outward appearance;” see also Oppenheim 1977, p. 203, where he uses the word “nature” for \textit{šimtu}, the earlier transliteration of the term.
\textsuperscript{190} Reiner 1995, p. 120; contra Friedel 1993 (with respect to materiality in a broader sense).
because of their form. However, combining various inscriptions concerning the making of these sculptures and information contained in the handbook on stones, Reiner concludes that it is not simply the form of the statues that was deemed important to their efficacy; the materials with which they are made were thought to be equally so.

Reiner’s analysis contributed significantly to the way materials were conceived of in the scholarship on Mesopotamian artifact production. The medium was no longer seen as a matter of aesthetic, ideological, symbolic, or practical choices alone; it could be considered agentive – integral to the very functioning and efficacy of the finished object, especially one that was intended to have magical or apotropaic powers. The individual property of each stone, its “nature,” could be as much responsible for the activation of an object’s efficacy as was its form. The conceptual aspect of this is indicated in descriptions of the making of divine statues, where the materials needed for production were clearly specified and given detailed attention, and in ritual texts such as those discussed above, in which materials were integral to efficacy of the ritual. However, in a majority of scholarly discussions about the fashioning of objects and buildings, materials are considered to have been chosen primarily for their decorative appeal, symbolism of prestige, and metaphorical associations. In other words, materials are thought of as primarily reflective. This is especially so for elite artifact production.

Additionally, Reiner’s insight into the nature of stones fits well with the many textual sources that refer to certain materials with exceptional reverence and makes sense of the fact that these materials were given repeated and extraordinary importance, even personality in some

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192 See also Postgate 1997, p. 214ff., for similar commentary on the text known as “Abnu šikinšu.”
193 Again, see also Postgate 1997, especially p. 211, for the implied recognition in Mesopotamia of the intrinsic – and active – properties and/or qualities of substances/materials beyond those of appearance and function alone.
cases, and certainly potency. The epic known as *Lugale* exemplifies this unique Mesopotamian worldview by featuring as its main characters a variety of stones in their natural (wild) settings that either participate, or not, in a mythical uprising against the god Ninurta and the urban (civilized) centers he represents.\textsuperscript{194} The story is remarkable for its personification of natural materials – materials that are given the ability to act in ways both good and bad.\textsuperscript{195} When considered together with the handbook on stones “*Abnu šikinšu,*” it becomes clear that this personification was more than a literary device. The stones mentioned in both treatises – one scientific, one mythic – were thought to inherently embody power and agency of some sort. As was described earlier in this chapter with regard to foundation deposits comprised of pieces of gold, silver, lapis lazuli and other materials, it is crucial to note that the power of stones featured in the “*Abnu šikinšu*” and in the myth *Lugale* was likewise associated with or assigned to the stones before they were formed into objects or buildings. In the case of *Lugale*, the stones are not only in their unformed, natural and raw states, they are still in their geological settings and therefore not yet even procured. I stress this distinction once again – here with the aid of Reiner’s study – to underscore the premise that materials in Mesopotamia were clearly seen as potentially active and performative, independently of any finished product they might become.

Of even greater interest for the discussion here is that the plot of *Lugale* ends with the god Ninurta’s victory over the revolt of the stones and with his judgment of each stone’s behavior during the episode. By way of Ninurta’s evaluation, the functions and associations of each stone within the Mesopotamian cultural sphere are also revealed and explained. Noteworthy is that Ninurta decides upon the value and function of each stone; they are not routine or

\textsuperscript{194} Van Dijk 1983; Black et al. 2004, pp. 163–80; see also *ETCSL* 1.6.2 for the electronic version of the same.

\textsuperscript{195} See also Postgate 1997, p. 214ff., for commentary on the nature of stones in the *Lugale.*
practical designations made by mortals. Furthermore, a small group of stones is singled out for their allegiance to Ninurta during the revolt and rewarded by being permanently assigned to the realm of the gods.\(^{196}\) Included among these is lapis lazuli. Some scholars interpret this reward as a divine blessing of some general sort;\(^{197}\) others see it as a full exaltation or consecration of the stones – in other words, as an act of making them “holy.”\(^{198}\) Moreover, the stones honored in this way are described as worthy of being “decorated with precious metal.”\(^{199}\) Is one to understand this as a literary (and possibly a theological) equation of some sort, in which lapis lazuli and the other “good” stones are being elevated to a status already and otherwise attained by gold and silver? And since all of the action takes place in a divine sphere, is one to assume that a sacred or even divine nature and hierarchy for all of the blessed or consecrated stones is being described, or perhaps explained and justified, by way of this epic?

Aspects of this key passage of *Lugale* seem to echo the description in the text cited earlier on lapis lazuli and temples, where za-gin acts as a synonym for kù but is not kù itself. Here, too, gold and silver seem to “exist” in the exalted sphere, as if innately or naturally so; lapis lazuli, on the other hand, must be assigned and elevated to that level with the help of divine intervention. It thereby becomes “like” gold and silver but is not inherently so. Thus, both the Sumerian term for lapis lazuli and references to it in literary sources seem to support its essential physical difference from the materials of gold and silver. It is considered like gold and silver and therefore like kù, but its “kù-ness” could only be produced with the help of human (or divine) intervention. Lapis lazuli simply does not possess purity, shine, and immutability as inherent

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197 Winter 1999a, p. 49.
properties. As such, it seems that lapis lazuli was perceived to have a quality like holiness, sacredness, or divinity, achieved through its mediated luster rather than through its inherent luster. However, this sacred- or divine-like quality should not be confused with the role of metaphor for the sacred or the divine most often allotted to lapis lazuli. The operation I am suggesting here is one of comparing the active material properties of lapis lazuli to the active material properties of gold or silver – by way of simile – not to finished objects that are holy or sacred by virtue of their functional relationship to the divine and whose media merely reflect the sacred or the divine. As with gold and silver, the properties and qualities of lapis lazuli seem to have been carefully observed, deliberately assigned, and any associated potential agency clearly meant to reside in the material itself, as well as – but not just – in the object it could become. Amazingly, the nuanced semantic differences between the Sumerian terms for gold, silver, and lapis lazuli thus fit well with the nuanced physical differences inherent to their properties and with the similarly nuanced qualities assigned to them in the Mesopotamian cultural mindset.

However one chooses to read the myth *Lugale*, it is nonetheless apparent that in Mesopotamia certain stones were assigned powers beyond that of an inanimate substance. *Lugale* may therefore represent the best evidence of all for the agency, even sacralized or divine agency in this context, of particular stones and therefore their potential sacralized or divine agency in other contexts as well. And, as was demonstrated for gold and silver, this perceived power of lapis lazuli, as a material, was thus logically harnessed for various cultic activities and

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200 This is not to say that stones, as well as gold and silver, were not also employed as metaphors for the divine, especially for the *melammu* associated with deities and their belongings (such as statues, temple, crowns, garments, etc.). The positive value of materials could clearly be concretized in different ways – see, for example, Cassin 1968; Bruschweiler 1987; Berlejung 1998, pp. 130–31; and Winter 1999a. Here, I would simply add that such values might take the form of both reflective and active agents.
treatises. In fact, the individual stones singled out in *Lugale* are remarkably similar in their listing to, once again: those found among segments of unworked stone in temple foundation deposits; to those used in the building of temples, as materials uniquely appropriate to a divine abode and its divine efficacy; to those employed for the fabrication of objects intended for cultic use; to those designated as raw materials kept in temple storehouses, inventoried by temples as the property of the deity, or referred to in literary and administrative texts as belonging to the deities themselves; to those used for the purification of clay pits and “holy water” in ritual texts; to those cited in esoteric texts that imply the sacredness or divinity of certain stones and metals, or at least that of objects made out of certain materials in part *because* of those materials; to those called for in the making of divine statues and their adornment; and to those attested in literary compositions that are logically best understood as closely associated with the divine. These textual and archaeological examples have all been mentioned and cited with reference to gold and silver but pertain equally well to the material of lapis lazuli under discussion here. Thus, the role of lapis lazuli in the sphere of the sacred is as consistent as that of gold and silver, with its consistency likewise spanning several millennia.

Of the numerous examples above, the *Epic of Gilgamesh* is especially worth mentioning in the context of lapis lazuli and its possible elevation to a sacred- or divine-like quality as suggested in *Lugale*. The Gilgamesh narrative is filled with references to precious materials, most conspicuously those highlighted in this dissertation – gold, silver, lapis lazuli, and carnelian. In the majority of these mentions, the materials relate to objects being made and given to the gods or for objects otherwise associated with the gods and their realm. A great many of these are being produced for Enkidu, upon his death, to take to the Netherworld as gifts to the

\[^{201}\text{George 1999.}\]
deities who reside there, as a means of winning their goodwill. The listing of these gift items represents an extraordinary insight into what was deemed appropriate to give the gods and goddesses of Mesopotamia and once again makes clear that the materials selected for the gifts are as important as the type or form of the objects. In a similar vein one might recall the fruit trees laden with lapis lazuli and carnelian encountered by Gilgamesh towards the end of his journey. They are described as belonging to the gods and once again, are not just of the same materials that have been discussed over and over, but are alive and active, quite literally so, bearing fruit despite the fact that they are trees of gems and not truly vegetal in nature:

“…there was brilliance:
he went straight, as soon as he saw them, to…the trees of the gods.
A carnelian tree was in fruit,
hung with bunches of grapes, lovely to look on.
A lapis lazuli tree bore foliage,
in full fruit and gorgeous to gaze on.”

One could argue, and rightfully so, that these materials are all precious ones and therefore appropriate for the divine because of their great value and prestige, and that their appearance here is again primarily metaphorical; however, the repetitive and active nature of the materials in the context of this passage, in combination with their presence in so many other instances related to an active sacred across the Mesopotamian cultural spectrum, suggest the strong possibility that something beyond – or at least in addition to – value, prestige, and metaphor is being communicated.

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202 One might compare this to the format of the Fara God Lists (Krebernik 1986; Selz 1997), where the material that a deified object was made of was in most cases specified, ostensibly for a reason.
203 George 1999, p. 75, Tabl. IX, ll. 171–76.
On a final note specific to lapis lazuli as a personified and active entity or agent, such as was presented in *Lugale*, several other texts should be briefly mentioned. For example, in one particular hymn to Inanna, carnelian and lapis lazuli are “made stand to be admired,” in other words, worshipped – paralleling the act of the consecration of certain stones, as evoked in *Lugale*.204 Additionally, there is a passage from *The Descent of Inanna* which links the materials of gold, silver, lapis lazuli, and boxwood with the life and death of Inanna herself, thereby seeming to suggest that the materials had both “life” and divinity of some sort and would “die,” were she to die.205 A similar logic of “living” stones is conveyed in other texts, where lapis lazuli is considered the stone of speaking and hearing, or communication with the gods.206 Also relevant are the Fara God Lists mentioned earlier in this chapter, in which materials are integral (and therefore frequently specified) to many of the deified objects recorded,207 much like was seen for materials and objects made for Enkidu’s funeral in *The Epic of Gilgamesh*.

The connection of lapis lazuli to the goddess Inanna/Ishtar is a particularly strong one in Mesopotamia. In this context the Sumerian composition known as *Love in the Gipar* or *Meeting in the Storehouse* is exceptionally revealing.208 The verse constitutes a wonderfully detailed description of the cultic or ceremonial dressing of Inanna via an abundance of ornaments and other adornment,209 with references to lapis lazuli – raw and finished – predominating.

Furthermore, the ornaments for the occasion are being taken from huge “heaps” of gems or

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207 Krebernik 1986; the “divine lapis lazuli necklace” is one of many examples from the Fara God Lists where it is clearly indicated that the material is essential and fundamental to the object and possibly to its deification too. See also Selz 1997 for a further treatment of this topic.
209 This ceremonial dressing of the deity will be referred to again in the final chapter as it could easily be considered cultic adornment of the sort that will be discussed there.
stones, and lapis lazuli is clearly singled out as the stone most gathered from this heap. In fact, at one point in the story, Inanna is referred to as “she of the lapis lazuli stones gathered on/over the heap,” a designation remarkably reminiscent of the much later equating of stones with deities in esoteric texts where Ishtar is more directly equated with lapis lazuli. The stones and ornaments, and thus Inanna, in this composition are meant to represent the date harvest and its storage in “heaps” in Inanna’s storehouse and temple, the abundance of which is traditionally one of the primary roles of Mesopotamian deities and cult in general and Inanna most especially. Thus, the stones in this text – lapis lazuli in particular – both decorate the body of the goddess and embody the identity of the goddess, including the abundance for which she is responsible. In a similar vein, the lapis lazuli “heap” can be understood as her storehouse or temple, which we know was also adorned, like Inanna herself, with lapis lazuli in its actual form. The material of lapis lazuli therefore seems to both adorn the goddess and the temple and embody or personify each of them. Again, a related point will be made in the conclusion with respect to Pu-abi.

Jacobsen has described the situation eloquently: “In the text, however, the relationship between harvest and storehouse has been overlaid with anthropomorphic imagery. The date clusters that are to adorn the shelves of the storehouse become ritually experienced as traditional feminine adornments and jewelry such as would be suitable for deck out a human bride, and the heap from which they are taken comes close to becoming a jewel shrine of sorts.”

The conceptual operation expressed here is a sophisticated one and the directions of agency manifold, the full significance of which is very much worth exploring further at some future point. Suffice it to say that the materials as well as the finished jewels, adornment, and

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211 Livingstone 1986, p. 177, where lapis lazuli is equated with Venus, one of the aspects of Ishtar.
212 Jacobsen 1976, p. 37; see also Miller 2000, especially p. 151ff.
temples they become are not simply decorative and/or indicative of wealth and prestige, nor are they mere reflections of or metaphors for the sacred or the divine. They are very much active, alive, and agentive in the cultural mindset in which they exist. This has been the case with so many of the examples discussed thus far for gold, silver, and lapis lazuli – in manifestations both textual and archaeological – especially as concerns the cultic in Mesopotamia.

CARNELIAN

Much of the information presented for lapis lazuli applies to carnelian as well; therefore this section will be brief, concentrating on the similarities and contrasts of carnelian to lapis lazuli and the few ways in which it distinguishes itself altogether from the other materials discussed thus far. Carnelian is a translucent, reddish-orange-brown stone that, like lapis lazuli, seems to have been most appreciated for its hardness, color and sheen, thus ranking right behind lapis lazuli in terms of its attraction in ancient Mesopotamia. The stone belongs to the chalcedony category of quartzes, which come in different colors depending on the mineral impurities found within them – iron oxides being the most prominent type in carnelian. In the Sumerian language carnelian is denoted by the term NA₄.GUG (or na₄.gug); the Akkadian equivalent is the term sāmtu.

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213 See Moorey 1994, especially pp. 97–98, for a thorough description of carnelian from its ancient and modern sources to its recovery, scientific composition and properties, techniques of workmanship, and appearance in the textual and archaeological records. I will not be covering all of these aspects in a general sense here but refer you to Moorey as an excellent resource.
In a similar fashion to gold, silver, and lapis lazuli, carnelian has been the focus of an overwhelming amount of scholarship concentrated on its economic values and the accompanying symbolic value of prestige and is often found in the same context – textually and archaeologically – as those materials. In turn, and also like the case for gold, silver and lapis lazuli, the element of prestige is what is most often credited with further informing the use of carnelian for religious, royal, and elite artifact production, ritual and magical formulae, and foundation deposits, among other applications. While prestige certainly accounts for a component of carnelian’s functional capability, once again it is by no means the only element. It is worth mentioning, however, that unlike gold, silver, and lapis lazuli, carnelian is, to my knowledge, never featured as a metaphor for the shine and divine radiance of gods and temples. This is an important point, as it speaks directly to the properties of carnelian, which will be discussed further below. The role of carnelian in the trade networks of the ancient Near East, again like that of lapis lazuli, has also been the topic of much scholarly discussion, especially due to its connections with the Indus Valley.216 While carnelian undoubtedly had many different functions and associations in Mesopotamia depending on context and period, its physical properties and the operation by which those properties might (or might not) manifest or embody the divine are what will be the focus here.

Carnelian as a material was clearly used very similarly to gold, silver, and lapis lazuli, especially when the context was a ritual or cultic (divine) one. If one returns to the many textual and archaeological examples given earlier for gold, silver, and lapis lazuli, one would find carnelian mentioned or found in many of them. In general, carnelian most frequently appears together with lapis lazuli, as well as with gold and silver, in the same variety of contexts.

spanning from the third to the first millennium B.C. For example, it is found in temple foundation deposits that include segments of raw or unworked stone and metal; cited in texts that imply the divinity of certain stones and metals, or at least that of objects made out of certain materials in part because of those materials; functioned as a medium for the purifying of the clay pit and “holy water” in documents such as the mīs pī and assorted esoteric and ritual texts; used in the building of temples, as a material appropriate to a divine abode and its divine efficacy; employed for the fabrication of objects intended for cultic use; designated as a raw material that was kept in temple storehouses, inventoried by temples as the property of the deity, or referred to in literary and administrative texts as belonging to the deities themselves; and attested in literary compositions from a variety of periods in terms that are logically best understood as closely associated with the sacred and the divine.

Yet, like lapis lazuli but unlike gold and silver, carnelian does not seem to be inherently kù in any aspect and also does not have kù lexically embedded into its Sumerian term, gug. Nor does it appear as a synonym for kù or ellu, as does the Sumerian term for lapis lazuli. In order to begin understanding how carnelian might have functioned as a material, and as an artifact, it is once again crucial to look at its natural properties.

Raw carnelian generally does not exist in a pure form; it must be extracted from volcanic rock. However, it can also be collected in the form of small pebbles found in alluvial deposits, in which case it has been more or less extracted by nature and therefore could be considered relatively pure. Both varieties were sourced and procured in antiquity.217 The alluvial pebbles were clearly better suited to beads and inlay work than to larger scale objects, and indeed it is in this small format that artifacts made of or with carnelian are most often found archaeologically.

One might think that those who searched the alluvial beds for carnelian pebbles would have deemed them pure and “heaven sent,” as might have been the case for gold found in a similar manner. However, carnelian, like most stones, requires further working by flaking to achieve a usable piece of material. As with lapis lazuli, this process results in a certain loss of material. There is also a further loss of material encountered during manufacture into an object. As was mentioned in the discussion of lapis lazuli, metals can be melted down and reused at any time while stones can be reused only in so far as the next product is smaller than the first. Thus, carnelian was not  kube in the sense of inherent purity or immutability, any more than lapis lazuli was.

Furthermore, whereas lapis lazuli is so notably opaque and dark in texture and color, carnelian is generally more translucent and lighter, and therefore not usually capable of reflecting quite the same type of sheen and luster as lapis lazuli. Nonetheless, the raw carnelian used in Mesopotamia seems to have been less translucent than some carnelians, often appearing instead rather thick, dull and waxy – not unlike raw lapis lazuli in texture. It is therefore its lighter color that accounts for the fact that carnelian was not inherently able to produce the deep luster that lapis lazuli was able to, even after human manipulation, and it is quite likely that this property also prohibited carnelian from being synonymous with  kube in the way that lapis lazuli could be when denoting shine, luster, or brilliance. Carnelian was thus not interchangeable with gold, silver, or lapis lazuli when referencing the sheen of a temple, for instance. It was distinctly less lustrous than lapis lazuli and certainly less brilliant than gold or silver. It was capable of shine but not of a dark and lustrous or shiny and bright variety.
If carnelian was not inherently pure, shiny, or immutable in its natural properties like some or all aspects of gold, silver, and lapis lazuli, why and how was it so often combined with those materials in many contexts related to the sphere of the sacred or the divine? Here, I am not sure that I can offer a convincing answer. Perhaps the reasoning has to do in some measure with its textural and technological properties, especially as it pairs and contrasts with lapis lazuli. Carnelian and lapis lazuli share a similar hardness and resistance to wear. These properties combined with the thick, waxy surface already alluded to make carnelian and lapis lazuli appear oddly similar visually, despite their differences in color and shine. In other words, the two stones have a similar look and feel via their hardness and texture and thus make for an aesthetically comparable and pleasing combination, as well as one that allows for similar technological results when fashioned into objects. These aspects, added to the contrast of their red and blue colors, create an aesthetic appeal that is undeniable and very much related to yet distinct from the way in which lapis lazuli combines well aesthetically with gold and silver, as pointed out by Winter.\textsuperscript{218}

Thus, while there is nothing inherently kù about carnelian, the stone seems to have attained an aesthetic equivalency to lapis lazuli and perhaps thereby been enabled to combine conceptually, not just physically, with lapis lazuli, gold, and silver. As such, carnelian could be featured in the same contexts as the others, sometimes but not always qualified with kù as an adjective.\textsuperscript{219} While carnelian’s lack of properties associated with kù could be taken as a negative argument, it actually illustrates that the Sumerian designations made for all the materials discussed so far—gold, silver, lapis lazuli, and carnelian—are relatively consistent and seemingly purposeful in

\textsuperscript{218} Winter 1999a, p. 51.
\textsuperscript{219} See, for example, the usage of kù as a qualifier for carnelian in the composition known as The Death of Urnammu and His Descent to the Netherworld (Kramer 1967, l. 106, pp. 114, 119) or Urnamma A (Flückiger-Hawker 1999, l. 107, p. 120).
that the ways the materials appear semantically reflect quite accurately their differing natural, inherent properties.

So, if carnelian is not inherently kù in terms of its properties, how then was it perceived within the Mesopotamian cultural mindset? What qualities were seemingly assigned to it? Was it considered sacred or divine, or sacred- or divine-like, in any contexts? What sort of agency might have been associated with the stone, and in what circumstances? What is the “nature” of carnelian, to use the terminology from the “Abnu šikinšu?” These questions are a bit difficult to answer, especially since carnelian is so often featured with gold, silver, and lapis lazuli in exactly the same contexts discussed above as being related to the divine and in which those three materials are quite distinctly imbued or animated with some measure of sacredness or divinity in addition to reflecting it. In fact, the particular grouping of gold, silver, lapis lazuli, and carnelian – often to the exclusion of other materials – is a remarkably consistent one in textual references, ritual procedures, and artifact production. Yet, while some aspect of “kù-ness” seems to be inherent to the first three, none is truly so to carnelian in any immediately apparent way.

A brief review of some of the contexts related to the sacred or divine in which carnelian is most frequently found yields results that are almost identical to those discussed for lapis lazuli, and to a great extent, for gold and silver. For instance, as noted above, carnelian was included among the select few materials – gold, silver, lapis lazuli, carnelian, and sometimes slate and copper – buried as foundation deposits for temples from the third millennium B.C. through to the first millennium B.C. The operational efficacy of those materials in that context was discussed at length. Carnelian was also among the select few materials that were regularly used in cultic rituals such as the purifying of clay pits and holy water. Interesting, yet somewhat confounding,
is the role of carnelian in the ritual text to “block the entry of the enemy in someone’s house,” where carnelian was called for along with gold, silver, and agate but in which lapis lazuli was not required. This is a rare instance of carnelian being featured without lapis lazuli. Once again like lapis lazuli, carnelian was among the stones granted divine favor and seemingly deified, or at least consecrated, in *Lugale*. It was also one of the stones in the epic designated as worthy of being “decorated with precious metal,” which was discussed as perhaps indicating a literary (and theological?) equation in which all the “good” stones were being elevated to a sacred or divine status already and otherwise attained by gold and silver. This then fits well with the esoteric text mentioned earlier that lists certain materials with their “equivalent” deities. Carnelian is among those materials and equated with Ninlil. Furthermore, there exist numerous texts that list the jewelry inventories of deities and cult statues (an aspect of materials and adornment that will be dealt with in greater detail in Chapter V), in which carnelian is almost always featured alongside lapis lazuli, gold, and silver as one of the materials called for in the ritual animation of the divine statue. The same is true with many hymns and other compositions in which carnelian and lapis lazuli are referred to together, whether fairly literally in terms of their places of geological origin (such in *Enmerkar and the Lord of Aratta*\textsuperscript{220} or in *A Hymn to Inanna and Her Self-Praise*\textsuperscript{221}) or in terms that are more metaphorical and even active (such as in *The Epic of Gilgamesh*\textsuperscript{222} or in the verses *Meeting in the Storehouse*\textsuperscript{223} and *Ploughing with the Jewels*\textsuperscript{224}) – to name only two of the most frequent usages. Noteworthy is that the grouping in rituals and in literature of lapis lazuli and carnelian in particular and lapis lazuli, carnelian, gold, and silver in general is

\textsuperscript{220} Kramer 1952; Jacobsen 1987; *ETCSL* 1.8.2.3.
\textsuperscript{221} Sjöberg 1988; Geller 2002.
\textsuperscript{222} George 1999, p. 75.
\textsuperscript{223} Jacobsen 1976; Sefati 1998.
\textsuperscript{224} Black et al. 2004, pp. 84–86; *ETCSL* 4.08.09; this would be so only if the Sumerian šuba stone is truly carnelian.
remarkably consistent and quite tenacious, with similar combinations manifest in artifact production as well – especially artifacts related to ritual and cult. It thus seems unlikely that such dogged consistency is due to aesthetic considerations alone. While the operational values and agencies of gold, silver, and lapis lazuli could be surmised reasonably well, in terms of both properties and qualities, the corresponding role of carnelian in the grouping is not entirely clear. Nonetheless, it seems that in certain contexts carnelian was assigned a quality of sacredness analogous to that of the materials of gold, silver, and lapis lazuli.

A potential key lies in a detail from *Lugale* that was not mentioned in the section on lapis lazuli. In one passage of the epic, Ninurta addresses the “good” stones in “male and female form.”\(^{225}\) The idea that lapis lazuli and carnelian were gendered in Mesopotamia was brought up by Winter in reference to an Old Babylonian text on childbirth, and extended to the combination of lapis lazuli and carnelian beads found among the Ur jewelry, the fruit trees of lapis lazuli and carnelian featured in the *Epic of Gilgamesh*, and certain descriptive details from *The Descent of Inanna*.\(^{226}\) Winter suggests that the pairing of carnelian and lapis lazuli as reflected in both literature and in artifacts could be a coded reference for male and female union and its accompanying fertility, with carnelian most often coded female and lapis lazuli male. This notion makes certain sense for the examples offered by Winter and seems all the more logical given the information provided in *Lugale*. However, the designation of carnelian as female and lapis lazuli as male does not consistently apply to many of the other examples of paired carnelian and lapis lazuli that exist, some of which actually indicate the reverse. This does not necessarily mean that gender is not intended; it simply means that it is not as reliably assigned as one might wish.

\(^{225}\) Van Dijk 1983, vol. 1, pp. 42, 121, Tabl. 12, l. 534; Black et al. 2004, p. 176, l. 534; *ETCSL* 1.6.2, l. 534.

\(^{226}\) Winter 1999a, p. 52.
Here, I think of the above mention of Inanna/Ishtar being so very closely connected to lapis lazuli. One could explain this as related to her “complexly gendered identity,” as Winter has.\(^{227}\) On the other hand, this particular context is one in which Inanna is clearly feminine and in a sexual encounter with Dumuzi. Conversely, in the Sumerian song known as *Ploughing with the Jewels*, the oft mentioned šuba stones, suggested to represent carnelian, are thought by some scholars to be a metaphor for Dumuzi’s semen and thus resolutely male in gender.\(^{228}\) In either case, if gender were to be a factor, then once again there is a situation in which the stones – here lapis lazuli and carnelian – represent personified and animated materials that are also more often than not acting as or activating the divine. The issue will by no means be sorted out here; suffice it to say that the gender aspect may well contribute to our understanding of how these stones were used materially and conceptually but the manner in which it might do so is far from clear.

More to the point, in my mind, is the general fertility aspect mentioned by Winter, rather than the specific gender involved. The imagery of fruits, seeds, flowering trees – *abundance* in general\(^ {229}\) – is a repeated one in the context of how both carnelian and lapis lazuli were featured but perhaps one that refers more to the results – the offspring, so to speak – of male/female union than the genders themselves, whether vegetal, human, sacred, or divine in nature. Thus, carnelian and lapis lazuli (as well as other materials) could refer to such abundance equally and interchangeably. Such a notion would make sense in the context of the frequent connection and conflation of vegetation, abundance, jewelry, temples, deities, priestesses, the sacred, and the divine in general as conceptualized in art and literature. Suggestions along these lines have been

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227 Ibid., p. 52n48.
228 Black et al. 2004, pp. 84–86; *ETCSL* 4.08.09.
229 For the multiple ways of imagining, and imaging, abundance in Mesopotamia, see, for example, Winter 2007b.
made elsewhere$^{230}$ but not pursued much beyond general musings. Of particular importance here is that fertility and abundance were intimately associated with, and one of the primary responsibilities of, the divine sphere in Mesopotamia, thereby signaling how carnelian might have been perceived to correspond with gold, silver, and lapis lazuli as agents and reflections of sacredness or divinity in certain situations. In this light one might better understand how the fruit trees of lapis lazuli and carnelian in the *Epic of Gilgamesh*, the living male and female stones of *Lugale*, the jewelry of Inanna/Ishtar in *The Descent of Inanna/Ishtar*, the “heaps” of lapis lazuli featured in *Meeting in the Storehouse*, the materials included in foundation deposits which were tasked, much like vegetation, with “growing” the temple from the ground up, and the materials that then adorned the finished temple were all conceptually related – with their materials or media both reflecting *and* activating sacredness or divinity depending on the stage of production in question. In the context of this dissertation, the materials and jewelry adorning Pu-abi would fit seamlessly into this paradigm, as will be discussed further.

**AGATE**

As stated at the beginning of this chapter, agate will be dealt in a cursory manner because it does not qualify as one of the predominant materials in Pu-abi’s overall assemblage of ornaments although it does constitute a significant portion of the beads that make up her so-called cloak. Like carnelian, agate is classified with the chalcedony group of stones, which in

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turn are a variety of quartz, but belongs to a subset that is distinguished by a banded structure.\textsuperscript{231} This banding gives agate a distinctive look that made it particularly popular for eye beads, both for votive and ornamental purposes, from the early second millennium B.C. onwards. However, it is attested infrequently during the Early Dynastic period, the beads found strewn over Pu-abi’s body, possibly belonging to a cloak, being the most notable occurrence (Cat. no. 11; figs. 3, 9, 22). Also like carnelian agate requires extraction and additional work to produce usable segments, possesses a lovely but light color and therefore attains a shine that is considerably less lustrous than that of lapis lazuli, and has a hard and wear-resistant surface that allows for a similar visual and technical manifestation as lapis lazuli and carnelian.

A significant problem for the discussion of agate is that it is not entirely clear how the stone is denoted in the Sumerian and Akkadian languages. The Sumerian terms NA₄.DUḪ.ŠI.A and NA₄.NÍR have been suggested, with \textit{dušû} and \textit{ḫulālu} being their respective Akkadian equivalents.\textsuperscript{232} Another possibility for its identification is NA₄.BABBAR.DILI (Sumerian) or \textit{pappardilû} (Akkadian).\textsuperscript{233} Assuming that one or several of these designations is indeed correct, agate can be considered to rank directly behind lapis lazuli and carnelian in the extent to which it was esteemed and valued and thus frequently shared a common context with them in literature, rituals, and art. For instance, it is included in the list of stones that were honored or consecrated in \textit{Lugale}\textsuperscript{234} and is featured among the semiprecious stones that represented vegetation in the garden of the gods in the \textit{Epic of Gilgamesh}.\textsuperscript{235} It is frequently grouped with lapis lazuli and

\textsuperscript{231} Moorey 1994, pp. 96, 99–100.
\textsuperscript{232} See \textit{CAD D}: 200–201, \textit{dušû}; see \textit{CAD H}: 226–27, \textit{ḫulālu}; for the identification of \textit{dušû} as agate, see Van Dijk 1983, vol. 1, p. 120.
\textsuperscript{233} See \textit{CAD P}: 107–9, \textit{pappardilû}.
\textsuperscript{235} George 1999, p. 75.
carnelian in late-period _namburbi_ rituals\(^{236}\) and is combined with gold, silver, and carnelian for
the ritual “to block the entry of the enemy in someone’s house.”\(^{237}\) It is called for as a material to
be fashioned into jewelry in the _akītu_ ritual\(^{238}\) and for votive and dedicatory objects in cultic
settings, especially from the Ur III period onwards.\(^{239}\)

However, there is little evidence for agate in the period under discussion here apart from
at Ur itself and primarily from Pu-abi’s tomb, making it difficult to access what about agate
might (or might not) have qualified it to rank alongside the other sacred or sacred-like materials
discussed thus far. The reasons for its obscurity in the Early Dynastic period may simply be due
to a lack of sourcing or availability. Nonetheless, agate is clearly represented among Pu-abi’s
materials and ornaments. It is thus possible that the appearance of agate at Ur in Pu-abi’s
assemblage marks the beginning of its use in settings and contexts that involve ritual and cultic
activities – culminating with its prominence in the Neo-Assyrian and Neo-Babylonian periods of
the first millennium B.C., such as in the jewelry recently discovered in the tombs of Assyrian
queens at Nimrud.\(^{240}\) I would therefore argue – despite the meager evidence – that the inclusion
of agate at Ur in middle of the third millennium B.C. gives it both a contextual and conceptual
similarity to gold, silver, lapis lazuli, and carnelian and therefore the possibility that it was
assigned equivalent status and agency. However, without more conclusive linguistic or
archaeological information, this is admittedly a speculative proposal.

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\(^{236}\) Maul 1994, especially pp. 43, 107, 122–23.
\(^{238}\) Bidmead 2002, p. 54.
\(^{239}\) Moorey 1994, p. 99; see also Loding 1974, p. 30, especially n46, for mention of agate being inventoried along
with gold, lapis lazuli and other materials.
\(^{240}\) Hussein and Suleiman 2000; Curtis et al. 2008.
CONCLUSION

Having set out to study Pu-abi’s jewelry at the material and technological levels, I have now addressed the first component, or stage, of its production sequence. Materials in this chapter have been investigated first and foremost for what constitutes their inherent, physical properties versus what might have been their assigned, mental qualities in the context of ancient Mesopotamia, and to what extent these may have been lexically indicated. In doing so, properties and qualities were understood not as separate entities and operations but as an interconnected system able to activate agency(ies) in the materials themselves, as well as (but not only) in the finished objects that were fashioned out of those materials. In fact, the materials in question were considered animate enough to perform active semantic functions. They embodied, acted, described, and compared – as if also nouns, verbs, adjectives, and similes. As such, the given materials could be “read” as reflective, agentive, or both.

The embedding of such semantics in media other than literature is typical of the multivalent logic that governs Mesopotamian thinking, as is the animation or personification of materials as witnessed in *Lugale*, for instance. What immediately comes to mind regarding such schemes is Winter’s application of Gell’s notion of “distributed personhood” or “distributed agency” to Mesopotamian objects that were “considered the equivalent of persons, capable of acting on and for their social universes…conceived as animate, hence as having the same agency as living entities.” Winter even goes beyond Gell’s own contributions to distinguish between “agency marked and agency ascribed,” where the marked agency is the agency embedded in the cultural practice itself, or even in the grammar of the original language. Her arguments are, as

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241 Winter 2007a, p. 42.
always, insightful and convincing but generally restricted to finished objects, to completed works of art, especially ones that are inscribed. What I have attempted to do here is to extend the possibility of culturally assigned animation or agency to the media of images – in both literary and visual contexts – and to investigate if the activation of these images can be found to generate from the materials themselves, as primary agents both marked and ascribed. As will be shown in Chapter IV, analogous semantic values and marked agencies are likewise embedded in the techniques used to make Pu-abi’s gold, silver, lapis lazuli, carnelian, and agate jewelry, thereby doubling the potency and agency – and sacredness? – that potentially reside within the materials. The “reading” of Pu-abi’s jewelry in the archaeological record thus begins well before a single piece of jewelry is examined in its completed form.
“I brought carpenters, jewelers, copper smiths, seal cutters, skilled craftsmen, who know the secrets, into the temple...”

~Esarhaddon’s Renewal of the Gods

INTRODUCTION

Before examining the making of Pu-abi’s jewelry, however, it will be useful to briefly consider who was doing the making and how such people were perceived in the mindset of ancient Mesopotamia at large and at Ur in particular, if possible. While the primary focus of scholarship on craftspeople in Mesopotamia revolves around the economic and administrative aspects of the crafting professions, due to the enormous amount of textual documentation available, the ample evidence pointing to a ritual, even magical, element to crafts and their makers in certain cultic contexts has also been widely considered.

The idea that craftspeople of varying sorts could be considered ritual technicians rather than merely practical producers of objects is a long-held one in many cultures throughout many periods of history. Ross addresses the idea with regard to third millennium B.C. gold- and silversmiths in Mesopotamia, the Sumerian kù.dilm, by paraphrasing Heather Lechtman:

“Production may also require special ritual knowledge about materials and objects, knowledge..."
that belongs to the smith in part through her or his power to transform materials.”244 Mary Helms has, of course, contributed hugely to the discussion of crafting (specifically “skilled crafting”) and its connections to the supernatural in many traditional societies and cultures, including brief comments on such manifestations in the ancient Near East.245 She points out that in The Epic of Gilgamesh, for example, skilled craftsmanship was taught to artisans by a divine personage246 – much like in the Erra Epic of the first millennium B.C. that will be mentioned below.247 The Gilgamesh story is theoretically an early one – first attested in writing by the early second millennium B.C. but possibly stemming from sometime in the third millennium B.C.248 – so we once again see an extraordinary consistency through time when it comes to the relationship between materials, crafting, and the sacred or the divine.249 In fact, certain deities in Mesopotamia were themselves artisans, or gods of crafting,250 so the power (whatever its source and definition) attributed to the process of crafting and to the craftsperson in charge of the process was not unlike that accorded to materials in certain contexts.251 Similarly, Winter has highlighted the “value of skilled production”252 in Mesopotamia by examining the emphasis on

244 Ross 1999, pp. 56ff.; see also Lechtman 1977.
245 Helms 1993; see also Winter 1995, 2008b.
246 Helms 1993, pp. 1–3; see also Ataç 2010, p. 150ff.
247 Cagni 1977.
248 George 1999, pp. xvi, 141; see also George 2003 for possible ED IIIa tablet fragments containing lists that mention Gilgamesh the person (pp. 4–6), albeit not in a context recognizable as the Gilgamesh epic, and for George’s conviction that a version of the Gilgamesh story existed by the end of the third millennium B.C. (p. 7): “…we can be reasonably certain that the other Gilgamesh poems were once, like Bilgames and the Bull of Heaven, part of the literature of the Ur III period.” I thank Sarah Graff for the George 2003 reference.
249 Here again I bring up Stefan Maul’s article (Maul 1997, p. 8) on the primeval quality of the Mesopotamian worldview, in which workshops – which housed the craftspeople – were represented as the primeval location where the gods had been born.
250 See, for example, Winter 2008b, especially p. 334, and Ataç 2010, p. 150ff.
251 In addition to the Epic of Gilgamesh and the Erra Epic, see also, with regards to goldsmithing in particular, the Early Dynastic period Fara God Lists which mention a “Divine Lady Jeweler” (Krebernik 1986; Selz 1997, pp. 172–73) and the early second millennium B.C. text known as Enki and the World Order where the goddess Ninmug is referred to as the “metal-worker of the Land” (Black et al. 2004, p. 224; ETCSL 1.1.3).
the technical terminology and the role of craftspeople that are embedded in Sumerian and Akkadian words and texts related to the making of objects – often assigning an efficacy to such skill and those who execute it that goes well beyond virtuosity and talent (see Chapter V for more on this topic). Aptitude and knowledge that borders on the supernatural or magical has long been recognized for the literary and scribal professions of Mesopotamia (which included astrology, exorcism, divination, medicine, and healing) and were even memorialized in image form, as has been most recently proposed by Mehmet-Ali Ataç within the context of Neo-Assyrian reliefs.253 Clearly, a similar capacity could have been accorded the crafting professions that produced these images when circumstances required “special” knowledge.

The above few examples are among the many expressing the notion that in Mesopotamia, as in many cultures, past and present, “crafting is believed to involve far more than technical expertise; that skilled artisans are in some manner or to some degree inevitably associated with exceptional powers;”254 and that a craftsperson, a smith in particular, could function “as a priest, artist, shaman, magician, initiator precisely because his work demands not merely manual skills but the esoteric knowledge to manipulate the dangerous forces at play in the extraction of ores and in their transformation into finished objects.”255 The ability of such specialists to mediate between realms in this manner is inevitably dependant on repetition, which in turn reaffirms that they are indeed capable of repeatedly activating the power that allows for such mediation,256 rather than having produced that power for a singular transformative event.

253 Ataç 2010.
254 Helms 1993, p. 53.
255 Ibid., pp. 59–60.
256 Ibid., p. 214.
Crafting or making – specifically the skilled crafting or making of Pu-abi’s jewelry – will be discussed in technical and theoretical detail in the following chapter; here, I want to introduce the premise that the Sumerian craftsperson (or –people) who fashioned Pu-abi’s jewels, in what will be demonstrated is quite notably a highly repetitive and seemingly prescribed manner, could potentially have represented more than the average practical expert simply executing his or her commercial profession for hire. The skilled crafting of Pu-abi’s jewelry, as it will be described and out of the animated materials already discussed, resonates well with the idea of ritual knowledge being involved in the production process of the particular corpus in question, thus making it possible, in this instance, to envision a ritual, magical, sacred, and/or divinely sanctioned role for its maker(s) as well.

**Gold (and Silver) Smiths**

At this point it may come as no surprise that the Sumerian word for a gold- and silversmith is KÛ.DÍM or kû.dîm (*kutimmu* in Akkadian),\(^\text{257}\) incorporating the kû that has been discussed at length already in the previous chapter. Interestingly yet perhaps predictably, it appears to be the title of a profession that applies most consistently to a craftsperson who works the materials of gold or silver, not to someone who works other metals such as copper or bronze. I say this despite clear evidence that the kû.dîm received deliveries of materials other than gold and silver – such as copper, bronze objects, lapis lazuli and other semi-precious stones – and that the

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profession of blacksmith (or metalworker) at times received gold and silver.\textsuperscript{258} This, to me, does not contradict the basic designation of the various professions, in that goldsmiths, for instance, clearly required and used copper to alloy their gold in many situations\textsuperscript{259} and needed stones and other materials to inlay, set, or otherwise incorporate into their creations. Similarly, blacksmiths (or metalworkers) often inlaid their work, such as weapons and statues, with gold and silver. Additionally, it seems that blacksmiths (or metalworkers) were also those who may have set stones into gold and silver settings\textsuperscript{260} once lapidaries had carved and polished the stones to be set. Exactly such divisions of labor are still in operation today in the field of jewelry production. Furthermore, as today, it is logical that assorted professions, or specialists, had to work together to accomplish any given assignment depending on the different techniques involved in the overall design, so that materials may well have been delivered to a specific craftsperson on a particular day because it was his or her turn to impart his or her specialty on the object.\textsuperscript{261} In short, the information contained in the accounting lists in no way confirms that the responsibilities of any one craftsperson were blurred; in my opinion, there is good reason for the professional designations and their respective crafts to remain distinct.

Thus, returning to the kù in kù.dim, it seems that once again material substances and those who worked them were rather precisely characterized in Sumerian, even within what we today might consider the single category of “metals” or “metalsmithing.” One cannot help but be struck by the knowledge of metallurgy implicit in the terminology itself – that the Sumerians

\textsuperscript{258} See, for example, Van De Mieroop 1999, p. 112ff., on the accounting of materials delivered to an Ur III craft workshop.

\textsuperscript{259} See, for example, Hallo 1963, p. 139; Van De Mieroop 1986; and Moorey 1994, pp. 217–18.

\textsuperscript{260} See, for example, Goff 1963, p. 178; Sachs 1969, pp. 331–34; M. Cohen 1993, pp. 406–53; and Bidmead 2002, pp. 54–55.

\textsuperscript{261} See Neumann 1993 [1987], p. 69ff., for cooperation of craftspeople in the Ur III craft workshop.
clearly understood gold and silver to be different from other metals, just as the more scientific among us today understand them to be “noble metals,” as distinguished from other metals, and distinctly categorize them as such (see Chapter II).

However, beyond the lexical indication there is little concrete information on the gold- and silversmiths themselves during the Early Dynastic period or at any point during the third millennium B.C. Ross has briefly summarized some of what is known, likewise concluding that “in general, we possess much less evidence on the smith than on his products and consumers.”262 Because her dissertation ends with the Akkadian period, she does not include the information related to a craft workshop and its craftspeople derived from an archive dating to the Ur III period (ca. 2100-2000 B.C.) and excavated in the so-called Registrar’s Office in the É-dub-lá-maḫ complex at Ur.263 Among other contributions, this well-known archive provides a record of the materials allotted to the artisans of the workshop and lists the attendance of certain categories of craftspeople. From these accounts we know that precious materials such as gold, silver, and lapis lazuli were among the materials in use in the workshop and that gold- and silversmiths as well as lapidaries were among those specialists whose attendance was recorded there.264 The text also gives the names of the supervisors of the workshop. The archive is thus potentially important to our understanding of under whose auspices the gold- and silversmiths worked and to what supervising institution their materials were distributed – the temple, the palace, or perhaps both. Based on the literary, archaeological and philological evidence for materials

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263 Later analysis of the field notes revealed that the tablets of the archive found in the “Registrar’s Office” were not necessarily original to that find spot in the É-dub-lá-maḫ complex (see Legrain 1947 and Jacobsen 1953); nonetheless, the archive itself seems to reflect a coherent record of a single workshop (see Loding 1974, 1981; Neumann 1993 [1987], pp. 33ff.; and Van De Mieroop 1999 for further treatments of the archive).
264 Loding 1974; for a summary of the evidence for gold- and silversmiths (kù.dim) attested in the archive, see pp. 271–75, and for lapidaries (za.dim), see pp. 275–82 and Loding 1981. On the categories of craftspeople and general organization of the craft workshop at Ur, see also Neumann 1993 [1987], p. 31ff., and Van De Mieroop 1999.
presented in Chapter II and on the Sumerian term for gold- and silversmith also being qualified with kù, the expectation might be that the temple controlled both the materials and the makers—thereby linking them more substantively, and certainly more closely, with the sacred.\textsuperscript{265} However, this is not to be the case.

Darlene Loding\textsuperscript{266} and Thorkild Jacobsen\textsuperscript{267} both studied and wrote about the Ur III archive, each with a special interest in discovering whether the archive—and therefore the workshops—formed part of the temple or palace (royal) administration; but unfortunately, they reached completely opposite conclusions. Jacobsen determined that the archive was a palace-administered one based on, among other details, entries of raw materials and offerings that were deemed to be royal property, while Loding favored a temple-administered perspective based primarily on the fact that one of the supervisors most likely represented temple personnel. Marc Van De Mieroop has summarized both arguments in the introduction to his study of a later, early Isin period craft archive and workshop,\textsuperscript{268} favoring Jacobsen’s assessment of the Ur archive over Loding’s. Henri Limet had also weighed in previously to Jacobsen and Loding, concluding that in the Ur III period craftspeople, including gold- and silversmiths, worked for both palace and temple and possibly even as independents, thus serving a variety of both elites and elite institutions.\textsuperscript{269} Finally, Hans Neumann has interpreted the Ur III workshops at Ur as being under palace control but possibly administered and run by the Nanna-Ningal temple complex and its

\textsuperscript{265} Further problematizing this potential assumption is that the Ur III gold- and silversmiths were in the same craft workshop and administrative category of craftspeople such as leatherworkers and reedworkers, for instance—professions whose Sumerian titles were not qualified with kù (see, among others, Loding 1974, pp. 271–75; Neumann 1993 [1987], pp. 35–37; and Van De Mieroop 1999, p. 112).

\textsuperscript{266} Loding 1974.

\textsuperscript{267} Jacobsen 1953.

\textsuperscript{268} Van De Mieroop 1987, pp. xii–xiv; see also Steinkeller (1996, p. 251) who sees the work of the kù.dím in the third millennium B.C. as being done almost exclusively for the state.

\textsuperscript{269} Limet 1960, pp. 170–71, 240.
personnel, based on the concept that the temple was likely a significant and integrated component of the royal economy during the period in question.\textsuperscript{270} Thus, both sectors (if not private ones as well) were being served by the workshops’ manufacture of elite luxury goods and cultic paraphernalia.

Another, albeit isolated, late third millennium B.C. document mentioning a transaction with a goldsmith was found in the Ur III level of the Inanna Temple at Nippur.\textsuperscript{271} In this text the goldsmith received various gold objects as well as raw gold for the purpose of “putting a new ‘skin’ on the statue of Inanna.”\textsuperscript{272} Furthermore, the materials were approved for disbursement and delivered by at least one chief administrator of the temple. It would appear that in this case one could argue for the goldsmith being under temple control and employ; however, Richard Zettler concludes that: “Isolated as it is, the text is of little value in assessing the relationship between the temple and the goldsmith.”\textsuperscript{273}

What is ultimately clear from these few sources and perspectives is that the exact relationship between the gold- and silversmith and his employer, as well as the exact relationship between temple and palace in terms of the economic and administrative functioning of Ur towards the end of the third millennium B.C., need further study and illumination. However, there is evidence that the traditional temple economy of southern Mesopotamia that existed during much of the earlier part of the millennium had largely shifted to a more palace-administered system by the time of the Ur III period.\textsuperscript{274} Albeit without the help of extensive

\textsuperscript{270} Neumann 1993 [1987], pp. 37, 70.
\textsuperscript{271} Zettler 1992, p. 231.
\textsuperscript{272} Ibid.; one might compare this mention of covering a statue with gold to a similar example of the practice from Ebla (see Archi 1990).
\textsuperscript{273} Zettler 1992, p. 231.
\textsuperscript{274} Van De Mieroop 2007 [2004], p. 73ff.
archives such as those mentioned above or ritual texts mentioning materials and artisans such as existed in later periods, Ross has determined from assorted archaeological and textual evidence a reasonable history of precious metals production from the Uruk through Akkadian periods in Mesopotamia.  

This history reflects the consumer side of the equation more so than that of the maker or smith; however, it is nonetheless useful for understanding the overall economic and political functioning of the area during this time span and thereby gives us some sense of the trends associated with the production, use, and control of gold and silver. In Ross’ assessment, the consumers in the Uruk period were overwhelmingly temple institutions; in the Early Dynastic period, an unclear combination of, or division between, temple and palace institutions; and in the Akkadian period, increasingly the palace and even private individuals.

For the Early Dynastic period, with which I am concerned in this dissertation, Ross points to a distinct shift from the early Dynastic IIIa period to the Early Dynastic IIIb period in terms of patterns of precious metals production, use, and control. This shift was characterized by an increase in the use of silver as currency, thereby triggering an associated shift towards a more commercial rather than cultic value assigned to the material, while gold remained a material more “restricted” in its use.

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275 Ross 1999 (summarized on p. 365).
276 Ibid., pp. 72–136, with summary on p. 362 where Ross adds that it is likely that precious metal production also took place within the temple precinct, thereby suggesting that gold- and silversmiths were under temple control and administration.
277 Ibid., pp. 137–201, with summary on p. 362 where Ross gives some indication that she feels the consumers of gold and silver are still in large part the temple and the craftspeople (including the gold- and silversmiths) were in part or in full employed by temples.
278 Ibid., pp. 261–303, with summary on p. 363 where Ross is quite certain that by this time all metal smiths were largely under royal patronage and associated with royal power.
279 Ibid., p. 195ff.
the Early Dynastic period,\(^{281}\) with the same types of gold objects found in temples and tombs “making the line between religious and secular objects not entirely clear.”\(^{282}\) Ross concludes that “this overlap of secular and religious spheres in relation to both silver and gold is not surprising even in the late Early Dynastic, as political authority in southern Mesopotamia during this period still derived from links to the sacred.”\(^{283}\) In doing so, she underscores the fact that the transition from Early Dynastic IIIa to IIIb represents a pivotal moment in Mesopotamian political history in which the seat of rulership begins to shift from temple to palace and that gold and silver participated in this “delicate balance between new secular and traditional sacred leadership.”\(^{284}\) I point this out here as the Early Dynastic graves and tombs at Ur, with Pu-abi’s included, fall precisely into this chronological and political transition, and their assemblages of gold and silver jewelry therefore could also logically participate in the new political ideology that was developing. While this does not give us any further information on the role of the gold- and silversmith and how he or she was employed, I do believe that the historical context provides a backdrop for my argument that the Ur jewelry and the craftspeople who created it had agency beyond that discussed by Ross or beyond that typically presented in the scholarship on Ur.

In contrast to the lack of Early Dynastic textual evidence for or against gold- and silversmiths being associated with, or directly employed/controlled by, local temple administrations in southern Mesopotamia, there are once again many tantalizing texts dating to the first millennium B.C. that mention the profession of gold- and silversmith in ways that, like for the materials of gold and silver themselves, suggest its direct connection, at times and in

\(^{281}\) Ibid., p. 183.  
^{282}\) Ibid., p. 172.  
^{283}\) Ibid., p. 183.  
^{284}\) Ibid., p. 383.
specific circumstances, to temple institutions. Moreover, the gold- and silversmiths are portrayed in these particular contexts as not simply employed by the temple for the pragmatic execution of their craft but as actively participating in various aspects of the temple’s production or reproduction of the sacred and the divine. Again, these texts relate primarily to the making and adorning of divine statues, thereby providing a fortuitously clear and crucial glimpse into the jewelry and “golden garments” belonging to the cult images and into the role of the craftspeople fashioning them. I will show in Chapter V how one can make a conceptual, if not a close chronological, link between ritual functions of jewelry and its making known from certain first millennium B.C. cultic contexts and those from similar contexts dating to the middle to latter half of the third millennium B.C.

To set the stage here I can do no better than to quote Eiko Matshushima for a concise summary of the situation during much of the first millennium B.C., in which he describes in general terms the lives and responsibilities of craftspeople and other workers when engaged by temple institutions rather than by other venues of Mesopotamian society:

“As for later periods, apart from a number of religious documents, most of our information comes from economic texts and letters of the period from the Chaldean dynasty till the early period of the Achemenian dynasty. They speak of the jewelry, clothing, furniture, and vessels of the gods and the foods to be prepared on the occasion of religious festivals. As for clothing, there are many references to divine garments, their manufacture, maintenance, repair or renewal. […..] Jewelry with gold, silver and precious stones was also manufactured, maintained and repaired to decorate the divine image. Many types of craftsmen were engaged in the temple and worked to maintain the material life of gods: the weaver, the cloth mender, the washerman, the goldsmith and silversmith, etc. Their professions were handed down from father to son, from generation to generation. A great temple organization composed of priests of several ranks,

285 As coined by Oppenheim 1949.
286 Matsushima 1993, p. 216.
craftsmen and workmen of many kinds was thus necessary in order to support the cultic and material aspects of temple activities."

A more specific example of such a cultic setting is illustrated by the Neo-Assyrian version of the *akītu* ritual in which designated artisans, particularly goldsmiths and metalworkers (stone setters), as well as the gold and precious stones they required, were ordered to the temple for the making of cult statues used in the ritual and the jewelry that would adorn those statues.287 A similar situation is revealed in a text describing the renewal of cult images from the reign of the Neo-Assyrian king, Esarhaddon, which will be discussed in greater detail below. It is thus quite clear that during the first millennium B.C. at least certain gold- and silversmiths were intimately connected to temple institutions and fully dedicated to the creation and care of the cult image and its accompanying accoutrements.288

The possibility of a special relationship between some gold- and silversmiths and the temple is further corroborated by evidence that the profession was one of very few that could be allowed access to a particularly restricted area of Neo-Babylonian temples called the *bīt pirišti*.289 It seems that this was an area, among other things, where all the divine clothing and jewelry were kept, cleaned, and repaired290 and that it was carefully regulated and off limits to all

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287 Goff 1963, p. 178; Sachs 1969, pp. 331–34; M. Cohen 1993, pp. 406–53; Bidmead 2002, pp. 54–55. While the ritual cited above dates to the Neo-Assyrian period of the first half of the first millennium B.C., references to an *akītu* Festival (and presumably similar rituals) date as far back as the Fara period in the middle of the third millennium B.C. when there seems to have been an *akītu* celebration at Nippur; interestingly, however, there is also evidence that Ur was the original site of the pre-Sargonic, third millennium B.C. *akītu* Festival (M. Cohen 1993, p. 401). The *akītu* Festival and associated rituals continued from these early periods well into the Neo-Babylonian period (or Chaldean period, as above) of the later first millennium B.C.


289 Doty 1993; see also *CAD P*: 401–2, *pirištu in bīt parišti*.

290 Doty 1993; here one wonders whether a room located in the Ur III storehouse complex at Ur is related to the later *bīt pirišti*. This room was likewise where much of the gold, silver, and precious stones for various deities, Nanna and Ningal among them, was housed – in essence, a temple treasury (Limet 1960, p. 180; Jacobsen 1970, p. 221).
but the highest level of temple personnel, such as priests and a class of personnel generally referred to as the ērib bīti. Somewhat astonishingly, select gold- and silversmiths seem to have been allotted a comparable level of status and access, although it is not entirely if they were considered fully ērib bīti. More will be said below about the process of selection and access of designated craftspeople.

Of further interest to me is that the word pirištu on its own means “secret,” which suggests that there was perhaps more to the restricted nature of this so-named room than the fact that it was a room that held monetarily valuable or precious items and was restricted for that reason, as has been proposed by L. Timothy Doty. In fact, the literal translation of bīt parišti is “room of secrets, of secret knowledge.” As such, there was clearly an aspect of the room that was meant to indicate a sense of the cultic mystery associated with the ritually knowledgeable, initiated and/or purified persons and professions who had access to the room. Priests were certainly among those with such attributes and access, and if gold- and silversmiths were also allowed in this “secret” room, it might help make some sense of the fact that the term for the profession originally contained the qualifier kû. In fact, in the Esarhaddon text that will be discussed next, the artisans who restore the statues and their garments and jewelry are referred to as “the skilled craftsmen, who know the secrets,” with the same word, pirišti, being used to mean

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291 See CAD E: 290–92, ērib bīti.
292 Ibid.
293 Doty 1993, p. 87; see also, CAD P: 398–401, pirištu; and, most recently, Leichty 2011, no. 48, p. 108, l. 81 (same as in Borger 1956, p. 83, §53: AsBbA, l. 29).
294 Doty 1993, p. 88. Not surprisingly, this monetary interpretation parallels that of “wealth and prestige” most commonly favored for the symbolic value of precious materials (see Chapter II).
295 See CAD P: 401–2, pirištu in bīt parišti.
“secrets.” This seems to fit seamlessly with the name of the room the goldsmiths worked in, thus supporting the idea that room was not simply a treasury or repository of valuable items. What I am suggesting here, as already indicated at the beginning of the chapter, is that, in the particular context of creating and caring for the sacred and/or the divine, certain (but not all) Mesopotamian gold- and silversmiths (and certain lapidaries, as will be addressed below) may have been considered to be more like ritual specialists – possibly ritually “pure” or even “holy” persons – than merely practical or commercial craftspeople and jewelers.

This suggestion is not a new one for later periods, as it is all but spelled out in the Neo-Assyrian period text that describes Esarhaddon’s renewal of divine cult images:

“In a favorable month, on a propitious day in Šabātu, the favorite month of the god Enlil, (exactly) as they (the gods) wished, I entered the workshop where the renovations (would be done) and I brought carpenters, jewelers, copper smiths, seal cutters, skilled craftsmen, who know the secrets, into the temple that the gods Šamaš and Adad had selected by divination, (and) I installed them (there). (As for) red gold, an ore from its mountain which nobody had (yet) cast into a work of art, (and) countless precious stones, that have not (yet) seen (the light of) day, the creation of the mountains where the god Ea greatly decreed their fate to be the radiance for the artwork of lordship, I had (them) greatly prepared and delivered to their (the craftsmen’s) pure hands for the shrines of the great gods, [my] lords, [and] for the ornamentation of their divinity. I had an (artfully) designed crown, which is befitting the lordship of the god Aššur, king of the gods, my lord, made of red gold and precious stones, and I restored it. The god Aššur, the great lord, accepted magnanimously that crown, (which is) clothed in splendorous radiance, full of dignity, radiating a glow, (and) wrapped in brilliance, and his spirit was pleased (and) his countenance shone. The gods Bēl, Bēltīya, Bēlet-Bābili, Ea, (and) Madānu, the great gods, were truly created in Ešarra, the temple of their progenitor, and they grew beautiful in figure. I sumptuously adorned their features with red ṣāriru-gold, the creation of Mount Arallu (and) an ore from its mountain. I adorned their necks and covered their

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297 Winter has made a similar observation (2003, p. 406n4), where she likewise sees the kū as used in that context as potentially signifying a “ritually pure” craftsman, and adds that he or she would also be skilled. To me the two are intimately related, as expressed in the discussion above. In the chapter that follows, I focus on the fuller scope of the suggestion – including its manifestation in the technology itself (see Chapter IV).
chests with magnificent ornaments (and) precious jewelry, all that the great lord, the god Marduk, had in mind (and) that the queen Zarpanītu, wanted. They fashioned images of their great divinity more artfully than before (and) greatly adorned them. They provided (them) with awe-inspiring vigor (and) made (them) shine like the sun.”

This extraordinary passage makes clear that the artisans – jewelers chief among them – enlisted to create the cult statues of the gods, as well as the jewelry that adorns them, were “skilled craftsmen, who know the secrets” and that they possessed “pure hands.” Furthermore, the passage that just precedes this one describes the procedure for selecting these craftspeople, revealing that it was accomplished through divination. The resulting omens indicated “who should do the work and be allowed to enter the secret place.” Once again, the word pirištu, or secret, is used for the place (which I assume was a bīt pirišti?) – paralleling its usage as a description for the skill of the chosen craftspeople. Thus, every aspect of the goldsmith’s role in the ritual procedure of making divine images and their adornment suggested a ritually ordained and/or divinely sanctioned status, and the skill needed went well beyond the purely mechanical and technical into the realm of the cultic.

As such, I would return to my assertion that the gold- and silversmith working in this context was a ritual technician following highly prescribed ritual procedure. Not only was the gold that was provided specified as being in an unworked state (as were the precious stones) and decreed by Ea himself to be fated for the work, but the manner in which the jeweler fashioned the “magnificent ornaments (and) precious jewelry” was “all that the great lord, the god Marduk, had in mind.” In addition, the hands of the craftsperson were required to be “pure,” as the

299 See Ataç 2010, p. 150ff., for more recent work on the association between artists/artisans (as well as other types of “experts”) and restricted or special knowledge that may have required some level of ritual, even cultic, purity of such “experts.”
300 Leichty 2011, no. 48, p. 107, l. 74.
Esarhaddon text states, because he or she was executing his or her work according to prescriptions from the gods. These specifications for materials, makers, and making have little to do with artistic production and process as we think of them today but might be able to provide a glimpse into the reasoning behind the Sumerian term for gold- and silversmith (kù.dìm) originally containing the qualifier kù.

However, in contrast to the gold and silver themselves, it is not entirely clear to me whether the gold- and silversmiths working in cultic settings were deemed inherently pure, as I have argued for gold and silver. On the one hand, in Esarhaddon’s text the craftspeople were selected through extispicy rather than made pure through further rituals, so in this sense they are similar to the gold and other materials, as discussed in Chapter II. They simply are, or are not, inherently pure and therefore inherently fit – and inherently holy? On the other hand, another text (TuL no. 27) that plays into our understanding of the first millennium B.C. mīs pî ritual comments that “the skilled craftsmen whose bodies are pure…” but uses the term ebbu for “pure,” not ellu. This difference refers back to the discussion in Chapter II concerning Pongratz-Leisten’s distinction between things that are inherently pure (kù) versus made pure/purified (dadag). In the phrase above ebbu is the Akkadian equivalent of dadag and therefore denotes skilled craftsmen who were made pure, or purified, but were not inherently pure, if we follow Pongratz-Leisten. Finally, the Esarhaddon ritual, along with the Erra Epic and other texts, speak of goldsmiths (and other artisans) as if they were channeling Kusibanda (a form of Ea), the patron god of goldsmiths – where it was Ea who gave them their skill and

301 Walker and Dick 1999, pp. 106–7, l. 19; for this usage of the term ebbu, see also Ataç 2010, p. 152.
understanding and it was Ea who purified their hands. From this text one might understand the purification of the goldsmiths to take place via Ea himself. Whatever the case, the fact that these “chosen” craftspeople had access to one of the holiest and most restricted, “secret” rooms in the temple, the *bīt pirišti* – and that they knew “secret” skills – supports a designation of them being endowed with some sort of cultic purity and specialized ritual knowledge. Thus, there are many parallels to be found in the first millennium B.C. between the materials and the makers within and beyond the qualifier kù, all of which could help argue that the selected gold- and silversmith, too, was understood to be in some manner or other pure, perhaps holy, and at the very least divinely sanctioned – as well as most certainly skilled both in the mechanics and in the esoteric and ritual knowledge of making.

Another Neo-Assyrian document, from the annals of Sennacherib, likewise talks of “a sophisticated place, a place of hidden knowledge where all kinds of fine craftsmanship, every type of rite, and the secret of the subterranean waters are studied” – further demonstrating the close connection of the fine arts with esoteric and ritual knowledge. The same passage has been translated elsewhere as “a sophisticated place, a dwelling of mystery wherein all kinds of clever techniques were studied.” What interests me about the text is the use of the term *naklu*

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302 Ibid., especially pp. 62nn15,17, 65n32, 75n60; see also Cagni 1977 for the complete text of the *Erra Epic* and Ataç 2010, p. 152, for further commentary on the pureness of craftsmen in the *Erra Epic*.
303 See also Winter 2003, 2008b on the special relationship between knowledge and skill, or craft, in the context of Mesopotamian artistic production. Here, I add to Winter’s observations the element of secrecy, or secret knowledge, implicated in certain ritual settings that involve the making of cultic objects.
304 Mehmet-Ali Ataç (2010, p. 150ff.) has recently proposed an analogous overlapping of technical (including literary and artistic) skill, restricted or esoteric knowledge, and cultic purity for the class of Mesopotamian scholar or expert (which included artists and artisans) known as the *ummānu* in later periods and likely related to the *apkallu* of the antediluvian era. See below for further discussion of *ummānu*.
306 See also Winter 2008b on expert knowledge as a component of royal display during the reign of Sennacherib.
(from nakliš)\textsuperscript{308} and the phrase šipir nikiltu.\textsuperscript{309} The first is cited in the Assyrian dictionary as meaning “artistically” or “skillfully” while the second is given the sense of “skillful techniques,” or “craftiness,” “cleverness,” “ingenuity.”\textsuperscript{310} Both stress the aspect of skill and can thus be used to describe the skillful or masterful execution of works of art or the skilled craftsperson who is executing the work, whether literally or metaphorically.\textsuperscript{311} However, they can also convey a level of potential mental skill and ingenuity – even cunning\textsuperscript{312} and trickery which are inherently related to magic – apart from and in addition to the physical and purely technical skill or expertise needed to fashion artful objects. This is particularly true of šipir nikiltu. One gets a sense of this additional resonance in the two different translations of the Sennacherib passage above, where the translators themselves are divided as to how best to render the phrase. I point this out here to reinforce the element of knowledge, especially secret knowledge, which is embedded in many of the words and concepts related to crafting and technique as well as being attributed to the craftspeople themselves,\textsuperscript{313} and to foreground a potentially nuanced understanding of skill and making as a component of magic, or even trickery.

These manifold implications of crafting and craftspeople in Mesopotamia will be discussed at length in Chapters IV and V, specifically as they relate to Pu-abi’s jewelry. There, after a thorough technical analysis, the more conceptual aspects of crafting will be addressed, including how some of the above-mentioned elements of skill and technique might be construed

\textsuperscript{308} See \textit{CAD N}: 187, nakliš; 187–88, naklu.
\textsuperscript{309} See ibid., 220–22, nikiltu, esp. šipir nikiltu.
\textsuperscript{310} Contra Winter 2008b, for whom craftiness and cunning do not come into the equation.
\textsuperscript{311} The vocabulary of crafting in Mesopotamia has been investigated time and again by Winter (1995, 2003, 2008b).
\textsuperscript{312} See Porter 2009 for use of the term “cunning” in the translation of yet another Esarhaddon text which mentions the making of a crown of gold and precious stones for the god Ashur and describes the crown as “cunningly made” (p. 157); also Hilliard 1981, p. 65, for a similar use of the term “cunning” in the context of craftsmanship in Elizabethan England. As already mentioned above, Winter takes issue with this translation (Winter 2008b).
instead as magic – specifically magic in the service of ritual. Not only do the words conflate but so does the technology itself, and by extension the role of the craftsperson. Alfred Gell has called such a maker with exceptional technical and mental prowess “half-technician and half-mystagogue.”314 As will be seen in the next chapter, for Gell “there is a convergence between the characteristics of objects produced through the enchanted technology of art and objects produced via the technical technology of magic, and that, in fact, these categories tend to coincide.”315

Yet, while the ritual role of selected gold- and silversmiths in specifically cultic contexts is well illuminated by first millennium B.C. ritual texts – such as the *Erra Epic*, the *akītu* ritual, and the Esarhaddon and Sennacherib ones just discussed – and the Sumerian term kù.dim is retained and attested in many of the same texts, the possibility of a ritual function for the kù.dim in certain circumstances in the third millennium B.C. is, as usual, much less clear. As mentioned earlier in this chapter, there is little direct information on the role of the gold- and silversmith during the period of the “Royal Cemetery” of Ur, except that assorted third millennium B.C. archaeological and textual information suggests a relatively close, if not altogether clear, relationship between temple institutions and at least certain, if not all, individuals of the profession.316 For instance, although the information concerning gold- and silversmiths contained within the Ur III craft archive is at best complex and at worst unresolved,317 the fact that the archive at one point seems to single out two categories of craftspeople – goldsmiths and lapidaries – as having been inspected in the Gipar, or priestly residence of the temple precinct at

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315 Ibid.
316 Ross 1999.
Ur, allows one to consider the possibility that at least some individuals among these professions were specifically associated with the temple and its cultic activities. Interestingly, these two professions are frequently mentioned as pairs in literary sources from the third millennium B.C. onwards and are among the few professions regularly summoned together to the temple for the later akītu and other rituals. Likewise, as was mentioned earlier, there existed rooms located in the Ur III storehouse complex at Ur in which much of the gold, silver, and precious stones belonging to various deities was housed and cared for – rooms that conceivably could have corresponded to the later bīt pirišti. Thus, one is tempted to observe hints, if only mere hints, at a parallel structure between the third and first millennium B.C. as concerns jewelry materials, jewelry inventories, temple rooms associated with those materials and inventories, and the craftspeople in charge of them when related to cultic or temple settings.

Textual evidence from the first half of the second millennium B.C. also provides some insight into how craftspeople were conceived of in earlier times and to a limited yet not insignificant degree allows for a comparison with the crafting professions as they were described in the later Erra Epic and Esarhaddon and Sennacherib examples above. The mythological composition known as Enki and the World Order clearly assigns to Enki the role of creator god

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319 See, for example, the Lugalbanda Epic (Black et al. 2004, p. 31, ll. 410–12; ETCSL 1.8.2.2, ll. 409–10), the Curse of Agade (Cooper 1983, p. 57, ll. 139–40), Gudea Cylinder A (Edzard 1997, p. 79, col. xvi, ll. 26–27), and less directly Enmerkar and the Lord of Aratta (Kramer 1952; ETCSL 1.8.2.3) with reference to this connection between the two professions in third and second millennia B.C. sources; Winter 2003 (pp. 410–11n10) cites the same for slightly different reasons.
320 See, for example, Goff 1963, p. 178; Sachs 1969, pp. 331–34; M. Cohen 1993, pp. 406–53; and Bidmead 2002, pp. 54–55.
322 See also Winter 2003, 2008b.
and patron god of wisdom and craft, and therefore also of scribes and craftspeople.\textsuperscript{323} Of note is that Enki’s powers, and those of the professions under his auspices, combine wisdom and craft, in much the same way that knowledge and skill were seen to be connected in the discussion of first millennium B.C. texts.\textsuperscript{324} In fact, Enki is one and the same deity as Ea of the \textit{Erra Epic} and of the Esarhaddon ritual – the Ea who gave the goldsmiths their skill and understanding and who purified their hands.\textsuperscript{325} It seems that Enki was also closely aligned with gold in the late third millennium B.C.\textsuperscript{326} Furthermore, because of his command of material, technical, \textit{and} esoteric skill and knowledge, Enki/Ea was also considered the god of cultic magic – and his human charges (the scribes and craftspeople) thus presumably likewise endowed and engaged.\textsuperscript{327} Thus, the Mesopotamian notion of crafting as it was perceived to function in ritual contexts, so explicitly described in first millennium B.C. texts, can be detected in similar formats and using similar language in much earlier texts, and the professions associated with such ritual production were likewise treated in ways analogous to first millennium B.C. accounts.

In a comparable vein various deities were assigned crafting roles in \textit{Enki and the World Order}, thereby positing a class of divine craftspeople such as Ninmug, “the metal-worker of the land.”\textsuperscript{328} Yet this idea is quite clearly represented already in the Early Dynastic period \textit{Fara God Lists}, in which a “Divine Lady Jeweler,” among other divine professions, is mentioned (to be discussed further below under lapidaries);\textsuperscript{329} it continues into the first millennium B.C. where it is clearly spelled out in documents such as the \textit{Erra Epic} and the \textit{mīs pī} ritual, as well as on at

\begin{footnotesize}
\begin{itemize}
\item[324] On this topic, see also, Winter 2008b and Ataç 2010, p. 150ff.
\item[325] Walker and Dick 1999, especially pp. 62nn15,17, 65n32, 75n60; see also Cagni 1977 for the complete text of the \textit{Erra Epic}.
\item[327] Ross 1999, pp. 340–42; see also Ataç 2010, p. 150ff.
\end{itemize}
\end{footnotesize}
least one inscribed monument. And as previously discussed, the early second millennium B.C. *Epic of Gilgamesh* likewise portrays skilled craftsmanship as specialized knowledge taught to artisans by a divine personage – in much the same way it was presented in the *Erra Epic* and other first millennium B.C. texts. No doubt additional sources could be found to illustrate the similarity and consistency across great spans of time in Mesopotamia with regard to conceptions of crafting and craftspeople in cultic contexts. In doing so one must not forget the many analogous words and phrases related to crafting and to craftspeople that were touched upon earlier and their similar usages in similar ritual contexts in both the third and first millennium B.C.

Finally, in light of the above discussion, the term *ummânu* must also be mentioned, although a full treatment of the topic is not possible here. The word refers to a range of professional categories – craftsman, artisan, expert, master, scribe, and scholar, among others – and is attested from the Akkadian period onwards. Like many terms and phrases associated with crafting and other technologies, *ummânu* conflates the notion of technical skill and intellectual knowledge, particularly esoteric knowledge, and seems to do so more or less consistently, once again, from the third through first millennia B.C. Although most commonly used in the context of scribal knowledge and expert scholarship on a range of subjects, *ummânu* is the term used for the “craftsmen” in the passage from Esarhaddon’s renewal of the gods cited above – “…carpenters, jewelers, copper smiths, seal cutters, skilled craftsmen, who know the

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330 See Walker and Dick 1999 for all three, especially pp. 58–64, 96–100.
331 Helms 1993, pp. 1–3; see also Ataç 2010, p. 150ff.
332 See *CAD U:* 108ff., *ummânu*; see also, for example, Reiner 1961; Parpola 1987; Glassner 1995; Winter 2008b; and most recently, Ataç 2010, p. 150ff.
333 Winter 2008b, pp. 334–35; see also Ataç 2010, p. 150ff., who specifically addresses and sheds new light on third and first millennia B.C. perceptions of the categories referred to as *apkallu* and *ummânu*, respectively (see below).
secrets…” – as well as for “skilled craftsmen whose bodies are pure” in the passage from the *mīš pī* ritual\(^{335}\) and for the craftspeople summoned to produce the statues and jewelry for the *akītu* ritual.\(^{336}\) These are just some examples, and based on the contexts in which the term *ummânu* was used, the same craftspeople were ostensibly the ones who had access to the *bīt pirišti*, “the room of secrets or secret knowledge.” Furthermore, the mortal craftspeople of the *mīš pī* ritual were depicted as divinely chosen and ritually pure,\(^{337}\) while the artisan deities, such as Enki/Ea mentioned above, were described by Christopher Walker and Michael Dick as “divine workers… *marê ummâni* ‘craftsmen’ par excellence”\(^{338}\) – thereby intertwining the mortal and divine spheres, in addition to the technical and intellectual realms, with respect to crafting and craftspeople. Thus, without elaborating much further, the connection between crafting and sacred or cultic knowledge appears to once again be reinforced for certain first millennium B.C. contexts.

The sense of *ummânu* in earlier periods is, of course, less clear and therefore difficult to infer from later sources. Both Jack Sasson\(^{339}\) and Winter\(^{340}\) have discussed the term as it is attested in the first half of the second millennium B.C., with Winter making references to earlier texts as well; however, each scholar approaches the term primarily from the point of view of technical expertise and knowledge, saying little about its relevance in cultic settings. In other words, they stress the training, competence, and knowledge of the *ummânu* on a technical level, not the potential cultic knowledge involved in the process of crafting or on the part of the

\(^{335}\) Walker and Dick 1999, pp. 106–7, l. 18.
\(^{337}\) Walker and Dick 1999, p. 115.
\(^{338}\) Ibid., pp. 62–63n17.
\(^{339}\) Sasson 1990, pp. 23ff.
\(^{340}\) Winter 2003, pp. 410–11n10; see also Winter 2008b for *ummânu* in the first millennium B.C.
craftsperson. Nonetheless, Sasson and Winter each indirectly posits a ritual or cultic element to the role of the ummânu. Sasson does so by stating: “…in order to recapture the medium in which they [the ummânu] invested most readily their artistic creativity, we may need to look into their ceremonies and rituals, where the animate and the inanimate are choreographed into aesthetically pleasing tableaux;”341 while Winter concludes: “…there is further indication that manufacture of certain works, particularly those intended for cultic use, were not just the products of secular labor.”342 And as was mentioned in Chapter II, Winter also suggests that kù was used to qualify the carpenter and metal inlay-worker referred to in a Sumerian love song as much to indicate the ritual purity of these craftspeople as to describe their mastery and skill.343 These hints, among others not considered here, combined with the evidence provided by late third and early second millennium B.C texts and discussed above – such as the Fara God Lists, Enki and the World Order, and The Epic of Gilgamesh that all contain elements that closely relate conceptually to the later first millennium B.C. evidence for the term ummânu – make it possible to envision, if not verify, certain situations in the third millennium B.C. in which a craftsperson’s technical skill and cultic knowledge were likewise conflated and a ritual role for the craftsperson – the gold- and silversmith included and perhaps most especially – might be indicated.

It is to this exact point that the recent study by Ataç, mentioned previously, adds new and meaningful insight.344 Although concerned primarily with Neo-Assyrian art of the first millennium B.C., Ataç addresses at length the role of the ummânu in the creation of the mythology of kingship, as it is reflected in both art and thought. In doing so he posits a

341 Sasson 1990, p. 25.
342 Winter 2003, p. 411n11; see also Winter 2008b.
344 Ataç 2010.
connection between the *apkallu*, or sages and spiritual advisors to kings of the antediluvian era, and the *ummānu* of later, postdiluvian times in which the *ummānu* possessed “a kind of restricted or special knowledge thought to have been taken over from the antediluvian sages.” Of note is that such antediluvian knowledge was not considered to have disappeared, rather to be in a hidden, secret or esoteric state that only the designated *ummānu* of later periods could access or receive. If the *ummānu* indeed relate back to a tradition of both scholarship and crafting known before the Flood, then it is also possible that selected craftspeople operating at the time of the Ur graves may also have been among those in possession of such secret and esoteric knowledge in the technical realm, much like the artisans, or *ummānu*, in the better attested examples of cultic crafting from the first millennium B.C. Whether the gold- and silversmiths who fashioned Pu-abi’s jewelry can be considered in this category of ritual or cultic technician will be examined in the next chapter, on the level of technology itself.

**LAPIDARIES**

The profession of lapidary is generally denoted by the Sumerian term za.dîm (*zadimmu* in Akkadian). In the third millennium B.C., and perhaps earlier, it seems that the za.dîm was used to designate the makers of the majority of stone objects from jewelry to inlays and seals to vessels. By the second millennium B.C. other types of lapidaries or stoneworkers are attested in

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345 Ibid., p. 151.
346 Ibid., p. 154.
347 See CAD Z: 10b, *zadimmu*; Loding 1981; Moorey 1994, p. 22. There is some confusion between the term ZA.DÎM denoting *zadimmu* in Akkadian and ZA.DÎM denoting *sasinnu*, or bow maker, in Akkadian; however, the bow maker was logically somewhat related to a lapidary who carved seals and vessels with a bow drill so the confusion perceived by modern readers may be more of an overlap or conflation than an ambiguity. The distinction between professions seems to be made clear after the Ur III period.
Mesopotamia, with the za.dım being the one most closely and consistently associated with the kù.dım, or gold- and silversmiths. As such, it seems that the za.dım, for example, was responsible for the fashioning of any hair, beard, or eye attachments and inlays (usually of lapis lazuli) that would complete a cult image as well as for the setting of precious stones into jewelry of gold and/or silver that were prepared by the kù.dım and that would adorn the image, while a different term, bur.gul in Sumerian or purkullu in Akkadian, referred to the stonecutter who carved cylinder seals or vessels, even if they were carved of the same material as inlays and jewelry, such as lapis lazuli. Other terms for lapidaries are mentioned as well in various records from various periods.

As was seen with regard to attestations of gold, silver, and certain precious stones in Chapter II, mentions of the kù.dım and za.dım seem to likewise appear frequently together and as connected professions in economic as well as literary texts throughout a long span of time. Thus, the majority of the literary texts related to the kù.dım that were referred to and discussed above – the Gudea A text, the Lugalbanda Epic, the tale of Enmerkar and the Lord of Aratta, the Curse of Agade, the Gilgamesh Epic, the Erra Epic, the akītu ritual text, the mīs pî ritual texts, and the text concerning Esarhaddon’s renewal of the gods – can all serve equally well as evidence for the za.dım and therefore will not be repeated here. In fact, certain kù.dım and za.dım seem professionally and conceptually bound together in cultic settings throughout several millennia, similarly being summoned together to the temple for the making of cult images and jewelry for the akītu and other rituals of the first millennium B.C. As such and as touched upon

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349 See CAD P: 519–20, purkullu; Moorey 1994, p. 22.
350 Loding 1981.
351 However, see, for example, Van De Mieroop 1999, where the picture is less clear.
above, one might also imagine that the temple area where the kù.dim and za.dim did at least some of their work and where their materials were housed in the first millennium B.C. examples – called the bīt pirišti or “the room of secrets or secret knowledge” – is in some manner analogous to a similar area mentioned in the Ur III craft archive and elsewhere.352

Furthermore, the profession of za.dim, or lapidary, was also frequently encompassed by the term ummānu so that the discussion above would likewise apply and again will not be repeated. I will only add that in this light the notion of the za.dim might likewise have been subject to a conflation of skill and knowledge, as well as having mortal and divine manifestations, as was seen for the kù.dim. Indeed, the myth Enki and the World Order features a divine jeweler [lapidary] of the šuba stones, “holy Ninisina,” just as the same tale had presented us with “holy Ninmug, the metal-worker of the land.”353 And remarkably, as mentioned briefly above, a divine profession of za.dim is attested even earlier in the Early Dynastic period Fara God Lists, in which a divine “Lady Jeweller,” or dNin-za.dim, is listed.354 The idea of a very similar divine lapidary, in name and in fact, is once again paralleled in the Esarhaddon ritual, along with the Erra Epic and other first millennium B.C. texts, that speak much more explicitly of Ninzadim (dNin-za.dim) as the patron deity of lapidaries and yet another version of Ea (Enki), who gave them their skill and understanding and who purified their hands, just as in the same texts Kusibanda was considered the patron god of goldsmiths and a form of Ea. It must be stressed yet again that, as a general observation, the language and

352 Jacobsen 1970, p. 221; see also Loding 1974, pp. 29, 272–73.
354 Krebernik 1986; Selz 1997, pp. 172–73. Selz translates dNin-za.dim as “the Lady Jeweller,” but the term would be more properly translated as “Divine Lady Lapidary.”
355 Walker and Dick 1999, especially pp. 62n17, 65n32, 75n60; see also Cagni 1977 for the complete text of the Erra Epic.
concepts related to jewelry materials, jewelry inventories, temple rooms associated with those materials and inventories, and the craftspeople in charge of them in cultic or temple contexts between the third and first millennium B.C. seem to correspond in a consistent and notable manner.

Nonetheless, the question of whether one can assign actual sacredness or holiness to the profession of za.dìm, or to that of kù.dìm, even in cultic situations, remains unclear. One can only suspect that the term kù.dìm contains the qualifier kù for similar reasons that I argued might have been behind the terminology for gold and silver in contrast to lapis lazuli and carnelian, for instance. Perhaps the conceptual structure of “inherently pure” versus “made pure” was paralleled in terms of the professions related to those materials. That said, both professions appear to have been made “pure” for the purposes of the first millennium B.C. rituals discussed, while certain counterparts, spanning from the third to the first millennium B.C., seem to have been presented as quintessentially divine, literally in the form of dingirs, or deities. On the other hand, as mentioned several times, there is ample evidence for the assigning of an overriding rather more pragmatic function to the two professions. Questions regarding the theological character of the Mesopotamian gold- or silversmith and lapidary working in cultic settings will therefore not be answered here.

CONCLUSION

To conclude this chapter, I would like to draw attention to an aspect of both the gold- and silversmithing and lapidary professions in Mesopotamia that presents somewhat of a mystery. One of the most direct literary references to professions and other cultural achievements of Sumerian civilization as handed down by the gods – and one not yet mentioned in this chapter – can be found in the myth known as Inanna and Enki, or “the list of the me.”\textsuperscript{357} The date of the composition is not entirely clear, but it may stem from as early as the Ur III period.\textsuperscript{358} In one well-known and oft-cited passage, Enki gives to Inanna the gifts of civilization that concern valued and esteemed professions. Listed among them are “the craft of the carpenter, the craft of the coppersmith, the craft of the scribe, the craft of the smith, the craft of the leather-worker, the craft of the fuller, the craft of the builder, the craft of the reed-worker.”\textsuperscript{359} Noticeably absent are the craft of the gold- and silversmith and lapidary. Jean-Jacques Glassner has emphasized this lacuna, as he describes it, in his essay correlating the me with specific character traits – or the “divine essence” – of the goddess Inanna.\textsuperscript{360} In other words, he sees the myth of Inanna and Enki and its list of the me as a possible theological discourse on Inanna, with the omission of the gold- and silversmithing and lapidary crafts then being especially bewildering since the raw materials of gold, silver, lapis lazuli, and carnelian – as well as jewelry made of those materials – were so frequently closely associated with Inanna and her powers. Glassner offers some thoughts

\textsuperscript{357} See, for example, Farber-Flügge 1973; ETCSL 1.3.1.
\textsuperscript{358} Farber-Flügge 1973, pp. 4ff.
\textsuperscript{359} ETCSL 1.3.1, Segment D, ll. 10–13; see also Farber-Flügge 1973, p. 23, Tf. I iii, l. 10.
\textsuperscript{360} Glassner 1992, p. 72.
but no convincing answer. One must wonder, however, whether these two professions were not set apart for a reason and what the implications of that distinction might have been.

We contemporary students of antiquity may never extract the answer to that one passage; however, in this chapter I have presented many other references, dating to various periods over several millennia in Mesopotamia, that all quite clearly demonstrate the notion posited at the beginning – that “crafting [was] believed to involve far more than technical expertise; that skilled artisans [were] in some manner or to some degree inevitably associated with exceptional powers”\textsuperscript{361} and that a craftsperson could function “as a priest, artist, shaman, magician, initiator precisely because his work demands not merely manual skills but […] esoteric knowledge.”\textsuperscript{362} In the next two chapters the actual crafting or making of Pu-abi’s jewelry will be discussed in technical and theoretical detail, with the result that a similar combination of technical skill and ritual procedure or knowledge can be discerned in the process of creation itself. The craftsperson or -people who fashioned Pu-abi’s jewels, in what was a notably repetitive and seemingly prescribed manner, could thus, like their counterparts mentioned in this chapter, have represented more than practical experts simply executing their profession for hire and that possibly theirs “were not just the products of secular labor.”\textsuperscript{363}

\textsuperscript{361} Helms 1993, p. 53.
\textsuperscript{362} Ibid., pp. 59–60.
\textsuperscript{363} Winter 2003, p. 411n11.
CHAPTER IV
MAKING: “SKILLED CRAFTING” OF JEWELRY AT UR

“The power of art objects stems from the technical processes they objectively embody: the technology of enchantment is founded on the enchantment of technology. The enchantment of technology is the power that the technical processes have of casting a spell over us so that we see the real world in an enchanted form. Art, as a separate kind of technical activity, only carries further, through a kind of involution, the enchantment which is immanent in all kinds of technical activity.”

~ Alfred Gell

INTRODUCTION

In Chapter II reference was made to Leo Oppenheim’s seminal work on the garments of the gods, in which he briefly commented on the connection between material and technique in terms of a ritual progression: “The use of gold and the specific technique involved for the decoration of these garments was obviously intimately linked to a specific functional value of the ornaments utilized; they alone have endowed these garments with the aura of sacredness which could not be transferred to other media.” Also mentioned in the same chapter was a statement made by Rachel Maxwell-Hyslop regarding the jewelry from Early Dynastic Ur as compared to that from Grave 45 at Ashur from a much later period: “[This] background to the jeweller’s art explains some of the remarkable similarities between the products of different sites in Mesopotamia. A ritual must be correctly performed in every detail or its efficacy would be lost. The right objects

364 Gell 1992, p. 44.
365 Oppenheim 1949, p. 191.
must therefore be used and substitutes would be useless.” One might ask how exactly these statements relate to each other and moreover, individually or together, to the jewelry buried with Pu-abi at Ur.

The two comments share a focus on the procedural and prescriptive aspects of ritual as well as a concern with how such aspects play out in the materials, the making, and the finished product of ornament. Both Oppenheim and Maxwell-Hyslop firmly positioned adornment in general and jewelry in particular into the sphere of potential ritual activity – the former emphasizing the efficacy of the materials and the making, the latter stressing the efficacy of the finished objects. What is not captured in a single comment above, or anywhere in the existing scholarship, is the impact and meaning of the entire sequence from raw or unworked materials to the technical processes of manufacture to the completed objects that likely did not appear in their fully animated forms without equivalent animation or activation taking place at the first two levels. I would argue that not only must Maxwell-Hyslop’s “right objects” be used for a ritual procedure to be efficacious; the correct materials and technology must be used to create those “right objects.”

The potential agencies of materials such as those used for Pu-abi’s jewelry have already been discussed, as has the possibly ritual role that may have been played by certain designated craftspeople working with these same materials in distinctly cultic contexts. In the remaining chapters I would like to examine – from the perspective of a craftsperson, not a scientist – the

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367 Winter (1995) comes closest in her article on Mesopotamian aesthetics, in which she identifies three primary categories of reference for determining the aesthetic value of a work of Mesopotamian manufacture: the making and material treatment of it; the appearance and visual attributes inherent in it; and the perception and response to it. However, Winter primarily evaluates what the finished object reflects and how it is valued aesthetically in Mesopotamia, not its ability to activate agency at the level of materials and making.
technical processes involved in the making of Pu-abi’s ornaments, as well as that of related others at Ur. In doing so, I will demonstrate that the making itself carried semantic values and marked agencies analogous to those embedded in the materials by way of highly repetitive and prescribed techniques that were intended to further animate or “enchant” the final products. Technology in this context thus conveyed meaning and agency as much as materials and iconography were capable of doing, and the skills and formulae involved in the making were as much magical and performative as they were mechanical, requiring craftspeople that might be better described as ritual technicians than mere jewelers. It is therefore essential to consider “skilled crafting”\(^\text{368}\) – or Gell’s *enchantment of technology* – when “reading” the potential ritual agency – or *technology of enchantment* – of Pu-abi’s jewelry.\(^\text{369}\)

**Pu-abi’s Jewelry**

Pu-abi’s complete assemblage consists of numerous head and ear ornaments made primarily of sheet gold and of additional pieces for her neck and body, which, in contrast, were constructed predominantly of semi-precious stones such as carnelian and lapis lazuli (Figs. 8, 9). For the following discussion of the methods used to manufacture Pu-abi’s jewelry, I concentrate primarily, though not exclusively, on the elements made of gold, as they constitute what I deem to be the focus of the assemblage. The wreaths, earrings, hair ribbons and other jewels appear at first glance to be rather simple in technique, fashioned in large part from hammered sheet and without much additional decoration; however, after examining them closely, under a microscope

\(^{368}\) “Skilled crafting” is in quotes to indicate my adoption of Helms’s term (Helms 1993). It will be used frequently throughout the next two chapters.

\(^{369}\) Gell 1991.
when possible, it is apparent that the methods of hammering and assembling the pieces are notable for the subtle but substantial amount of both expertise and labor required, as well as for the remarkable consistency and repetition of technique involved. In addition, there seems to have been some sort of premium placed on fashioning the ornaments from a single piece of gold whenever possible, perhaps due to an amount decreed to that piece and/or to ritual specifications that called for seamless production. The extraordinary number of shaped beads used in conjunction with the gold ornaments, as well as those found as beads alone on Pu-abi’s body, employ completely different manufacturing processes and aesthetic principles yet likewise attest to a comparable level of skill, expenditure of labor, and repetition of materials and techniques.

Based on these and the more detailed observations that follow, I also argue that the overall creation of this jewelry required a significant investment and coordination of human energy in addition to the substantial material resources described in the previous chapter. It follows then that a great amount of advanced planning would have been necessary to form Pu-abi’s assemblage as such a large amount of jewelry could not have been produced quickly given the amount of labor involved. In addition, the repetitive design of the individual pieces was clearly conceived of and created together with the others, within Pu-abi’s own set of ornaments and in coordination with additional sets of jewelry across the cemetery. Finally, neither the gold nor the beads show much sign of wear, suggesting that the many, if not all, pieces found with Pu-abi were made specifically for burial. In fact, the roughly constructed back of Pu-abi’s comb suggests that it was not meant to be seen from behind, only from the front when the body was laid down in burial (Fig. 14). Taken together these observations suggest that Pu-abi’s jewels were not randomly collected over her lifetime or retained as heirlooms and then buried with Pu-
abi simply because they belonged to her. They, and ones like them from other burials at Ur, appear to have been made according to particular procedures and thus presumably for a particular purpose.

What follows is a detailed description of the techniques used to produce selected items from Pu-abi’s combined assemblage. It is an undertaking that will perhaps at times seem tedious to the reader, yet it is essential in that it forms the basis of my reinterpretation of the jewelry found buried at Ur. The repetitive and tedious nature of this descriptive exercise indeed parallels, or reflects, the point I will make regarding the repetitive nature of the processes of manufacture themselves.

ADORNMENT OF PU-ABI’S HEAD

In all the years since Pu-abi was discovered, her headdress has rarely been “unpacked” for the public, indicating how little attention has been focused on the individual ornaments that comprise the otherwise famous and oft-cited assemblage. In fact, to my knowledge, the only prominently published photograph showing the separate elements worn by Pu-abi on her head is the one featured in Woolley’s original volume on the excavations at Ur.370 It is my privilege to be able to remedy the situation here (Fig. 10).

Beginning at the top of Pu-abi’s body with the large hair comb (Cat. no. 1; Pl. 1), it is immediately apparent that a tremendous effort was made to create this large and heavy ornament out of as few pieces of gold as possible, and without evident use of any joining medium other than the purely mechanical. The body of the comb was made out of very large and thick sheet

370 Woolley 1934, Plates, pl. 129.
gold that most likely began as a solid mass, probably in an elongated shape. In order to plan for and achieve from a single piece of gold the wire pin at the one end and the wide splay into seven prongs at the other, the goldsmith must have possessed an intimate knowledge of the mechanics and movements of gold as it is hammered repeatedly.

Although the comb appears simply made in the sense that its body has no decoration or ornamentation, the process of hammering such a large piece of gold requires tremendous feel for the metal as well as time and patience. All metals harden and become brittle as they are worked, especially by hammering. They require constant heating and reheating (called annealing in modern technical terminology) to regain their malleability for further hammering or other kinds of manipulation. If they are not annealed properly and often enough, metals simply stop responding to hammering or become so brittle that they show cracks and fissures. They can even split or break into pieces.372

Gold in its native state – that is, gold that is between 70% and 90% pure – is thought of as extremely malleable and ductile. Indeed, in smaller amounts, this is true. It is certainly more malleable than gold that is further alloyed with silver, copper or other materials or than other baser metals. However, many of the gold ornaments found with Pu-abi and in other burials at Ur – all of which likely fall within the purity range of native gold374 – were made from rather large and single pieces of metal, which entailed enough hammering to shape into their respective

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371 The shape of the starting mass of solid gold likely resembled an elongated tubular or square rod or ingot.
372 For information on annealing, see Untracht 1968, pp. 49–50; Ogden 1982, p. 35; and Moorey 1994, p. 216.
373 See, for example, Ross 1999, p. 19, and Betancourt 2006, p. 91.
374 For technical analyses done on sample pieces, see Plenderleith 1934, pp. 292–93, 294, Table III, and Moorey 1994, pp. 231–32. Additionally, there exists an unpublished analysis of a gold poplar leaf headdress (MMA 33.35.3) by Tony Frantz of the Department of Scientific Research at The Metropolitan Museum of Art, March 2010. A forthcoming joint study between the University of Pennsylvania Museum of Archaeology and Anthropology and Deutsches Bergbau-Museum, Bochum, Germany should yield the most comprehensive and scientific information to date on the Ur material housed at the University of Pennsylvania Museum. In fact, it is possible that certain of my observations and resulting opinions would require revision based on the results of the study.
forms that the metal would have nonetheless become quite work hardened in the course of manufacture and therefore required substantial annealing along the way. Even smaller ornaments included extensions, such as suspension loops, that no longer qualified them as small enough in amount to be easily worked without some annealing.

In the case of this comb I imagine that the goldsmith would have begun hammering at one of the short ends of the elongated solid gold mass - first to secure enough length for the wire pin at the one end, then to continue with the large flat surface that makes up the body. He or she would have needed to anneal the metal a considerable number of times, for this much gold to remain malleable enough to be hammered successfully into the body as it appeared in completed form. The process of annealing each time is not a particularly speedy one, in addition to being highly repetitive. The metal must be heated evenly and carefully so as to achieve maximum compliance but not to melt or blister it. The constant annealing required in order to proceed with hammering is deceivingly labor intensive and takes skill and sensitivity. Unlike intricate decorative techniques such as granulation or filigree, which immediately appear difficult and time consuming, the hammering of metals does not “advertise” the labor and expertise involved. The technique and the process are largely hidden and silent within the final product. This lack of technical ostentation, in itself, challenges the common interpretation that this jewelry was created primarily as a marker of prestige and wealth.  

The prongs at the top of the comb constitute a continuation of this ambitious exercise. They provide a further example of the importance of annealing and indeed show stress marks at five of the six points where they divide off into the seven prongs (Pl. 1). Because the design of

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375 See Swift 2009, p. 148, as well as the discussion later in this chapter, for this particular notion of ostentation as it relates to jewelry.
the comb called for the already hammered, flat surface of the body to be split into seven separate spikes, the goldsmith had to cut into the body and continue hammering each spike individually. The cutting itself would have further work hardened the gold and the more directed hammering and shaping of the prongs would have required an even greater need for constant annealing than the large, plain body did. The concentrated working of the metal at these junctures resulted in the relatively minor stress cracks that can be seen quite easily with the naked eye (Fig. 11a, b). From here the separately made floral elements were attached mechanically to the prongs (see discussion below). What is also hidden within the final product is the fact that if, at the end of the hammering process, the mass of gold had not been sufficient for the desired design, then the goldsmith would have had to begin from scratch or resort to soldering or brazing additional sections to the main body. This is an important technical point when evaluating the procedural decision not to use any means of solder or baser alloy/agent and the consequent implied skill of the goldsmith. In the case of Pu-abi’s comb – as with most of her jewelry – the goldsmith clearly pursued the purer but riskier, more difficult, and more time consuming method of manufacture.

The question is: why?

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376 The terminology used for joining techniques, both ancient and modern, can be rather confusing. In brief, and using Moorey’s definition (Moorey 1994, pp. 216, 229–30), brazing is the equivalent of hard-soldering, which is a joining technique that involves the use of a filler metal that melts at a lower temperature than the metal being used in the parts being joined. In order to achieve this, the filler metal must consist of some amount of baser metals (such as cooper or silver, for example) greater than the amount contained in the metal being joined. However, the alloy of the filler metal can be so nuanced as to not be easily distinguishable, without the aid of scientific analyses, from that which bonds together metal parts using the techniques known variously as thermal fusion, copper diffusion bonding, colloidal hard soldering, autogeneous welding, or granulation (Ogden 1982, p. 59ff., especially p. 65) – techniques which all entail minute amounts of baser metals. It is also possible to joins metal parts without the use of any filler agent whatsoever; this is most often referred to as sweating or reticulation. Although few scientific analyses have been undertaken for the Ur material, there is evidence for both soldering and sweating within the corpus (Plenderleith 1934, p. 296; Moorey 1994, p. 230). More detailed explanations of these processes are beyond the scope of this dissertation; however, they are mentioned here to emphasize that a) soldering did exist at Ur and b) soldering introduces baser elements to any given ornament (versus the fashioning of a piece out of a single unit of metal) and thus compromises the metallurgical purity of the original (or “relative purity” – see p. 32n102). This point, and its implications, will be raised repeatedly throughout this dissertation.
A floral element that is itself made primarily of hammered gold is attached to each of the seven prongs that splay off from the main body of the comb. Each of these elements is cut from hammered gold sheet and trimmed in the shape of a flower, then repoussééd\(^{377}\) to articulate the three-dimensionality of the form. Much like the body of the comb, each flower requires a certain amount of annealing to achieve the hammered gold from which it is made and further annealing to achieve the repoussé work, a technique which work hardens the metal nearly as much as hammering does. In fact, one can see once again small fissures in various places where the gold has become stressed from continual work. A gold-capped lapis lazuli bead adorns the center of each element and is held in place by some method that is not perceptible to the naked eye, perhaps an adhesive such as bitumen. Some of the gold caps have pierced holes at their centers which indicate an alternate means of attachment, one that ran from the cap through the lapis lazuli bead and out the back of the flower to join with the prongs. However, there are no visible drill holes in the lapis lazuli beads to facilitate such a mechanism, and not all the gold caps have pierced centers to accommodate such a design. Therefore, the construction of the gold-capped lapis lazuli beads forming the center of the flowers simply cannot be determined without the help of radiography.

From the front the flowers also adhere seamlessly to the prongs; it is only from the back that one can see how they attach. On the rear of each gold floral element is a small gold fitting that is constructed from a single strip of gold sheet, the ends of which are rolled towards one another to form two abutting tubes (Fig. 12). The ends of the prongs from the body of the comb are inserted into these tubes by means of their now divided and flattened points, which are then

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\(^{377}\) Repoussé is defined by Moorey (1994, p. 216) as: “hammering the design up from the back of a piece of sheet-metal so that it appears in relief on the front; normally done with a blunt tool against a yielding surface.”
bent over to hold the entire element in place (Fig. 13). Finally, all seven prongs of the completed comb are bent gently forwards so that the flowers appear to float in their own space and are free to move ever so slightly. This rather fragile structure of seven prongs with seven attachments is reinforced with a plain gold wire that is rather roughly twisted around each prong and across the width of the comb at the back (Fig. 14). Like the fittings for the floral attachments, the wire is completely invisible from the front. One must assume then that the comb was to be seen from the front only, suggesting that it was made for a body that would be lying down – such as Pu-abi was on her funerary bier. Thus, while one’s first impression of the comb is that, although quite large and lovely, it is rather simply made from undecorated sheet gold, it becomes clear through a detailed analysis of the methods used to create it that its manufacture was anything but simple.

At this juncture I would like to delay for a moment the continuation of the technical analysis of Pu-abi’s jewelry in order to stress several aspects of the processes involved in the creation of just this one piece, aspects that are not readily visible in the final product but that appear repeatedly in the corpus of jewelry at Ur in general and in the discussions that follow. First, the goldsmith must have been an expert at his or her craft. As we have seen, the amount of hammering into a shape such as this comb, although not a complicated technique, required considerable knowledge of the mechanics of the metal and a feel for knowing where to begin and how to hammer the gold so that the overall design of this rather large ornament can be achieved in a seamless manner. Timothy Ingold cites C.M. Keller in order to express this aspect of hammering as it relates to silversmithing: “…the judgment of when and how to finish can be just as crucial as choosing the moment to set out. To reach this judgment…the silversmith…has to
decide...how many more hammer blows the metal will take without cracking.”

Hammering also entailed a substantial amount of time because of the need to constantly and carefully anneal the metal. The primary components of hammering are thus feel (rendered through an understanding of annealing and the subsequent malleability and movement of the metal) and time (as manifested through repeated annealings and hammerings which translates into tremendous labor intensity) – technical elements that are not evident in the final result but requiring as much, if not more, expertise as fanciful decorative techniques. In other words, the expertise involved in hammering is largely hidden but far from insignificant.

Furthermore, it is crucial to note that the hammering of flat sheet is the most prominent metalworking technique among the ornaments produced for Pu-abi and at Ur in general. Of particular interest to me is that the design decision to favor flat sheet over ornamental details produces surfaces that maximize the reflection of light, or shine, thereby actively enhancing the sheen of the gold or silver being used – creating in technique the semantic equivalent to kù (as shine) that was deemed inherent to the material. Already in this sense one might argue that the technique exhibits agency, that shine was being produced or “performed” in the making – not just in the material itself or in the donning and displaying of the finished product. If indeed purposeful, and I believe strongly that the technique of hammering so much flat metal sheet was

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378 Ingold 2011, p. 55; also see Lechtman 1999, p. 225, for a technical evaluation of hammering in an Andean context. She states: “Shaping metal as a solid relies entirely upon the mechanical properties of the metal, most particularly on its plastic behavior. Metal deforms plastically; it alters shape under the influence of an external force, such as a hammer blow and, when the force is removed, maintains the new configuration. Andean smiths were expert in the plastic deformation of the metal and alloys they produced; they concentrated on plasticity as one of the metal’s most valuable mechanical properties and pushed that property to its limits. It is clear that metal in the form of sheet, hammered into a uniform thickness and at times to the thinness of foil, was highly valued in and of itself.” Here, in anticipation of discussions ahead, I understand Lechtman to be implying that there is symbolic value (and perhaps performative and/or ritualistic value) to sheet metal as much as there are practical, technical, and economic values.

379 For some textual confirmation from Mari during the second millennium B.C. that craftspeople were not, in general, under time constraints and that certain objects (especially cultic objects) indeed took significant amounts of time to produce, see Sasson 1990, p. 24.
very consciously chosen or prescribed, this reinforcing of material properties in the associated technical processes represents an extraordinarily subtle yet sophisticated use of repetition or doubling, a conceptual operation that is well known in the visual and literary imagery of Mesopotamia.\(^{380}\)

Repetition on a more mechanical level is essentially a by-product of hammering and constitutes a second aspect of manufacture at Ur that is also obscure but fundamental, once again both in its technical importance and conceptual significance. The very act of annealing, the foremost component of continuous hammering, is repetition writ large and accounts in large part for the tremendous amount of time expended to make the comb. As indicated above, an ornament of this size must have required scores of annealing procedures in order to hammer the gold into its final form. The process is markedly repetitive yet not overtly appreciable in the final product. It is interesting to note that on a conceptual level the act of repetition is also a key factor in ritual procedure,\(^{381}\) so that the technological processes of repetitive hammering seem to support, or actually mirror, the proposed ritualistic nature of this jewelry. A similar emphasis on repetition is found within other examples of jewelry from Ur on the levels of materials, form, and iconography, as will be discussed at the end of this chapter. While the ritual aspect of the jewelry is clearly speculative in that, without corroborating textual evidence, one cannot be absolutely sure that the repetitive element was deliberate, the clear and observable consistency and uniformity of processes that will be described in the following pages do beg consideration along these lines.

\(^{380}\) See, for example, Bahrani 2002.

\(^{381}\) See, for example, Bell 1992, p. 19ff.; Bell 1997, pp. 138–69, especially pp. 150–53 for the repetitive characteristics of ritual (referred to by Bell as “invariance”); Bahrani 2002; and Vidale 2011, p. 447.
Seamlessness was mentioned above and comprises a third and crucial aspect of the jewelry technology at Ur for several reasons, again both physical and conceptual. For one it entails the use of a single piece of gold whenever possible rather than multiple ones joined together. This technique preserved the integrity and relative purity of the gold (or silver) as well as the visual unity of the piece. The use of separate elements would have interrupted both the material and the form, and the use of solder quite literally would have added impurities to the metal by way of the baser elements that are contained in solder. By hammering the prongs out of the same piece of metal as the body of the comb rather than soldering, or joining by any other means, separate points to the body, the goldsmith opted for the more difficult but purer and more holistic method. As will be shown later in this chapter, easier means were available to a goldsmith during this period so one must assume the choice was not by default but deliberate. This approach has implications concerning not only the compositional or economic value of the gold but also the potential ritual value or symbolism of the finished object. Once again, the procedure chosen achieved in technical terms the semantic equivalent to kù (as purity) that was deemed inherent to the material of gold. And likewise, one might again argue that the technique itself had agency, that purity was being preserved or “performed” in the very process of making – a consideration that in conjunction with the others just mentioned further points to the possibility that the goldsmith might be just as well described as a ritual technician as an artist or craftsperson.

382 Please refer back to p.122n376 for the use of baser metals in solders, or see Moorey 1994, p. 230.
Finally, seamlessness enhances the impression of wholeness or completeness, which is often equated conceptually with functional efficacy in the ancient Near East. In addition to the use of a single piece of metal for most of the comb, the way in which the separate floral elements are attached to the body of the comb conceal from the front view the mechanism by which this is accomplished and allows for the piece to have an organic appearance, despite the fact that it is not literally so. And on yet another level, seamlessness quite literally hides the hand of the mortal maker, thereby leaving open the question of who made the object, and how, and giving the impression that the object simply “exists” rather than that it was made at all. As has already been mentioned in previous chapters and as will be discussed again in the pages that follow, a similar operation, or ‘trick,’” is well known from ancient Near Eastern inscriptions describing the making of cult statues, where the process of fabrication entailed rituals that purposefully made ambiguous the creator of the statue and allowed the statue to be presented as an object that somewhat miraculously appeared in its finished state, or in effect, as if made by the gods. I will argue that a related conceptual maneuver was possibly being carried out in the technical processes involved in the making of Pu-abi’s jewelry.

These are all hidden aspects of technology that are rarely explored because they are poorly understood, if not completely unnoticed, by anyone who is not a craftsperson experienced in the particular technical methods under discussion or someone otherwise specifically interested and engaged in the processes and performativity of making. The finished product generally

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383 Compare, for example, the conceptual underpinnings of the visual display of Gudea’s or Naram-Sin’s various bodily features, particularly the propitious right arms (see Winter 1989, 1996), or of the five legs of Neo-Assyrian lamassu (Reiner 1995), to name only two. See also Sasson 1990, p. 23, especially n5 on the same page.

384 Taussig 2006; see also Baudrillard 1983; Gell 1992; Bahrani 1995a for similarities between techniques of seamlessness and those of tricks, or simulacra.

385 See, for example, the mīṣ pī and other rituals in which ambiguity is a key component (Walker and Dick 1999).
provides the starting point for all art historical investigations, leaving process and procedure to
the studio arts. My aim is to show that the procedural, or technological, aspects of the creative
endeavor provide additional ways in which to read Pu-abi’s jewelry as something much more
than decorative and/or symbolic of wealth and prestige. The technology involved in its
making itself carried meaning, efficacy, and perhaps additional information about why Pu-abi
and others at Ur were buried with such lavish but enigmatic jewelry.

Continuing with the discussion of how Pu-abi’s ornaments are made, I will turn now to
an examination of the three floral wreaths that adorned her head (Cat. nos. 2, 3, 4; Pls. 2, 3, 4).
The ring wreath (Cat. no. 5; Pl. 5) that was also part of the headdress assemblage will be treated
separately below. Although the wreaths represent a type of ornament quite different from the
comb and incorporate the additional use of lapis lazuli and carnelian beads, the methods used to
manufacture their gold components share many similarities with those used for the comb. Again,
the primary technique employed to make the gold elements of the wreaths is hammering. As with
the comb, the goldsmith fashioned each of the many leaves (totaling seventy-five for the three
wreaths combined) from a single unit of gold, hammering in one direction to make the leaf shape
and in the other direction to form the suspension loop for stringing – much like the comb was
hammered in one direction to form the pin end and in the other to make the body with splayed
prongs. In the case of the wreath pendants the shaping of each leaf was a fairly simple procedure
since individually they did not involve the large amount of gold and surface area that the body of
the comb did. Nonetheless, frequent annealing was likewise required both for the hammering of

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386 See Winter 2012, p. 159ff., for her reading of radiance and shine with regard to Pu-abi’s headress but from the
perspective of the finished object and its aesthetic (versus technological) agency.
the shape and for the chasing\textsuperscript{387} that was done to delineate the veins, but all in proportion to the lesser amount of gold and surface area.

However, here one must take into account that seventy-five of these pendants were produced for this one deceased body alone (and not forgetting the many others made for additional bodies across the cemetery), an achievement that easily rivals the skill and labor-intensity described above as necessary to create the comb. In light of the earlier discussion concerning repetition one can also apply those remarks to the leaf ornaments, not only in terms of the multiple and repetitive annealings conducted for each leaf but also in the sense that the making of the entire leaf element was repeated seventy-five times. These three wreaths therefore constitute an enormous expenditure of skill and labor, even without the creation of the beads on which they are strung has been taken into account. At the same time one must remember that the wreaths represent only three of the many ornaments adorning Pu-abi and only a fraction of the total number of ornaments from this period discovered in the cemetery as a whole.

By examining the suspension loops that belong to each leaf element and that were formed from the same piece of gold as the leaf, the procedural aspect becomes even more remarkable. As with the allotting of gold for the comb, the hammering of the gold leaves entailed planning not just for the leaf design but also for the narrow strip of gold that continued beyond the fine stems and served as the suspension loop for each leaf once it had been folded into the desired shape (Figs. 15, 16, 17). While the three separate wreaths have three separate design variations of this loop (one for attachment to two rows of beads, one for three rows, and one for four rows),

\textsuperscript{387} Chasing is defined by Moorey (1994, p. 216) as: “hammering the metal down from the front to produce a low-relief with linear margins.”
they share a fundamental aspect of technique: the use of a single, continuous – and seamless – piece of metal whenever possible.

In the case of the two poplar-leaf wreaths (Cat. nos. 2, 3; Pls. 2, 3; Figs. 15, 16) one can see that the strips of gold extending from the leaf stems are folded and rolled, almost ribbon like, into tubes (two and four respectively) intended to hold the strands of beads. The amount of annealing, and therefore time, needed to hammer and fold each of these loops is once again considerable. Likewise, a significant amount of feel and skill were again required to calculate and execute the movement of a single unit of gold into both the leaf shape and the suspension loop. An easier and more practical way would have been to produce multiple tubes that could be laid side-by-side, soldered together and subsequently attached to the leaf to form the loop. In this system if something went wrong in the making of the ornament, one could replace one part rather than starting from scratch to create an entire new leaf and loop out of a single piece of gold. The sum of making the parts separately would require less work than the making of each leaf and loop as a coherent whole. It seems that this alternate approach would have been especially relevant since there were so many of these leaves made for Pu-abi and for others in the cemetery. One could quite efficiently have made each type of part in an almost production-line manner and then assembled them to fashion the complete ornaments. Yet, the goldsmith chose the more difficult and time-consuming method, even though visually, the result would have been the same. Was it because this would have broken the gold into various bits and would have entailed the joining of parts, thereby compromising the wholeness and seamlessness of the pieces, both physically and conceptually? Was it because it would also have entailed soldering or brazing, which would have added impurities to the gold and compromised the physical and
conceptual purity? Was there a particular method prescribed by ritual? These are all questions that immediately come to mind once the technology has been closely examined.\textsuperscript{388}

The suspension loops on the willow wreath (Cat. no. 4; Pl. 4; Fig. 17) were made somewhat differently than the ones on the poplar wreaths but also extend from the single unit of gold out of which the center leaf of each element is formed. Here, the narrow strip of gold is not rolled into tubes as with the loops for the poplar wreaths but repousséed into a wave-like band that has channels for three strands of beads once folded over at its top.\textsuperscript{389} The base of each loop has two small prongs that bend to hold the entire element together, including the other two leaves once they have been inserted. It is to be noted that the procedure here once again favors the use of as few separate pieces of metal as possible and the joining of parts done in a purely mechanical way, seemingly without solder or brazing. From the front of the wreath the continuous hammering of the center leaf into a suspension loop covers the joins and mechanics involved in assembling the trio of leaves. It is a clever solution in terms of achieving the appearance of seamlessness, if at the cost of physical wholeness in this instance, but one that is well suited to the use of three leaves, two of which were by necessity made separately and inserted. The execution of this design ingeniously gives the suspension loops of this wreath a look similar to those of the poplar wreaths even though the design is, in fact, quite different.

\textsuperscript{388} Here, I remind the reader that there is evidence for the use of solder at Ur (Plenderleith 1934, p. 296; Moorey 1994, p. 230). The reader may also ask if the technique of casting was available to the gold- and silversmith at Ur, to which the answer is apparently yes (see Moorey 1994, p. 228). Indeed, the casting from a mold of the many leaf ornaments needed at Ur would have been a far more efficient system than fashioning them by hand. Here again, one can only guess that the primary objective was the preservation of the unity and purity of the gold – components that would have been compromised in the process of casting – and that the additional labor-intensity of making them in the manner attested was deemed appropriate and desirable for other reasons.

\textsuperscript{389} The technique here can be compared to that used to create the triangle beads found in the necklace or cloak collar (see Cat. no. 10; Pl. 9 and description on p. 140ff.).
The ring wreath (Cat. no. 5; Pl. 5) reflects a different design concept than that used for the other three wreaths of Pu-abi’s headdress. The bottom most wreath of the set, it is formed of heavy gold wire rings that are strung on a variety of lapis lazuli and carnelian beads. It is more abstract in design than the vegetal motifs used for the others but likewise favors the use of a single and continuous piece of metal.

The technique used to make the rings appears as simple as bending thick gold wire into a circle. However, the process of making the actual wire – before anything else happens to it – is once again quite labor intensive. There are several ways in which wire was produced in ancient times, the two most common being what are today called the “strip-twist” and “block-twist” methods.\(^\text{390}\) In both cases the process was a tremendously labor-intensive one because both types of wire began as thin strips of sheet gold, which meant that the gold had to first be hammered into sheet. As has now been noted numerous times, the making of thin gold sheet entailed repetitively alternating between annealing and hammering, especially in the case of strips for wire which had to be very thin, very narrow, and very long.\(^\text{391}\) These strips were essentially minute versions of the strips used to create the hair ribbon (see p. 135ff.). Once the thin, long strips of sheet gold had been made, the goldsmith then began to twist the wire in on itself until it became either a more or less solid round wire (“block-twist”) or coiled itself into a tube that had the appearance of solid round wire (“strip-twist”). The twisting part of the procedure was fairly easy, done mostly by hand. Both types of twisted-turned-round wire would be finished by rolling the wire between two surfaces, probably wood, as a means of compressing it and smoothing it.

\(^{390}\) For further descriptions and explanations of ancient wire making, see, for example, Ogden 1982, pp. 46–52 and Moorey 1994, pp. 228–29. Because there are many permutations of ancient wire twisted from strips of gold sheet, “strip-twist” is often the term used for all types of such wire, including “block-twisted” wire.

\(^{391}\) A passage from *Exodus* 39:3 (from Ogden 1982, p. 48) has helped modern goldsmiths understand and recreate how ancient wire was made: “They beat the gold into thin plates and cut it into wires.”
out. Because of the solid nature of the rings in this wreath, it would appear to me that the method used was the “block-twist” one.\textsuperscript{392}

With this understanding of how ancient wire is made, it becomes clear that the goldsmith once again had to undertake a significant amount of hammering and therefore annealing of the gold as it was being worked in order to generate enough wire to create the twenty rings used in this wreath. Additionally, making the round wire even and consistent throughout its length took great feel. This exercise in hammering was once again extremely time consuming and not without difficulty, if done with the care and precision evident in these rings. One cannot overstate the skill and laboriousness of the technical processes chosen by the goldsmiths at Ur, where the simplest looking examples of worked gold are often the most involved, despite their unassuming appearances.\textsuperscript{393}

The suspension loops that held these rings are also an exercise in hammering as well as repoussé work (Fig. 18). Each of the twenty loops are manufactured from a single strip of flat gold sheet that is hammered into a long tail and then repousséed into a wave-like band before being folded over at the half-way point into the final loop. Once folded, the wave-like bands appear as channels instead of tubes for the strands of beads to pass through – three for three strands of beads and a fourth and final channel at the open end of the loop for the ring itself. In their design and technique these loops closely resemble those used for the willow wreath (Fig. 17). Here the choice of an altered design most likely had to do with the fact that the end of each

\textsuperscript{392} It is difficult to say with certainty without radiography of the rings.

\textsuperscript{393} It is worth mentioning that the rings were not only time-consuming to make but also constructed of thick, heavy wire that required a considerable \textit{amount} of gold (see weight of piece, Cat. no. 5). Also, it may be that join of each ring (where the two ends of the circle meet) were soldered or brazed. In most instances, the suspension loop covers this area so that it is difficult to assess how the join was made; however, one or two rings show signs of some kind of joining, whether by soldering or sweating (see p.122n376). This possibility is supported by the clearer signs of one or the other of these techniques found at the joins of the rings on the belt or cloak border (Cat. no. 13; Pl. 10; Fig. 26).
loop needed to attach to, or “grab,” a ring (Fig. 19); the rings and the loops simply could not be made from a single piece of gold. Nonetheless, the design of these adapted loops very cleverly result in an appearance very close to that of the loops of the other wreaths, and because of the technique used to execute them, the individually suspended rings once again emerge as seamlessly constructed ornaments. It becomes quite clear from a comparison of the four wreaths alone, along with the other items of jewelry discussed thus far, that both design and technique at Ur were purposefully intent on seamlessness.

I would also note, if only in passing, that each of the four wreaths on its own includes elements that have the capacity to move so that as a group they would have become quite animated with the movement of the wearer. In fact, the rings on the ring wreath have the additional feature of making a clear, chime-like sound when in motion because of the way they are laid over one another. Sensory components are key features in ritual performances in many cultures, regardless of time and place, so it is perhaps yet another design characteristic worthy of significance beyond that of simple whimsy on the part of the goldsmith. How this movement might have been accomplished on a corpse in burial is, of course, problematic; nonetheless, there exist multiple possibilities for such movement at Ur in the form of burial processions and other ritual sequences, albeit ones that cannot be addressed here beyond the above mention.394

Pu-abi’s hair ribbon (Cat. no. 6; Pl. 6) forms the final element of her elaborate headdress and apparently consisted of several segments in its original arrangement.395 Regardless of the

394 See A. Cohen (2005, especially p. 148ff.) for some thoughts on these aspects.
395 This particular hair ribbon is now in three segments whereas in his field notes related to this ribbon Woolley states that there were “seven bands of plain gold ribbon” found on Pu-abi’s head. If there were originally seven as the field notes indicate, then it appears that some of the seven segments were soldered or sweated together after they were excavated so that there are now three segments in all under the accession number B17711a; indeed there are several modern joins evident among the three segments). However, in the text description of the ribbon in UE II (Woolley 1934, Text) Woolley indicates that Pu-abi’s single ribbon was “broken in two or three places” (p. 86) – an
number, this item of jewelry – as a single ribbon or as several separate ones – would have constituted a hammering tour de force. Each strip is remarkably plain and devoid of any decoration or iconography whatsoever and therefore would normally never be singled out in an art historical discussion as a noteworthy object; yet each one represents the epitome of technical expertise due to the enormous amounts of feel, skill, annealing, and time required. Hammering sheet gold into long straight strips such as these (of any length) is exceedingly difficult to do with accuracy and without having them break at some point along the way through the work hardening and splitting potential of the metal. Again, as with previous examples, such as the comb most especially (Cat. no. 1; Pl. 1), the goldsmith would have had to begin from scratch if the metal were to have split, cracked, or broken. Even in their completely undecorated state these ribbons (and there are scores of them in the Ur burials – see, for example, figs. 46-48) best exemplify the virtuosity involved in the craft of hammering at Ur.

Related to Pu-abi’s head attire were spiral coils of heavy gold wire that adorned either her hair or her ears (Cat. no. 7; Fig. 20). There is confusion regarding the number of these coils (often called “hair rings” in the literature) that were found with Pu-abi and where they are located today.396 Luckily, the method of manufacturing these hair or ear coils is less mysterious. Much like the rings that decorated the one wreath (Cat. no. 5; Pl. 5), these coils were made from

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396 In the text portion of the excavation report Woolley describes “four hair-rings of spirally twisted thick gold wire” while in the catalog section of the same volume he lists “gold hair-rings, 3 spiral coils of unusually heavy gold wire.” Furthermore, Woolley assigns these three or four rings a single excavation number (U.10942) and indicates that all are the British Museum, although to my knowledge the British Museum has only two. The University Museum in Philadelphia claims to have all four of Pu-abi’s so-called hair rings but under two separate accession numbers – one of which has an excavation number (U.10890) that Woolley records as belonging to an attendant of Pu-abi’s and the other which has no excavation number at all.
very heavy gold round wire that, instead of being formed into a single ring, were wrapped around more than once to produce a spiral. The making of the coils thus involved a considerable amount of labor due to the production of the wire itself, the process of which was described above (p. 133ff.). Such coils are found in abundance in the ancient Near East and are also depicted on extant terracotta figurines and other sculpture. However, in all instances their placement as hair versus ear ornaments is not entirely clear.

The very large\textsuperscript{397} lunate earrings worn by Pu-abi (Cat. no. 8; Pl. 7) are another example of expert hammering and seamless crafting at Ur. Each of the sizeable lobes is made from a single piece of gold that, like almost all of Pu-abi’s ornaments mentioned thus far, incorporated both the body (here, the lobe) of the jewel and the fastening or suspension device (here, an ear wire). As with the comb and the wreath elements, flat sheet turns into wire within the same piece of metal. What is also noteworthy about the design of these is that at first glance the two lobes appear to be one continuous unit because of the way in which the wire from the one lobe crosses over to attach to the opening point of the other lobe. In fact, it is possible that they were made as a single unit and that the wire at the one end was subsequently cut to provide the opening for the insertion of the other wire. Interestingly, a similar pair of lunate earrings from PG 1237 shows exactly this – that a single wire transitions into both lobes so that there is only one unit of gold involved in the making of the entire earring. Was this example perhaps an unfinished version of the earring, or a deliberate variation of the design not intended for a pierced ear?

Regardless of the reason, Pu-abi’s earrings and the many like them throughout the cemetery (see, for example, figs. 46-48) are extraordinary examples of an elegant design intended to appear as an organic and seamless whole. And once again, the method by which this

\textsuperscript{397} In his field notes Woolley calls these “grotesquely large examples of the common lunate (hollow) type.”
look was accomplished was through exhaustive and expert hammering from as few pieces of metal as possible, although a minute amount of solder or brazing seems to have been used in between the lobes to keep them together.\(^{398}\) Given the huge amount of gold Pu-abi’s earrings entailed (each of her earrings weighs approximately 85 grams), the goldsmith would have had to hammer and anneal each of the lobes numerous times while shaping both the flat outline and then the rounded curve of the lobe. Furthermore, the finished earrings are exceptionally well balanced when suspended from a single point. While the non-expert takes this for granted when discussing and describing the earrings, such balance is the outcome of a deliberate design formula and great technical skill – especially when using so much metal. Any unevenness or miscalculation in the hammering of the gold would have resulted in an imperfectly balanced piece that would have required the craftsperson to start from scratch in order to correct it. Thus, these earrings constitute the accomplishment of a well thought-out and worked-out scheme, the execution of which once again entailed far greater skill, labor, deliberation, and complexity than is easily visible in the final product.

**Adornment of Pu-abi’s Body**

Moving down Pu-abi’s body towards her neck we find a necklace with a central medallion in the form of a twelve-pointed rosette (Cat. no. 9; Pl. 8). The necklace, or choker most probably, consists today of three strands of primarily spherical and egg-shaped beads of

\(^{398}\) Evidence of soldering or brazing between the lobes to keep them together and reinforce the earring is visible to the eye; contra Alexander (1976, p. 102), who says that such a bond is not visible. Again, it is difficult to determine exactly what means were used without the help of proper scientific analysis. The forthcoming joint study between the University of Pennsylvania Museum of Archaeology and Anthropology and Deutsches Bergbau-Museum, Bochum, Germany on the Ur material may yield answers to many unresolved questions such as this one.
gold and lapis lazuli on either side of an openwork medallion made of gold, lapis lazuli and some other material now missing (or perhaps never there). I will focus here on the manufacture of the medallion. One’s first impression is that the medallion’s rosette form is fairly simply made of a round gold wire for the medallion itself and sections of flat gold wire for petals that were then inlaid with lapis lazuli and possibly some other type of material. In other words, once again no overtly fancy decorative techniques seem to have been used. However, if one looks closely at how the petals of the rosette are shaped, one sees that they are part of a single, continuous flat wire that is folded over and over again – almost origami like – and finally (or perhaps initially) coiled several times at the center and neatly tucked in at both ends (Fig. 21). Where this flat wire begins and where it ends is virtually imperceptible unless one studies the piece very closely.

What one cannot immediately appreciate about the manufacture of the petals is that this flat wire had to first be hammered into what must have been a rather long, thin, straight strip. Like the hair ribbon, this is very difficult to do with accuracy and without work hardening the gold to the point of it cracking or breaking. Just the preliminary work of making the flat wire required remarkable skill and exhaustive annealing. The goldsmith would have then needed to employ further annealing to fold a single wire into twelve petals and a coil since folding and bending also work hardens the metal. Additionally, one must realize that the forming of the petals was being done with great precision since each of the petals is nearly identical in size and shape. It is possible that the goldsmith used some sort of vise or guides to form the petals; however, it would nonetheless have been a labor-intensive exercise in rigorous accuracy. Once again, the great amount of time and expertise involved in the making of this piece is largely invisible in the final product unless one studies and fully understands the technical processes.
embedded therein. Furthermore, the jewel epitomizes the concept of seamlessness that is so prevalent at Ur through its use of a continuous wire that is neatly folded and tucked in at its ends. Not only is the rosette itself expertly made, but it also sits inside the gold ring of a bezel as if floating, a choice of technique once again designed to enhance the look of seamlessness.  

Finally, the beads are attached directly to the bezel by means of holes drilled into the round wire so that the bezel, in turn, appears to float within the choker itself.

On Pu-abi’s body, below the rosette necklace and described by Woolley as found “round the neck or shoulders,” was an ornament consisting of gold and lapis lazuli triangular elements separated by small bi-conical beads, also made of gold and lapis lazuli (Cat. no. 10; Pl. 9). At present the triangular elements are strung together using three strands of the bi-conical beads, a reconstruction which is based on Woolley’s notation that “the triangles, instead of being contiguous, were separated by small beads…in sets of three.” The contrast to “contiguous” triangles refers to the far more common occurrence, both in depictions and in actual jewelry, of identical triangular elements in a tight configuration so that they adjoin each other and form a choker-like neck ornament (often called a “dog collar;” see figs. 49a-d). Here, the addition of bi-conical spacer beads makes for a longer variation of this design and one that is not at all suited to

399 Of interest here is that several of the tips of the petals appear to be tacked on to the outer ring of gold by means of soldering or brazing the gold (perhaps even sweating; however, to my knowledge, an analysis of the filler metal has not been undertaken). This confirms once again that such a joining technique existed at Ur and could have been used for greater speed and efficiency in the making of many of the ornaments. It therefore seems to have been a choice NOT to use it whenever possible – and for the potential reasons discussed throughout this dissertation.
400 Woolley 1934, Text, p. 87.
401 Ibid.; Woolley’s observation that the triangle elements were strung using three strands of beads is further supported by the fact that the sides of the lapis lazuli triangles were pierced with three holes, indicating that they were intended to be strung with three strands. The gold triangles could have supported a greater number of strands since any one or all of their seven hollow grooves could have accommodated a strand; however, it is likely that the gold triangles were designed to synchronize with the lapis lazuli ones and that the overall reconstruction is more or less accurate.
being a choker, or even a necklace. It is quite probable that the ornament served instead as a decorative collar of sorts for the cape of beads, as suggested by Woolley.  

As for the manufacture of the triangular elements of the piece, the gold ones closely resemble in technique the suspension loops of the willow wreath (Cat. no. 4; Pl. 4; Fig. 17) and ring wreath (Cat. no. 5; Pl. 5; Fig. 18). Each gold triangle consists of a single sheet of metal that was first hammered into a diamond shape, then repousséed into a wave-like pattern and finally folded over at its widest section to form a two-sided triangle with seven ridges or channels. Three of these channels provided the means by which the piece was strung together. The pointed end was finished and closed off by folding the small lip or tail of one side of the triangle over the other, again much like the function provided by the small prongs on the suspension loops of the willow wreath. Here, as with so many other elements of Pu-abi’s jewelry, the form is simple but the labor involved is substantial. Because the triangles were made from sheet, multiple annealings and hammerings were required. The repoussé work then necessitated further annealings to avoid work hardening and cracking of the metal. These processes were repeated eleven times for this ornament alone, not to mention the many similar ones found throughout the cemetery (see, for example, figs. 46, 48).

To be discussed next, although not in nearly as much technical detail, is the so-called cloak of Pu-abi consisting of several thousand individual beads of varying materials, shapes and

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402 It is of interest that the so-called belt (Cat. no. 13; Pl. 10), as reconstructed, measures to an almost identical length as this ornament (Cat. no. 10; Pl. 9), as reconstructed – supporting the possibility that the belt was perhaps intended as a decorative bottom border to the cloak much as this ornament might have been intended as the decorative top border.

403 Alexander (1976, p. 101) states that these “ends are soldered in some cases, though more usually are simply overlapped.” However, he provides no evidence for the presence of solder, whether in the image reference provided or by any testing that was done. In the case of Pu-abi’s triangular beads – and the comparable ones from other burials that I was able to observe – I saw no use of solder or any means of bonding other than the purely mechanical.
sizes (Cat. no. 11; Fig. 22; see also figs. 3 and 9). Also included here is the separate string of beads (Cat. no. 12; Fig. 23 and visible at top of figs. 9 and 22), that in my opinion must have originally belonged to the same mass of beads found lying in a more or less vertical arrangement over Pu-abi’s body, now referred to as her “cloak.” I do not fully understand what the rationale is, or was, to have these beads reconstructed as running horizontally to and separately from the rest of the cloak beads; here they will be discussed together with the “cloak” beads.

As concerns the methods used to manufacture the beads of this “cloak,” I will make the most general of observations related to lapidary techniques and bead shapes during this period rather than discuss in detail the creation of each category of bead found among these more than 3,500 beads. A full description of how even one bead might have been made is well beyond the scope of this dissertation; suffice it to say that the process is an intricate and often tedious one that entails multiple steps and considerable expertise, analogous to that involved in gold- and silversmithing. In brief, the raw stone must first be extracted from whatever core it is naturally found in (see Chapter II), then its edges chipped or flaked until it is roughly in the desired form or shape. Some sort of cutting or shaping action using a variety of possible tools followed. Towards the end of the shaping process, an abrasive material of one kind or another, usually in conjunction with finer tools, is used to achieve more detailed shaping and finally polishing. The string hole must also be drilled, and this is perhaps the most difficult of the techniques involved.

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404 According to Aubrey Baadsgaard (see Baadsgaard 2008), who generously shared her numbers and measurements of Pu-abi’s ornaments with me, the total number of beads assigned to the cloak (Cat. no. 11) is 3,569 (not including those registered under Cat. no. 12).

405 It is unclear to me why the beads, Cat. no. 12, have been strung separately from the cloak (or any other object) and assigned their own museum accession number. They are not mentioned in Woolley’s field notes or excavation report as a distinct group of beads and therefore werenever given a distinct U, or excavation, number by Woolley. The stringing as it appears today is a modern reconstruction – and a modern separation of these beads from their original grouping.

406 For descriptions and explanations of ancient lapidary techniques, see Ogden 1982, p. 144ff. or Moorey 1994, p. 106ff.
in bead making. Of course, the enterprise is far more complicated than what has just been
presented; of primary interest here, however, is that the making of beads entailed a high degree
of skill, founded primarily on a feel for the material and knowledge of the tools and techniques
available, and an enormous consumption of labor, especially when one considers the total
number of beads that were produced for Pu-abi alone (Fig. 3) – and this on top of the significant
effort and cost of procuring the raw materials from far away locations.\(^\text{407}\)

The beads that formed Pu-abi’s “cloak” comprise a range of shapes or types, with
spherical, cylindrical, tubular, and double-conoid shapes being the most recurring forms among
them.\(^\text{408}\) The mass also include gold beads that, as will be seen immediately below, are made to
look exactly like their stone counterparts, albeit using entirely different skills and techniques.
This seemingly purposeful corresponding design concept once again attests to the fact that gold-
and silversmiths and lapidary experts (the kù.dìm and the za.dìm) must have often worked
together and in coordination (see Chapter III).

As a final note on this particular item belonging to Pu-abi, I would like to offer the
possibility that the beads that formed the so-called cloak were *perhaps* (and I stress only
perhaps) a completely different phenomenon. Other burials – some from earlier periods, some
contemporary with the Early Dynastic cemetery at Ur – likewise include large numbers of beads
strewn over the bodies of the deceased. For example, at the site of Tepe Gawra in northern Iraq
(Mesopotamia) a tomb dating to the late Uruk period (3500-3000 B.C.) contained a body covered
with twenty-five thousand beads of semi-precious stones,\(^\text{409}\) while at Tell Banat in Syria a tomb
dating to the Early Bronze Age (mid-to-late third millennium B.C., or contemporary with Early

\(^{408}\) For beads types in Mesopotamia, see Maxwell-Hyslop 1971, pp. 8–10 and Aruz 1995, p. 50, fig. 14.
\(^{409}\) Bahrani 1995b, p. 1636.
Dynastic Ur) held a coffin that contained a skeleton similarly blanketed with hundreds of beads, both of semi-precious stones and of gold.\footnote{Porter and McClellan 2003, p. 185 (Cat. no. 123a–e).} Whereas it is equally as probable that these various assemblages of loose beads had been sewn onto cloth or leather backings that did not survive archaeologically and that they had originally formed a garment of one sort or another, such as was presumed by Woolley for Pu-abi’s “cloak,” it is worth considering the option that such beads might have represented a “shroud” of loose scatter meant to magically protect, or otherwise have an effect, on the corpse – not unlike the efficacy activated by the ubiquitous Mesopotamian foundation deposits (see Chapter II).\footnote{For the same suggestion but without mention of Pu-abi’s mass of beads, see Winter 1999a, p. 50 (with special attention to n35).} These are questions for a more detailed future study but nonetheless worthy of a passing mention here in the context of the arguments being presented in this dissertation.

The beads and rings that constitute Pu-abi’s so-called belt, possibly the bottom border of the “cloak,” were found lying across her body at waist level (Cat. no. 13; Pl. 10; see also figs. 3 and 9).\footnote{Woolley 1934, \textit{Text}, p. 87.} The drawing in the excavation report clearly shows these elements as having been discovered horizontally arranged on Pu-abi’s body and therefore in contrast to the vertically oriented beads of the “cloak.”\footnote{Ibid., fig. 12.} Because of the deposition of the beads and rings at Pu-abi’s waist level, they have generally been designated a belt. However, the length as reconstructed is not sufficient for a belt whereas it does measure out to be almost exactly the same length as the triangular bead “cloak” collar (Cat. no. 10; Pl. 9), making it possible – even likely – that it served
instead as the bottom border of the “cloak” much like the collar most likely served as the upper border.\textsuperscript{414}

The majority of the beads are of solid lapis lazuli, formed into a simple cylindrical shape. Interspersed with these are a considerably smaller number of solid carnelian beads of the same shape and even fewer gold ones that appear to be the same shape but are not solid gold. While the lapis lazuli and carnelian beads are manufactured with similar lapidary techniques as discussed above, which in themselves are quite labor intensive, the gold beads are made in a way that once again points to an extremely arduous and painstaking method of production. Each bead consists of gold that was first hammered flat and cut into the appropriately sized rectangular sheet, then rolled and beaten around some sort of core, such as plaster, wood, or bitumen.\textsuperscript{415} Because of the thinness and relatively small size, these sheets would have required considerable skill to form into even and smooth tubular shapes around a core. Most interestingly, the horizontal seam that runs across the long side of each tube where the ends of the rolled sheet meet seems not to have been soldered but sweated closed (Fig. 24).\textsuperscript{416} If so, there seems to have been a premium placed, once again, on \textit{not} soldering.

Each of the gold tubes had excess gold sheet at each end, which was folded over and burnished to form finished sides rather than leaving open tubes. Such folding of flat sheet into a circular shape is difficult and further work hardens the metal. I believe that this procedure was

\textsuperscript{414}This is not a new reconstruction; Woolley suggested in his excavation report that the triangular bead ornament might have served as the collar for the cloak and that the belt was either a true belt or a bottom border of sorts for the cloak (Woolley 1934, \textit{Text}, p. 88; \textit{Plates}, pl. 130). I am simply reinforcing the idea that the so-called belt was actually a bottom border because of its length being identical to the collar which formed the top border.

\textsuperscript{415}Plenderleith 1934, p. 295; Moorey 1994, pp. 226–27. To my knowledge, the inner material has never been scientifically analyzed.

\textsuperscript{416}Plenderleith (1934, p. 296) says the seams were “apparently” soldered by autogenous soldering, which could mean sweating. Alexander (1976, p. 100) says the joins on similarly constructed bi-conical beads were “sweated,” not soldered, so it is likely that the above beads would have received the same treatment.
facilitated by making several small cuts in the folded over edges of the gold, a technique that allows the metal to more easily form a circle by fanning rather than crimping or buckling. It is also a commonly used technique for origami work in paper. These cuts can be clearly seen under a microscope (Fig. 25), although they could also be read as stress fractures. However, given the consistent appearance of these cuts among the fifty gold beads, I would submit that they were purposeful cuts.

Here, I would like to point out that by taking the extra step of folding over the ends in this manner, the goldsmith achieved finished gold beads that in shape appear identical to the lapis lazuli and carnelian ones, despite the fact that their methods of manufacture are unrelated. As is usual at Ur, the crafting process favored seamless looking jewels – seamless both in the workmanship of their individual elements as well as seamlessly integrated within design of the overall piece – accomplished through subtle, almost hidden, yet difficult and highly labor intensive and repetitive techniques.

In addition, twenty-nine rings of solid gold wire were suspended from the horizontally strung beads (Figs. 3, 9). These rings were constructed of solid and heavy gold wire that was formed into circles, much like the rings in the ring wreath (Cat. no. 5; Pl. 5) and the hair or ear coils (Cat. no. 7; Fig. 20), and the labor required to make them was likewise significant and hidden in the effort of creating the gold wire (see p. 133ff.). Unlike the example of the ring wreath, the joins of the rings here are not obscured by suspension loops, and one can see that the joins where the ends of the wire meet were joined, either by soldering/brazing or sweating (Fig.
26). If they were indeed soldered or brazed, it would constitute one of the few instances of the technique being used at Ur.\textsuperscript{417}

As with the ring wreath (Cat. no. 5; Pl. 5), the rings here also have the ability to make a clear, chime-like sound when in motion because of the way they are laid over one another. The movement and sound of the cylindrical beads from which they are suspended further complement the movement and sound of the rings in that the movement is a circular, rolling one in contrast to the dangling, sideways one of the rings, and their sound is a duller, lower-pitched one than that of the rings. The variety of motion and sound embedded in so many of the ornaments at Ur is not easily appreciated in the setting of a modern museum display where objects are protected by being pinned down. Of course, as referred to earlier, the comment applies equally to the jewels in their own time, given that the jewels were found on an inanimate corpse.

Finally, a similar and equally under-appreciated variety is evident in the imagery of the overall cloak. If a reconstruction of the cloak in which the thousands of vertically arrayed beads bordered by the triangular bead collar on top and this so-called belt at the bottom were to be correct (Fig. 3), or at least close to the original arrangement, then the complete cloak would have represented a sophisticated and fascinating use of a design concept well known from other media. The combination of highly geometric patterns – very regularly spaced, inverted triangles on top, variegated vertical lines in the middle, and horizontally, evenly placed cylinders at the

\textsuperscript{417} It was not possible to examine the joins closely enough to determine whether or not solder might have been used, nor was it possible to test the metal in the join area. Although the joins are visible here, as opposed to those on the rings of the ring wreath (Cat. no. 5; Pl. 5), it is difficult to assess the type of filler metal without a much closer look under the microscope. Again, perhaps the joint study being undertaken by the University of Pennsylvania Museum of Archaeology and Anthropology and Deutsches Bergbau-Museum, Bochum, Germany will yield definitive results with regard to the issue.
bottom with circles hanging off – is reminiscent of contemporary and earlier pottery, textile and architectural designs (see, for example, figs. 50a-c). However, here these integrated patterns are employed in a medium that one generally does not associate with such elaborate combinations. They therefore constitute a design tour de force, especially as they offer such a stark contrast to the primarily floral and vegetal motifs of Pu-abi’s head ornaments that are, also in contrast, overwhelmingly gold (see further mention of the significance of this in Chapter V).418

The next few items of Pu-abi’s jewelry will be treated only briefly as they constitute various bead clusters that are difficult to identify as distinct ornaments. First among these items is a group of large faceted, date-shaped beads (Cat. no. 14; no image available) that Woolley said were found on top of Pu-abi’s thigh bones, first suggesting and then dismissing that they might have been related to the belt.419 They certainly seem to be of a different type than those used either for the so-called belt or for the cloak. The group consists of four gold, four lapis lazuli and two carnelian beads. Without further information, it is impossible to consider these as an individual item of jewelry.

The beads forming what Woolley called a “garter” (Cat. no. 15; Pl. 11) – because they were located around the right knee of Pu-abi – were fashioned in a manner very similar to the beads of the so-called belt. The nine solid lapis lazuli and six solid carnelian beads were cut into a slightly flattened rectangular shape, and the eight hollow gold beads were manufactured to appear identical to the stone ones by folding over the short sides, giving them the same depth as their stone counterparts. The seams on the long sides of the gold beads, like those along the gold

418 For an interesting interpretation of the use of color and patterns in various media, see Stevens 2007, especially pp. 87–88. She refers to a concept called phantasmagoria, or the shifting of real and imaginary images – as in a dream – in relation to certain decorative schema that likewise create optical illusions and shifting realities through technological manipulation. See also Gell 1992 for a related concept of technological manipulation.
419 Woolley 1934, Text, pp. 88–89.
tubes of the so-called belt, were burnished and sweated rather than soldered or brazed. The combined beads of this “garter” thus appear both uniform and uniformly integrated. The issue that is not so easily resolved is what sort of ornament these beads might have formed, since “garter” is a distinctly modern and Western term. One wonders if perhaps they simply belonged to the mass of beads that made up the “cloak.”

In the modern installation of Pu-abi’s ornaments there is a group of strung lapis lazuli and carnelian beads that is referred to as a “cuff” (Cat. no. 16; Fig. 27). However, there is no reason that these beads should form a distinct item of jewelry since Woolley never mentions such an item anywhere in his field notes or in the excavation report. Consequently, there was no excavation number (U. number) assigned, only a museum number after the fact. Since Woolley does not specifically mention these beads, it is not known where they were found on Pu-abi’s body and therefore cannot be reconstructed in any certain manner. Because the assorted lapis lazuli and carnelian beads are of types represented among the cloak beads (Cat. no. 11; Figs. 3, 9, 22), I would suggest that they most logically must have originally belonged to that grouping.

Pu-abi was found with ten finger rings. Eight of these rings were made of plain round and twisted gold wire, the other two of gold cloisonné work and with lapis lazuli inlays.420 Of Pu-abi’s five rings now housed in Philadelphia (Cat. nos. 17-21; Figs. 28-32; see also Fig. 9, bottom right), four of them are constructed of gold wire made from a single, continuous segment of gold wire that is coiled around multiple times to form a wide finger ring. For each of these rings, the wire begins its coil as plain round wire, turns into twisted wire, and returns to plain round wire so that the overall design is one of a braided-pattern middle section flanked by plain edges. For one

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420 The five rings housed at The British Museum will not be specifically described or illustrated here as I did not have the opportunity to study them or photograph them. However, in principle, they appear to have been made in a manner very similar to those housed in Philadelphia.
of these rings (Cat. no. 17; Fig. 28), the number of coils totals eleven, with two and a half plain round wire coils flanking six twisted wire coils in the middle. In another, slightly larger ring (Cat. no. 18; Fig. 29), the design is exactly the same but with a total of nine to ten coils of gold wire, of which five to six coils in the middle consist of twisted wire while one and a half to two coils of plain round wire flank the middle. In a third ring (Cat. no. 19; Fig. 30), the single gold wire coils around eleven times with six coils of twisted wire in the middle section and two and a half coils of plain round wire on either side, much like the first ring discussed. In the fourth gold wire ring (Cat. no. 20; Fig. 31), there are a total number of seven to eight coils, of which five comprise the twisted wire middle section and one and a half make up the plain round wire outer edges. Although this ring has fewer overall coils than the others discussed so far, it nonetheless adheres to the same basic design concept.

What is noteworthy about the manufacture of these fingers rings is once again the use of a single piece of gold for both the plain round and the twisted sections of wire – wire which constitutes one continuous segment which transitions from plain round to twisted back to plain round. As mentioned earlier in the discussion of the rings on the ring wreath (Cat. no. 5; Pl. 5), there are several ways in which wire was produced in ancient times – the two most common being what are today called the “strip-twist” and “block-twist” methods (see discussion on p. 133ff.). Given how the basic wire for the finger rings was made, it is likely that the twisted wire sections of the rings were finished before the round wire sections. The twisted wire portion of each ring would have constituted an initial stage of the “strip-twist” process, whereby a flat strip of sheet gold was twisted but not tightly enough to make round wire. Once the desired length of total twisted wire was achieved, a central section was left as loosely twisted while the

421 See also Ogden 1982, pp. 46–52; Moorey 1994, p. 229.
twisted wire on either end of the central section was further twisted until it became a solid round wire (“block-twisted). The finished wire that progressed from round to twisted and back to round was then coiled (in various numbers of coils) into a wide finger ring form.

The result is a lively design that appears to be constructed of several elements when in fact it was created of a single one. The construction is so seamless that at first it is difficult to see how the rings were made, an observation already noted by Plenderleith in 1934. Yet again, we have at Ur a tour-de-force of jewelry design and execution, in which premiums are placed on using a single entity of gold to achieve seamlessness and for which the intensity of labor and skill of workmanship are largely hidden to the eye. The rings could much more efficiently have been made of separately formed round and twisted wires that were placed side-by-side and joined together. Interestingly, and in spite of the effort to keep the rings pure and whole, there is evidence of tiny bits of gold soldering or brazing between the wires, presumably as a means of holding the wires – and therefore the rings – firmly together. If so, this would be a rare case of its use at Ur and in a situation where the goldsmith did not incorporate solder or brazing into the basic design, opting instead to use a single piece of gold wire, but used it in the final stages to reinforce the design. What is useful and important about this seeming contradiction in practice is that it makes clear, once again, that solder or brazing was indeed available and the decision not to use it, often at the expense of considerable extra labor, was a deliberate one, not a default mode of production.

The fifth ring in Philadelphia belonging to Pu-abi (Cat. no. 21; Fig. 32) is very different in design and technique from the four rings just described. This gold and lapis lazuli ring

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422 “…and the method of manufacture was difficult to detect.” Plenderleith 1934, p. 296.
423 The use of solder or brazing for the purpose of reinforcing the rings was also noted by Plenderleith (ibid.); Alexander (1976, p. 104) observed the same.
represents an example of true cloisonné work, a type of inlay technique that would have had one of its earliest appearances then at Ur.\textsuperscript{424} First, the goldsmith would have made the basic ring form, or band, from a flat sheet of gold. Again, this would have required several hammerings and annealings to prepare. It seems to me that the rounded edges of the ring were made next by rolling back the longitudinal edges of the flat sheet, rather than separately placing and soldering round wire to the sheet to create the same effect but with greater ease. The rolling of the sheet would have been a tedious procedure and involved considerable annealing to keep the gold malleable enough to perform such an intricate operation. However, as usual, this method both preserves the unity of the gold and avoids the creation of seams that would be visible if round wire had been separately applied.

Once the basic form of the ring had been finished, the cloisonné work could begin. In order to do this, the goldsmith at Ur who made this ring used two long, thin, very narrow strips of gold sheet that were first crimped into a wave pattern and then set on edge onto the circular band of the ring, forming the cells (or cloisons) to be inlaid.\textsuperscript{425} What is remarkable, yet so typical of goldworking at Ur, is that a single strip of gold was used to create each of the two rows of cloisons. If one looks carefully at the piece and follows the two strips, one discovers that each one begins at the same point, bends around the ring back to that same point, folds over to bend around the ring the other direction so that the two tail ends meet again at the same point the other two ends began (Fig. 32). While this is certainly the cleaner, more seamless and more skilled way of making the cells or compartments to be inlaid, it is not the way that is often chosen. More

\textsuperscript{424} Moorey 1994, p. 229.
\textsuperscript{425} The thin, flat, narrow strips of gold used to make the cloisons would have been very similar to the thin, flat, narrow strips of gold used to make wire (as described on p. 133ff.). Therefore, as one considers the making of this cloisonné ring, one must keep in mind the tremendous skill and effort involved in the hidden manufacture of the strips themselves before they get used as cloisons.
commonly, the cloisons were made of separate wires so that the placing of them in the overall design can be fitted and refined as needed.426 Once again at Ur we have the goldsmith opting for a more sophisticated and labor-intensive way of executing a particular technique, one that preserves the seamlessness and the unity of the gold to the greatest extent possible.

It is likely that the cloisons, once placed, were soldered or brazed at various points to the sheet underneath as a means of keeping the piece intact.427 This soldering or brazing would be hidden once the inlays were inserted so its use as a technique was minimally visible and again related to structural necessity rather than practicality or ease of execution. It was at this point that the lapis lazuli inlays could be cut to fit the individual spaces – a lapidary procedure that was extremely challenging given the precise shapes required and the minute size involved. These inlays were held in place with bitumen, traces of which remain. Finally, the exposed face of the finished ring would likely have been smoothed and polished to achieve an even surface. The final product clearly mandated great time, skill, and a procedural approach to its creation that so much of the jewelry at Ur exhibits – seamless execution.

ADORNMENT RELATED TO PU-ABI’S BODY

There were several ornaments and items found near Pu-abi’s right arm, in the area between her elbow and shoulder, all or some of which may have been related to each other in their original arrangement on her body. Among these were three toggle pins (Cat. nos. 22-24; Pl. 12; Figs. 33, 34), three cylinder seals (Cat. nos. 25-27; Figs. 35-37), and five amulets (Cat. nos. 426 For second millennium B.C. examples, see the Aigina jewelry in Fitton et al. 2009, figs. 85–93. 427 I say “likely” because clear evidence of soldering or brazing was difficult to see on examination but makes sense in terms of the structural integrity of the piece.
28-31; Figs. 38-42). This is the same side of Pu-abi’s body where Woolley reconstructed the cloak to have five strands of plain carnelian beads running down its length. A sixth amulet was found near Pu-abi’s left shoulder (Cat. no. 32; Fig. 43) and will also be discussed below. According to Woolley, the three toggle pins functioned to secure the cloak on the right side, with one cylinder seal attached to each pin, as was the fashion at the time (see, for example, Fig. 51). This remains a perfectly reasonable assumption today, along with the slight variation that they might have secured an undergarment rather than the cloak itself, if one retains the possibility that the beads were loosely spread over Pu-abi’s body, as mentioned earlier.

What is less clear is how the amulets were incorporated into the overall arrangement. One in the form of a recumbent calf, one in the form of two recumbent and addorsed antelopes, and three amulets in the form of fish (Cat. nos. 28-31; Figs. 38-42) were likewise found “with” the toggle pins against the upper right arm, according to Woolley. Were they in some way also attached to the pins? Or could they have been lying on the bier by Pu-abi’s side as votive offerings of some sort? Were they in any way related to the five strands of small carnelian beads, ostensibly from the cloak, that didn’t fit with the rest of the cloak pattern? The possibilities will be discussed further below.

As for the manufacture of these twelve assorted objects, I will focus on those made of gold – the three toggle pins of gold and lapis lazuli and the three gold amulets of the six in total that accompanied Pu-abi. However, all twelve items will be discussed, if briefly in some cases, in order to make sense of how they might relate technically and conceptually to each other and to the rest of Pu-abi’s assemblage. From the outset I will say that, in a very general sense, although

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428 Woolley 1934, Text, p. 88.
429 Ibid.
430 Ibid.
they seem to share the emphasis on skill and seamlessness apparent in the rest of Pu-abi’s ornaments, the toggle pins and amulets do not exhibit quite as much technological repetition – in other words, procedural prescription – as do the majority of the ornaments reviewed thus far. Cylinder seals, on the other hand, constitute a category and a discipline of their own – one that both differs procedurally from Pu-abi’s jewelry yet relates to it in that the mechanics of seal making and seal rolling, when taken together, display a similar sort of insistence on seamlessness and repetition that has been stressed for the making of the jewelry. More will be said on these points below.

I was able to study first hand only the gold and lapis lazuli toggle pin in Philadelphia (Cat. no. 22; Pl. 12); however, it appears that the two in London (Cat. nos. 23, 24; Figs. 33, 34) were made in more or less the same manner so will be treated together with the example in Philadelphia. The basic form of these pins was that of a long and tapered body of solid gold, topped by a pinhead in the shape of a large, round lapis lazuli bead with gold caps. The body of the pin was hammered into its tapered shape from a sizeable piece of gold that remained massive and solid even in its final form. What is interesting here is that this type of hammering and shaping, while still requiring some annealing, is less labor intensive and less difficult than the making of sheet in the myriad of forms we have seen thus far. The working of gold into a shape such as the pin bodies requires less labor and skill than the sheet because the gold in this substantial form is less susceptible to stress fracturing than sheet, which gets increasingly thinner and more brittle with repeated hammerings. A mass such as that used in the toggle pin must be still be annealed, but the process is less delicate – one that is in some ways closer to forging than to the fine work of hammering sheet. Thus, the element of procedural repetition in making is less
pronounced. In addition, the wide end can be sawed off at whatever point is deemed necessary rather than having to be gauged for further elements, such as the prongs on the comb or the suspension loops for the leaves on the wreaths. The toggle pins were simply easier to fashion than many of the items belonging to Pu-abi as discussed so far.

Each head of the three toggle pins consists of a large, round lapis lazuli ball that involved a minimal amount of lapidary work on a rather large surface, as compared to the work required for the several thousand small beads found with Pu-abi. Each ball was drilled through its center so that it is essentially a large bead. Each bead, in turn, is capped on both sides by thin gold sheet domes. At the very top of the pinhead one can see a gold nail or rivet that presumably belongs to a gold wire that runs through the center of the bead (Fig. 44). What cannot be observed with the naked eye is how this nail or rivet attaches the bead to the body of the toggle pin. It is possible that the goldsmith allowed for a rivet to be formed from the gold of the pin body or soldered a separate rivet to the gold of the pin body. Alternatively, a gold nail may have been driven into the top of the pinhead; however, in this case it is unclear what that nail would have been driven into other than solid gold, which is not very feasible as a procedure. It is possible that the goldsmith drilled out and filled the top of the pin body with bitumen for this purpose. However, without taking one of the toggle pins apart, it is difficult to tell – which once again speaks to the aspect of seamlessness that pervades the methods of manufacture used to make the various elements of Pu-abi’s assemblage, even in the case of the considerably less technically complicated toggle pins.

Finally, a hole was drilled cross-wise through the solid gold body of the pin very close to the top, where the taper is widest and near where the pinhead joins the body (Pl. 12). This small
hole presumably constitutes the means by which the cylinder seals (and other elements such as the amulets?) would have been attached (see, for example, ig. 51). The overall toggle pin is very heavy because of the massive amount of gold used; however, it is at the top – where the gold is thickest and the large lapis lazuli bead is located – that this weight is concentrated. It is noteworthy that the pin, although top heavy, nonetheless balances well if it is held more or less where the drilled hole has been placed on the pin body. Therefore, while the toggle pins were not as complicated and labor-intensive to make as were so many of the other ornaments found with Pu-abi, they nonetheless demonstrate a considerable level of engineering skill and seamlessness of design.

It is also worth noting that toggle pins are found more commonly and more frequently throughout Mesopotamia during the Early Dynastic period than most of the other types of ornament buried with Pu-abi, and at Ur in general, begging the question of whether they were somehow different in functional character from the much of the rest. Is it possible that the making of these pins was not as procedurally repetitive and labor intensive as that of other ornaments because they belonged to a different functional category of object at Ur – perhaps one that was more practical rather than ritual?

With the toggle pins were found three cylinder seals, all carved from lapis lazuli and depicting banquet scenes (Cat. nos. 25-27; Figs. 35-37). Since my focus is on the manufacture of jewelry, not on seal carving, I will treat the technology of seal production only briefly and from more of a conceptual point of view, as well as for the sake of completing the picture of Pu-abi’s attire or assemblage.  

This is not to say that the cylinder seals from Ur are less critical for diagnostic purposes than the jewelry; they are simply not the focus of this study. Suffice it to say  

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431 For a detailed summary of cylinder seal manufacture, see Moorey 1994, p. 103ff.
that in the case of Pu-abi’s seals, the fact that they are all of lapis lazuli and finely carved is important; however, like the toggle pins to which they are likely attached, cylinder seals depicting banquet scenes are fairly common in the Early Dynastic period and not nearly as exceptional as are many of the other ornaments buried with Pu-abi and throughout the cemetery. As was mentioned with respect to the toggle pins, perhaps this suggests a more practical versus ritual purpose to the cylinder seals, within the range of functions that is well attested for seals (see below). However, what is significant about the technique of cylinder seal carving in general, and in the context of this dissertation in particular, is that seal carving is conceptually analogous to how Pu-abi’s gold ornaments were conceived and created.

Cylinder seals represent one of the earliest and most continuous forms of visual expression in the ancient Near East, especially in terms of pictorial narrative. In technique, form, function, and meaning they epitomize the multifaceted conception of the world that one can argue is so quintessentially Mesopotamian in character. In terms of iconography, the imagery on cylinder seals rarely bore any relation to its owner’s profession or to the intended function of the seal. What the images depicted and what the images did were frequently two completely different operations. Seals were also used in multiple ways. They were administrative on one level, apotropaic on another, adornment on yet a third level, and could be votive and/or dedicatory in a secondary context, among other uses. However, it is the conceptual or performative aspect of seal making and usage that is in many respects the most fascinating.

The technique of carving minute images in reverse and on a hard, round surface so that they appeared in a continuous, coherent, and linear visual narrative when rolled out in clay has long been marveled at; however, what has been pointed out but is very much underappreciated is
the similarity of conception behind this technology and that of so many other ancient Near Eastern creative processes, including the making of the Ur jewelry. It seems to me that the emphasis in making cylinder seals was above all on seamlessness and repetition of procedure. The medium used varied, the size chosen varied, the image rendered varied. Some seals reveal expertly carved images while others do not. However, all employ a cylindrical surface and all attempt to begin and end their depicted scenes at a common point so that a repetitive and seamless yet linear scene was achieved in the rolling. The act of rolling, the completeness of the rolled out scene, the ability of the scene to repeat an infinite number of times, and the possibility that any one seal could replicate its internally infinite scene an infinite number of times were perhaps as important and efficacious as what was on the seal,432 which is perhaps why a complicated shape and an elaborate method of manufacturing were chosen to make a product to secure a document or door that could more easily have been done by etching personalized lines in the clay with a point or stylus. Like the circular format used for the Uruk vase (Fig. 61),433 the artifice of putting the five legs on a lamassu figure (see p. 128n383), or the labor-intensive methods used to create most of Pu-abi’s jewelry, meaning and agency were embedded in both the form and the technology, not just in the iconography. Furthermore, the “hidden” elements within the form and technology were not necessarily literal ones, rather conceptual ones – ones related to purity, unity, completeness, and continuity. Repetition on a number of levels – visual, technological, conceptual, and functional – was thus an essential procedural aspect of seal making and rolling. In the realm of manufacture perhaps it was the potential seamlessness and

432 See Hansen 1998, p. 49 for an eloquent discussion of these same aspects of seal making and rolling. One could compare this to the concept of the utterance in the ancient Near East – that any given ritual is only fully efficacious when the spoken component, the utterance, has been performed in conjunction with all the other elements of the ritual operation (Bahrani 2003, p. 20).
repetition that insured the efficacy of the seals as they were rolled out. It is in this conceptual sense, rather than in a strictly technical sense, that the technology of cylinder seal carving relates to the way in which much of Pu-abi’s jewelry was produced.

Given what we know from depictions on shell inlays (see, for example, Fig. 51), it is likely that Woolley was correct in his assumption that Pu-abi’s toggle pins and cylinder seals belong together and that the hole drilled through each toggle pin was used to attach a cylinder seal. The question is only whether Pu-abi wore all three sets or only the one that incorporated the cylinder seal inscribed with her name (Cat. no. 25; Fig. 35). Another question that arises from the depiction on the shell inlay is whether the amulets and their associated beads may also have been attached to the toggle pins along with the cylinder seals since beads of very similar shape can be recognized in the image. Woolley, however, suggested that the recumbent bearded bull (Cat. no. 32; Fig. 43) and reclining, or recumbent, calf (Cat. no. 28; Fig. 38) amulets were worn by Pu-abi in her hair.434 I will return below to the question of how these and the other amulets might have been worn.

If we begin the discussion of the amulets with those discovered on Pu-abi’s right side (where the toggle pins and cylinder seals were found), the example that was found in the most complete state is the one that features a recumbent calf, nicely carved of solid lapis lazuli (Cat. no. 28; Fig. 38). The calf is tucked in on itself, as if sleeping, with its head turned around across the right flank in a way that animals do when in repose. In his field notes Woolley called it “a fine strong work.”435 Indeed, the amulet represents a high level of lapidary skill, albeit one that is not uncommon for this period. The imagery is also well known from other Early Dynastic sites,

434 Woolley 1934, Text, p. 88.
435 Woolley, field notes, held at The British Museum, London.
both in amulet form and from other types of objects. This amulet was found with three large beads – one large oblong agate bead, one large flattened lentil lapis lazuli bead, and one large diamond-shaped lapis lazuli bead – and is therefore strung accordingly today.\textsuperscript{436} However, it is conjecture as to what order these beads took when strung originally.

Also found with Pu-abi near her right elbow were four small amulets that were apparently not associated with any beads as was the one above. These include one in gold in the form of two recumbent and addorsed antelopes (Cat. no. 29; Fig. 39), two gold ones in the form of fish (Cat. no. 30; Figs. 40, 41), and one solid lapis lazuli fish (Cat. no. 31; Fig. 42).\textsuperscript{437} All three gold amulets seem to have been made in a similar fashion, by first hammering small sections of gold sheet and then pressing the sheet over a bitumen, wood, or plaster core of the desired form (here, that of recumbent and addorsed antelopes and fish).\textsuperscript{438} Once the gold was affixed in this way, the goldsmith refined details such as muscle lines, eyes, muzzles or mouths, fish scales, and fins by chasing on the surface of the sheet from both the front and the back. In the case of the addorsed antelopes, the ears and horns appear to have been added separately and joined to the body with solder or brazing. All this would have entailed minimal annealing yet, like the reclining calf amulet in lapis lazuli, was executed with considerable skill and refinement. The body of the addorsed antelopes seems to have been pierced through its center with a string hole; in the case of the two fish, string holes appear as piercings that went from the opening of the mouth through one gill, a clever use of a naturally existing opening.

\textsuperscript{436} Woolley 1934, \textit{Text}, p. 88; Woolley, field notes, held at The British Museum, London.
\textsuperscript{437} I was unable to examine these pieces first hand so the descriptions here are somewhat tentative.
\textsuperscript{438} Because relatively small bits of gold sheet were used for these amulets, the need for annealing was minimal. See Betancourt 2006, p. 90, for a well-argued and related point concerning jewelry from Troy.
The forth amulet found on Pu-abi’s right side was a third fish, almost identical in both in size and in form to the two with gold overlay but carved out of solid lapis lazuli. Like the two fish in gold this one has many of the same details incised in the lapis lazuli that had been chased in gold, and also from the front as well as the back. The consistency of design and detail between the gold and lapis lazuli versions of the fish amulets is much like that of the triangular beads of the cloak collar (Cat. no. 10; Pl. 9), which were also almost identical in their gold and lapis lazuli iterations. Clearly, the goldsmiths and the lapidary specialists were working in coordination to produce very similar final products in two different media. Such cooperation is not surprising to discover in material form since, as discussed in the previous chapter, administrative documents from the third millennium B.C. attest to both professions being housed in a single craft workshop.\textsuperscript{439}

The sixth and final amulet is the one featuring a recumbent bearded bull of lapis lazuli and found above or next to Pu-abi’s left shoulder (Cat. no. 32; Fig. 43). This is the only amulet found on this side of her body. Like the recumbent calf amulet found on Pu-abi’s right side (Cat. no. 28; Fig. 38), the reclining bearded bull is also finely carved out of solid lapis lazuli, with its head turned out from its body and its features incised on both the front and back. Images of bearded bulls in both amulet form and in a variety of other media are likewise well known archaeologically from a range of Early Dynastic sites, again making an amulet such as this one fairly common during the period. As seen today in Philadelphia, this amulet is strung with two

\textsuperscript{439} It is assumed from existing third millennium B.C. craft archives and other textual evidence that those who worked in precious metal and those who worked fine stone such as lapis lazuli constituted two different professions but ones that worked very much in collaboration (see, for example, Loding 1974, pp. 33, 273; Steinkeller 1996, p. 251). For instance, it is evident that several different professions – including ones less closely related to jewelry making such as those of leather and reed workers – operated in close proximity within the Ur III craft workshop (see, for example, Neumann 1993 [1987], pp. 35–37, and Van De Mieroop 1999, p. 112ff.).
large lapis lazuli diamond-shaped beads, one large lapis lazuli trapezoidal bead, one large carnelian oblong bead, and one small bi-conical bead at top. However, in his field notes Woolley states that the bearded bull was attached to “an oblong carnelian bead and a lapis diamond,” therefore accounting for only two of the five beads in the present stringing.440

Woolley suggested, as already mentioned, that the recumbent bearded bull amulet found above or next to Pu-abi’s left shoulder and the recumbent calf amulet above or next to the right shoulder were hair ornaments.441 However, to my knowledge, there is no precedent for this type of hair ornament in any depictions from this or any other period. It is more logical to think that all the amulets, singularly or in combination, might have been worn on a garment that was no longer extant at the time of excavation or on the cloak itself, in a manner similar to the representation seen on the shell inlay noted earlier (Fig. 51). There, a toggle pin holds together the figure’s garment while also supporting a cylinder seal strung together with two large beads, such as those found with the Pu-abi’s amulets. It is quite possible that an amulet, or several amulets, might have been part of such a stringing, making sense of the fact that exactly those items – toggle pins, cylinder seals, amulets, and large beads – were found in relative proximity to each other near Pu-abi’s right arm. Only one amulet and some beads were found on her left side. Thus, while I agree with Woolley that the three toggle pins and three cylinder seals were combined together to make exactly three separate ornaments comparable to the one depicted on the shell inlay,442 I imagine that at least five of the amulets and associated beads, in some combination, would have been part of the three arrangements as well rather than functioning as separate hair ornaments. The sixth amulet and set of beads from Pu-abi’s left side certainly could

440 Woolley, field notes, held at The British Museum, London.
441 Woolley 1934, Text, p. 88.
442 Woolley 1934, Text, p. 88.
have been conceived as an analogous item but without a toggle pin or cylinder seal. However, the deposition and arrangement of these objects are not the focus of my research; rather, I would like to return to the technology involved in the manufacture of this last group of ornaments.

As noted previously, the toggle pins, cylinder seals, and amulets all constitute quite commonly found object types for the Early Dynastic period whereas the comb, wreaths, hair ribbons, earrings, necklace or collar of cloak, and belt represent types of ornament that are rare outside the cemetery at Ur.443 There are a few extant and contemporary comparative examples from elsewhere in the Mesopotamian cultural sphere (see, for example, Figs. 49a, b) and virtually no representations in other media of anything like the comb, wreaths, earrings, belt, and cloak collar (or its necklace variation) apart from the example, mentioned earlier, of a plaque found near the Ishtar Temple at Ashur in northern Mesopotamia (Figs. 49c, d) and perhaps in schematic form on some terracotta figurines (see, for example, one dating to a later period, Fig. 53). What may be hair ribbons (and earrings that approximate those worn by Pu-abi) seem to be depicted on inlays (see, for example, Figs. 51, 52). Furthermore, the making of the toggle pins, cylinder seals, and amulets involved different technical processes than those used for the more unusual items, which, as has been discussed at length, were dominated by the repetitive hammering and annealing of sheet metal.

While there is some conceptual, if not exactly procedural, overlap in the realm of technology, especially as pertains to the seamlessness and repetition embedded within cylinder seals, I think it is possible that a different category of objects were being represented – the

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443 This, of course, may simply represent a skewed view of the period through the accident of archaeology, like the scale of the burial area itself. It is possible that comparable tombs and assemblages, as well as entire cemeteries, existed but have not yet been uncovered.
everyday apotropaic and/or practical as opposed to the ritual and/or funerary.\textsuperscript{444} Could it be that
the cylinder seals, toggle pins, and amulets represent what Pu-abi used in life while the more
unusual ornaments might have been made specifically for burial, or that the two categories
signaled different aspects of Pu-abi’s status in life and in death? These are interesting questions
that unfortunately cannot be answered here.

Another type of pin was found lying on the wooden bier to the left and clear of Pu-abi’s
waist (Cat. no. 33; Pl. 13). It is extremely heavy, hammered from a single piece of gold from the
point at the bottom into rather thick sheet that gradually widens into a triangular shape before it
was rolled over at the top. Like the comb (Cat. no. 1; Pl. 1) the sheet of this pin is thick and
massive and required a tremendous amount of annealing as it was hammered. It shows even
more signs of stress from work hardening than did the comb (Fig. 45). The rolling of the metal at
the top would have been a tricky operation that would also have involved quite a bit of annealing
to execute. It has been suggested that the pin served as a hair ornament, perhaps with some sort
of organic material such as a feather inserted through the rolled top.\textsuperscript{445} However, it seems odd to
me then that the pin would have been found near Pu-abi’s waist. It makes more sense that it
perhaps functioned as a pin for the belt (Cat. no. 13; Pl. 10), considering that almost everything
else associated with Pu-abi was located in proximity to its original use.

\textsuperscript{444} See Aruz 2003, pp. 242–43, for her comments on the use of lapis lazuli and carnelian in the third millennium
B.C. to fashion objects for ritual and religious purposes (including foundation deposits, decoration of temples and
cult statues, and personal adornment for gods) versus their more common (and secular?) use for beads and amulets.
This observation parallels, in terms of the materials used throughout the ancient Near East at the time, what has been
described here for the methods of manufacture employed in the making of the Ur jewelry. In doing so Aruz follows,
and refers to, Maxwell-Hyslop (1960) by touching on the ritual and religious function of jewelry, and the materials
out of which it is made, in this period. Aruz carefully takes her understanding a step further by making the
tantalizing suggestion that perhaps the jewels transformed the elite deceased bodies into divine offerings. I believe
that the implications for the jewelry found in certain of the Ur burials are far greater yet, as will be suggested in the
conclusion.

\textsuperscript{445} Woolley, field notes, held at The British Museum, London; Pittman 1998, p. 96, no. 32.
This concludes my technical analyses of the ornaments associated with Pu-abi’s body proper. What I have just described is the repetitive and seemingly prescriptive techniques used to produce the majority of the ornaments, particularly the gold ones, worn by Pu-abi in PG 800 at Ur. However, these very same methods seem to be employed throughout the cemetery at Ur for all ornaments that likewise repeat in design – most especially the poplar wreath, the lunate earrings, the hair ribbons, the triangle-pattern collar, the rosette necklace, and to a lesser extent, the comb. At this stage I will bring in for comparison a sampling of such related ornaments from other burials in the “Royal Cemetery,” most of which, interestingly enough, belong to bodies that have been labeled as attendants rather than principle interments. The point here is to show that these designs and methods of manufacture were not only used and repeated in the making of ornaments for one particular individual or type of individual but rather were used and repeated in certain burials within the cemetery to create particular types of ornaments. This emphasis on repetitive and consistent formulae of design, technique, and planning had a distinctly unifying effect both within certain tombs and across a selection of tombs across the cemetery and would have required the designated craftspeople to plan and work in unison for great numbers of hours, days and years. In the past the majority of studies or mentions of the Ur jewelry have focused on differentiating, in one way or another, one assemblage from another across the cemetery in an

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446 Please note that I am not addressing Pu-abi’s so-called diadem (B16684/U.10948) because it was not found directly on Pu-abi and thus may not actually have belonged to her – and because it warrants a dissertation of its own. However, I do plan to write about it at some future point.

447 See Gansell 2007 and Baadsgaard 2008 for the most recent and detailed accounts of exactly who wears what in various tombs and graves at Ur.

448 See Ross 1999, p. 171, for a similar observation, but from a slightly different angle, about the cooperation required of craftspeople at Ur.
attempt to answer questions of chronology, social status, gender, ritual action, and so on. The conclusions have largely centered on the levels of power, prestige, and hierarchy signaled by such perceived differences. The technological results demonstrate, however, that there are, in fact, distinct similarities among specific types of ornaments within these various assemblages across the cemetery in terms of manufacture, to the point of being definable as procedurally prescribed or dictated – suggesting that the making of Pu-abi’s adornment, as well as that of certain others, was part of a larger phenomenon at Ur.

What follows is a brief look at a selection of such examples. The burial context in which each was found and the assemblages to which each belongs have been treated at length by others; I mention them here solely for their similarities of design and techniques of manufacture. The majority of those I will highlight come from PG 1237, also known as the “Great Death Pit.” A few were excavated in other tombs, such as PG 1054, as well as the death pit that Woolley attributed to PG 800 (Pu-abi) but is no longer considered to be related. I will not repeat the technical analyses involved; rather, I will simply refer to the pages above in which I have described the comparable piece from Pu-abi’s assemblage.

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449 Compare, however, to Pittman (1998, pp. 87ff.) who states, with regard to the Ur jewelry, that “both attendants and primary occupants wore ensembles that differed from each other in degree but not in kind” and Gansell 2007 (as well as Vidale 2011, pp. 431, 437–38n21, citing Gansell) who identifies differences in sets of adornment in order to distinguish between potentially different social classes or roles but also stresses the recurrence of certain designs in particular configurations. Winter 1999b likewise observes recurrent patterns of deposition at Ur but with regard to libation containers. Thus, it is important to note that “sameness” at Ur seems to actually exist on several levels within select corpuses of objects, despite the fact that “difference” is often what is most emphasized in the scholarship.

450 For a more complete accounting of all the objects that follow, and their contexts of deposition, see Pollack 1983, 1985; Gansell 2007; and Baadsgaard 2008. It is clear from each of these studies that there are distinct “sets” of jewelry associated with particular types of individuals; I will not repeat the exercise here. Rather, I wish to augment those findings with brief comments on the technology related to the predominant categories of jewelry in such “sets” that further points to a certain amount of sameness and consistency, rather than differentiation alone, within the corpus.

Pu-abi wore two separate poplar wreaths as part of her attire (Cat. nos. 2, 3; Pls. 2, 3). Most other bodies in the cemetery were found outfitted with only one (see, for example, Figs. 46–48). The majority of these had poplar wreaths with two spacer suspension loops, not four, and no carnelian beads for buds at their tips, as did the one poplar wreath of Pu-abi’s (Cat. no. 2; Pl. 2). In other words, these and the other of Pu-abi’s poplar wreaths (Cat. no. 3; Pl. 3) constituted the simpler and by far the more common version of the wreath. It is noteworthy that most of these were found almost exclusively on bodies that have been called attendants rather than on primary interments, like Pu-abi. Of important to the argument being presented here, in each of these many nearly identical poplar wreaths the gold leaves and their suspension loops were made in exactly the same manner as in Pu-abi’s example (see p. 129ff.), a remarkable technical detail given the number of extant wreaths incorporating what amounts to hundreds of individual leaves.

If we examine the lunate earrings found among various burials (see, for example, Figs. 46-48), they, too, manifest the same design and technique as used for the earrings worn by Pu-abi (Cat. no. 8; Pl. 7). These comparative examples vary in size and weight, and to a minor extent in the color of gold; however, once again they were made using precisely the same procedure as described for Pu-abi’s pair (see p. 137ff.). One example is actually made out of a single, continuous segment of gold without any break for the ear wire. It is unclear if this was purposeful or accidental on the part of the goldsmith and if that pair were then worn over the ear rather than through the ear.

Hair ribbons like those found with Pu-abi (Cat. no. 6; Pl. 6) are yet another item found repeatedly throughout certain burials (see, for example, Figs. 46-48). As was discussed with respect to Pu-abi’s hair ribbon (see p. 135ff.), such thin, narrow strips of gold would have been
exceedingly time consuming and difficult to hammer into that form without them breaking or splitting. It would have been even more so for the making of silver examples\footnote{See, for example, Zettler and Horne 1998, p. 102, Cat. no. 46.} because silver is not as malleable as gold. Their plain, undecorated character should not disguise the remarkable feat that the manufacture of these ribbons entailed, and in exactly the same manner for so many different bodies.

The triangle-shaped beads that likely formed the collar to Pu-abi’s cloak (Cat. no. 10; Pl. 9) were found as frequently as the poplar leaf wreaths, lunate earrings and hair ribbons; in fact, they were often found in conjunction with those other items (see, for example, Figs. 46, 48). Although the beads that comprise Pu-abi’s cloak collar are strung so that they do not adjoin one another, as do almost all the others, the design for all of the examples is essentially the same – triangles in gold and in lapis lazuli, both with grooved surfaces, and arranged in an alternating and inverted pattern. Furthermore, they are all made precisely as described for Pu-abi’s version (see p. 140ff.).

The fact that these very specific types of ornament – the poplar leaf wreaths, the lunate earrings, the hair ribbons, and the triangle bead collars – were all repeatedly found together in certain burials at Ur and were repeatedly produced using the same exact methods and techniques is noteworthy. These are not jewelry items commonly found in this or any period. Indeed, as previously mentioned, very few comparative examples exist from elsewhere in Mesopotamia (see, for example, Figs. 49a, b), all of which, however, appear to have been made in the same manner.\footnote{A thorough comparison of the Ur material to similar examples from sites such as Tell Asmar (Frankfort 1934, fig. 29) and Kish (Watelin and Langdon 1934, pl. XXXV), for example, will be not be undertaken here since I was unable to study these related objects in the same close, technical manner as I did for Pu-abi’s jewelry and similar} Furthermore, the Ur ornaments under discussion likewise differ drastically from other
significant corpora of third millennium B.C. jewelry, such as that from Troy in Anatolia in terms of design and technology. More will be said below about the Trojan jewelry and the overall implications of such discrepancies.

Two other categories of jewelry at Ur should be mentioned, both of which are of interest to the present discussion. One is that of the open work rosette medallion, like the one worn by Pu-abi (Cat. no. 9; Pl. 8). These were not found in great numbers; however, they exist in burials at Ur other than Pu-abi’s and are distinctive in terms of Early Dynastic jewelry types (see, for example, Figs. 54a, b). In each case the open work rosette of the medallion was fashioned from a single piece of gold, which was first painstakingly hammered into a thin, narrow strip and then seamlessly folded into a continuous series of petals that resulted in the design (see p. 138ff.). The effort, skill, and procedural peculiarity evident in this one detail are astonishing.

The other item of adornment that should be considered here is that of the flower combs, which also were not found as frequently as were other ornaments yet nonetheless appear repeatedly at Ur and constitute a type of adornment that is equally as unusual elsewhere in Mesopotamia during this period. Most of the comparative examples from other burials at Ur differ from the one worn by Pu-abi (Cat. no. 1; Pl. 1) in the medium of which they were made and the number and style of flowers they display. Several were fashioned from silver, not gold, and encompass three flowers rather than seven (see, for example, Figs. 55a, b). The flowers were also conceived of and therefore made in a slightly different manner. However, the bodies of these combs would have entailed the same careful and labor-intensive hammering and annealing that was required for Pu-abi’s comb (see p. 119ff.), even more so because a large, single unit of ornaments from other burials at Ur. However, from photographs most of the examples do appear to have been made in a very similar fashion.
silver is considerably less malleable than gold. In another case, single flowers in gold and lapis lazuli – that were both rendered and made like those in Pu-abi’s comb (see 123ff.) – were uncovered (see, for example, Fig. 56). These very likely would have belonged to a comb that more closely resembled Pu-abi’s. However, regardless which version of such combs one takes into account, the design and manufacture remains relatively consistent throughout, just as they have been with other categories of jewelry at Ur.

Thus, for virtually every item of certain types of ornament at Ur discussed within and apart from Pu-abi’s assemblage, and most especially as pertains to those made primarily of gold, the procedural aspect of manufacture reveals itself as the same and constant – and perhaps most important, seamless to the greatest extent possible. In addition, the designs repeat to a remarkable degree, especially given that comparable ornaments adorned both the most lavish of the interred bodies, such as Pu-abi, and the presumably less socially elevated ones. Recurrence, or repetition, is thus evident on multiple fronts – internally within each individual jewel’s technical expressions and externally in the choice of using similar technical procedures and designs across multiple burials. It can therefore be said, unequivocally, that certain categories of jewelry at Ur were formulaic and prescribed in terms of both design and technology, the possible implications of which will be addressed in the next chapter. At this stage one might wonder if the elaborate and labor intensive methods were the only ones known at this time, if other techniques were simply not developed or available. However, this appears not to be the case.

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454 What difference does exist is primarily one of degree – of quantity; see, for example, Pittman 1998, p. 87; Gansell 2007; and Vidale 2011, pp. 437–38n21.
A fair amount has been written on the connections between the various assemblages of gold jewelry found at Troy and those from Ur.\textsuperscript{455} Although the exact dating of the material from both sites remains imprecise, there is nonetheless a good chance that some, if not all, of the Trojan material overlaps in date with the Early Dynastic jewelry from Ur.\textsuperscript{456} Without detouring into a full discussion of synchronisms and comparative typologies, I would like to make a brief and very general comment about the jewelry from Troy and how it relates to that from Ur. As has been described in great detail, the most surprising and compelling technical aspects of much of the Ur jewelry are the use of single, and at times rather large, units of gold and the tremendous labor intensity of hammering and annealing hidden within so much of the workmanship – all, it has been argued, to produce seamless and organic looking products that appear to purposefully exploit the purity of the gold and the shine produced by flat gold sheet. To this end individual elements entail a minimal number of separate parts, and when separate parts do exist, their joining seldom resorts to the use of soldering or brazing. I would submit that this is in absolute contrast, aesthetically and technically, to how the Troy jewelry – and jewelry from related sites such as Poliochni\textsuperscript{457} – was conceived and constructed (see, for example, Figs. 57a,b, 58).\textsuperscript{458}

First, the gold from Troy was designed to incorporate the joining of many small, separate elements, most frequently by mechanical means but also through the use of copper diffusion bonding, a method of brazing that introduces relatively few impurities to the original metal but does involve the addition of copper to the overall equation.\textsuperscript{459} Second, there would have been

\textsuperscript{456} See, for example, Bass 1966; Bass 1970 (especially p. 339); and Colburn 2012.
\textsuperscript{457} Bernabò Brea 1957, 1964.
\textsuperscript{458} This is in stark contrast to the conclusions most commonly drawn when comparing the jewelry from Ur with that from Troy – see, for example, Bass 1966 and Colburn 2012.
\textsuperscript{459} See Betancourt 2006, pp. 92–3, for the technical evidence for and a detailed description of the technique.
virtually no, or minimal, need to anneal the gold while hammering it into sheet since the gold would have remained plenty malleable for the few strokes required for such small pieces. Betancourt describes the Troy jewelry as “defined by its use of multiple joins” and concludes that: “the use of tiny pieces [is] a pervasive aspect of this production group.” He attributes this design choice to the nature of the available native (alluvial) gold, which was found in small nuggets. He continues by saying that “melting the nuggets to cast larger pieces to work with can be time consuming, difficult, and even wasteful.” Thus, this manner of production is in direct opposition to what is being executed at Ur. This is not to say that the Trojan ornaments did not entail considerable work and expertise; they did. However, from the above observations and statements it simply becomes even clearer that the goldsmiths at Ur were doing exactly the contrary to what their counterparts at Troy were doing – even though they likely used similarly accessible alluvial gold for at least one third of their production and, as noted earlier, were in contact with the Trojan craftspeople (or their products, at the very least) and familiar with their designs, techniques, and methods.

Therefore, if copper diffusion bonding was known and used at Troy, it would almost certainly have been available at Ur. Indeed, there is evidence at Ur – and, as previously described, specifically within Pu-abi’s assemblage of jewelry – for soldering or brazing and

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460 Ibid., p. 90.
461 Ibid.
463 See again, Bass 1966 and Colburn 2012.
464 The association of the jewelry from Troy with that of Ur is often based on the related iconography of a few types that were found at both sites, such as quadruple spiral pendants and basket earrings – a single example of which was found at Ur (Bass 1966, pp. 37–38; see also Maxwell-Hyslop 1960, p. 109, for general comments on the relationship between the jewelry from Troy and Ur). While these iconographic links are certainly born out in selected examples and help to confirm contact between the two areas, they also make it all the more clear that the craftspeople from Troy and Ur made very deliberate and different technical choices while using this shared imagery. For example, if one compares the methods of manufacture used to make the quadruple spiral pendants from each of the two sites, it is clear that they differ dramatically despite the similarity of iconography. This technical divide follows exactly along the lines of the above discussions, further supporting the arguments put forth thus far.
sweating, perhaps even in the form of copper diffusion bonding.\textsuperscript{465} However, regardless of the method, metal-to-metal bonding of any sort seems to have been employed infrequently and only when absolutely necessary. There can be little doubt that the technical differences between goldsmithing at Troy and at Ur were a matter of choice, not divergent knowledge or expertise.

A detailed interpretation, or “reading,” of the Troy jewelry as it compares in style, meaning, and purpose to the Ur material is beyond the scope of this dissertation; however, as a brief commentary on technological style and associated meaning(s), I would like to refer to a methodological distinction made by Ellen Swift with respect to Roman jewelry.\textsuperscript{466} In much the same vein as is being undertaken here, Swift considers all aspects of jewelry production – the material, the technical, the formal, the iconographic, the quantitative – in assessing the agency(ies) of jewelry in the Roman period. In doing so she makes the case that any one dimension could be responsible for constructing identity and/or agency and that when several were combined together, agency was amplified. One of the categories Swift discusses is that of intricate design patterns that require complicated and labor-intensive methods of manufacture. In her view such visually and technically elaborate jewelry signaled elite status: “Such designs impress through an awareness, on the part of the viewer, of the difficulty with which they are achieved.”\textsuperscript{467} The importance here is that for Swift the deliberate visual and technical ostentation

\textsuperscript{465} It is not entirely clear which of these techniques was used because, to my knowledge, the Ur material has never been scientifically tested for the exact type of metal-to-metal bonding used. Both Plenderleith (1934) and Alexander (1976) state that there is evidence for soldering and sweating (which is a general term used to indicate either thermal fusion or copper diffusion bonding) in the making of the Ur jewelry; however, neither appears to have been working from the results of any scientific analyses. Perhaps the recent investigation of Ur material and forthcoming joint study by the University of Pennsylvania Museum of Archaeology and Anthropology and Deutsches Bergbau-Museum, Bochum, Germany will yield more detailed technological and scientific information on the process(es) used for metal-to-metal bonding.

\textsuperscript{466} Swift 2009, pp. 139ff.

\textsuperscript{467} Ibid., p. 148.
of jewelry is what triggers prestige in the Roman world of elite and imperial obsessions and ambitions.

While the Troy jewelry is not of the same style or design nor necessarily imbued with a similar meaning or agency, it is comparable to the case presented by Swift in that it has been intentionally constructed of multiple parts aimed at maximum ornamental intricacy of execution and design, accomplished at great expense of labor. In contrast to both the Trojan and Roman material Pu-abi’s jewelry, and other pieces like it at Ur, were seemingly consciously constructed of as few parts as possible, relatively simple in design, and almost entirely undecorated. Most striking of all, the amount of labor and expertise involved in creating these jewels were all but hidden yet just as intense, if not more so. While Pu-abi’s jewelry was strikingly ostentatious in terms of the types of materials used and the sheer amount of jewelry made and worn (both categories capable of producing potential agency for Swift), the technical aspects of its making were anything but that. Is one, therefore, to “read” the technology used as having meaning and agency quite different from that of the Trojan or Roman jewelry, in other words not aimed purely at an impressive display of virtuoso craftsmanship and the prestige associated with such visibly flamboyant workmanship? Why all the effort to make Pu-abi’s ornaments in the labor-intensive manner that they were made and with seemingly specific semantic values repeated in technique as were embodied by the materials, when the types of materials and quantity of them alone could have signaled any desired prestige? Considering that Pu-abi’s jewelry was buried, possibly never worn in life, and likely only seen in public, if at all, for a brief moment in time during the funeral proceedings, who would have noticed such subtle but intense craftsmanship? It seems to me that if prestige were the primary objective at Ur, the visual impact

468 Ibid.
of the sheer quantity of precious material would have sufficed, in whatever form and by whatever means it was made.

CONCLUSION

If one of the most basic components of ritual is prescribed, repetitive, and predictable action, then the prescribed and repetitive making of a large portion of Pu-abi’s jewelry, as well as that of related others at Ur, as just described, could most certainly fall into the realm of ritualized behavior. Similarly recurring patterns were also observed by Winter with respect to the deposition of at least two types of libation vessels at Ur, interpreted by Winter as indications of ritual (read cultic?) action because of the precision and repetition associated with those patterns. Andrew Cohen has likewise detected patterns indicating “ritual” activity at Ur, as has Gansell following Cohen and Massimo Vidale from the perspective of archaeological patterns related to music. In light of the investigation undertaken here, technological patterns can now be considered to support a similar conclusion. However, suggestions of cultic ritual action, while hinted at, are at best tentative, leaving Moorey still standing largely alone in his reading of the “Royal Cemetery” as connected to distinctly cultic activities. While there has been increasing attention being given to, and evidence for, the potential ritual nature of the burials at Ur, the traditional views that they constituted, above all, ostentatious displays of wealth

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469 See, for example, Bell 1992, p. 19ff.; Bell 1997, pp. 138–69, especially pp. 150–53 for the repetitive characteristics of ritual (referred to by Bell as “invariance”); Bahrani 2002; and Vidale 2011, p. 447.
470 Winter 1999b.
473 Vidale 2011.
474 Moorey 1977.
and prestige associated with rituals of royalty, rather than cult, continue to prevail. As a result of
the technical study presented here, I am now increasingly inclined to follow Moorey and
consider Pu-abi and those buried with ornaments related to hers in material, technique, and
design as participants in some type of grand cultic phenomenon at Ur.
“Techniques are to be defined as traditional actions combined in order to produce a mechanical, physical, or chemical effect, these actions being recognized to have that effect. It will sometimes be difficult to distinguish techniques from:
1. the arts and fine arts, since aesthetic activity and technical activity are on a par as regards creativity;]
2. religious efficacy [where] the difference lies entirely in how the native conceives of the efficacy. It is therefore necessary to estimate the respective proportions of technique and magical efficacy in the native’s mind.”

~Marcel Mauss

INTRODUCTION

With this statement Mauss underscored the complex and tantalizing relationship between technique, art, ritual, religion, and magic – an intricate relationship that has persisted throughout all phases of human history and virtually across all cultures. Elsewhere Mauss describes the intertwining of these elements as follows: “…the greater part of the human race has always had difficulty in distinguishing techniques from rites. Moreover, there is probably not a single activity which artists and craftsmen perform which is not also believed to be within the capacity of the magician.”

Helms likewise points out “the aura of supernatural assistance that provides the distinctive sacral quality that is always part of the process of true skillful crafting.” Key to such otherworldly conceptualizations of what is often considered routine object production is the

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477 Helms 1993, p. 146.
very act of doing, of making. It is not surprising then that in many languages, ancient as well as modern, the words for magic and ingenuity stem from and/or include the verbs “to do” and “to make.” It is no different for ancient Mesopotamia. Making must thus be considered on a par with the made.

While there is a noticeably, or at least seemingly, lesser degree of importance attached to the technical aspect of art production in more modern times (as opposed to conceptual creativity and imagination alone), made objects in ancient Mesopotamia were clearly valued above all for the technical expertise they embodied and for the ritual (esoteric?) knowledge that often accompanied the proper execution of that skill. Based on the observations made thus far, I would like to suggest that the material and technical features of Pu-abi’s jewelry and that of related others – apart from, and without even discussing, what its iconography can reveal – were not just important to how the objects were valued and appreciated aesthetically or meant to function symbolically but also carried ritual, perhaps even cultic or religious, efficacy.

**SKILLED CRAFTING AND ENCHANTMENT**

Before expanding further on the theoretical implications of the technological analysis undertaken in Chapter IV, it is perhaps helpful to review here some of the salient points made about the technical processes involved in the creation of the majority of Pu-abi’s jewelry and that of related others at Ur. First, the goldsmith must have been an expert at his or her craft. The

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478 See, for example, Mauss 2001, p. 24.
479 See CAD E: 191–235, epēšu; see also Winter 2003.
481 Winter 2008b.
amount of hammering involved in the making of Pu-abi’s and related ornaments, although not a complicated technique, required considerable knowledge of the mechanics of the metal and a feel for knowing where to begin and how to hammer the gold so that the overall designs could be achieved. Hammering also entailed a substantial amount of labor intensity, and therefore time, because of the need for constant annealing. Finally, the design choice of hammering into flat sheet metal, as is so prevalent in the Ur jewelry, maximizes on the amount of undecorated surface area that is exposed and can project shine. Thus, the semantic value and inherent property of shine that are attached to gold (or silver) as a material and discussed in Chapter II are even embedded into and enhanced by the technology. Hammering is consequently a technique that is not always fully appreciated and valued in any final product but one that requires as much expertise as fanciful decorative techniques. It can also carry meaning and be as conceptually sophisticated as any iconography can. In other words, the expertise involved in hammering is largely hidden but far from insignificant.

Repetition constituted a second aspect of the manufacture of Pu-abi’s and related jewelry that is likewise obscure but equally fundamental in its technical and conceptual importance. The very act of annealing, the foremost component of continuous hammering, is repetition writ large and accounts in large part for the tremendous amount of time expended to make the various ornaments. Like hammering itself, it is also not overtly appreciable in the final product.

Seamlessness comprised a third and crucial aspect of the jewelry technology at Ur for several reasons. For one it entailed the use of a single piece of gold (or silver) whenever possible rather than multiple ones joined together. This alone has implications concerning not only the commercial value of the gold (or silver) but also the potential ritual value, ritual symbolism, and
ritual efficacy of the object. As with shine, the semantic value and inherent property of purity associated with the material of gold (or silver) as discussed in Chapter II are again embedded into and enhanced by the technology used. Furthermore, as discussed in the previous chapter, seamlessness augments the impression of wholeness, which is often equated conceptually with functional, especially ritual, efficacy in the ancient Near East. On yet another level, seamlessness quite literally hides the hand of the mortal maker, thereby leaving open the question of who made the object and how – was it made by man or the gods? As presented in Chapter III, there is an obvious preoccupation with this question within Mesopotamian theology and cultic production.

These are examples of hidden aspects of technology that are rarely explored because they are poorly understood, if not completely unnoticed, by anyone who is not a craftsperson or conservator with hands-on experience with the technical processes involved. Here, I am reminded of Joseph Koerner’s thoughts on the divide between those scholars “who study what objects mean and those who study how objects are made.”482 Indeed, for particular types of ornament discussed within and beyond Pu-abi’s assemblage at Ur, the procedural aspects of manufacture – the stages before the objects were even finished – reveal themselves as meaningful in a way that has not been discerned in the nearly 90 years since the discovery of Ur. Furthermore, the hidden, yet ironically rather overtly, formulaic and prescribed techniques methodically reinforce meanings already embedded in and animated by the materials used, nicely realizing Koerner’s wish “to dissolve the crystallized positions of art history.”483

482 Koerner 1999, p. 5.
483 Ibid.
While Helms has given us an excellent and broad theoretical overview of “skilled crafting” in traditional societies from an anthropological point of view,484 Sasson and Winter have come closest to appreciating the potential of technology, or the “value of skilled production,”485 for the study of specifically ancient Near Eastern art by astutely examining the emphasis on the technical terminology and the role of craftspeople that are embedded in Sumerian and Akkadian words and texts related to the making of objects.486 By concentrating on nuances of language that reveal how crafting itself was valued in Mesopotamia, both Sasson and Winter help us discover that Sumerian and Akkadian literary sources make a very clear and notable distinction between the purely aesthetic qualities of an object and the skill with which it was made, favoring descriptions such as “expertly fashioned,” “skillfully made,” “executed in a refined manner,” or “brought to a perfect end” over ones that refer to an object as “beautiful.”487 Sasson and Winter both demonstrate that in Mesopotamia the procedural aspect of crafting, skillful crafting – even the “seriousness and/or correctness of the undertaking”488 – was stressed no less than the purely aesthetic in the assessment of the finished product, pointedly highlighting the difference between how we today most commonly view and evaluate an object and how an ancient Mesopotamian might have. Sasson makes clear that most categories of artists were labeled for their “technical, rather than artistic, competence,”489 thereby supporting the idea, discussed in Chapter III, that craftspeople were at times considered technicians – in some cases,

484 Helms 1993.
485 Winter 2003, p. 403ff.
486 Sasson 1990; Winter 1995, 2003, 2008b. These brief forays into the language of ancient art and technology are eye opening and begging for further examination, and I hope that with this study I will contribute to the discussion from the technological angle.
487 Sasson 1990, pp. 22; Winter 2003, pp. 406–7. See also, for example, the myth of Enmerkar and the Lord of Aratta (Kramer 1952, p. 9).
488 Winter 1999a, p. 49n24.
489 Sasson 1990, p. 23.
ritual technicians who were as skilled in “secret” knowledge as much as in the mechanics of making – more so than “artists” in the sense that we perceive amateur or professional artists today.

Sasson and Winter go a long way to help us redirect how we should approach an art history of the ancient Near East with respect to crafting processes; however, they do not – nor did they ever intend to – examine how the actual technology was accomplished. Winter states: “What has become increasingly clear is that if we are to pursue the meaning(s) attached to major works of material culture in antiquity, and in particular meaning(s) attached to appreciation, this can only be accessed with reference to a combination of evidentiary sources that include both the archaeological and the textual record.” But where does the technological record enter the picture for the study of antiquity? The answer is: rarely. Winter is correct to say that much could be gleaned from a simultaneous investigation and synchronization of the archaeological, artifactual, and textual records; however, a thorough study of technology itself should be equally illuminating and essential.

It is to this end that the detailed technical examination of Pu-abi’s jewelry was undertaken, in the hopes that it would further our grasp, or at least our perception, of how technology, art, religion, ritual, and magic functioned and intersected at Ur, and perhaps throughout much of the ancient world. Considered in this light, the jewelry produced for Pu-abi and others at Ur easily fits the descriptions given in Sumerian texts of “expertly fashioned.”

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490 Winter 2003, p. 403.
491 The combined work done by Moorey (1994), Sasson (1990), Ross (1999), and Winter (1995, 2003, 2008b) is comprehensive in terms of identifying the archaeological and textual records to be investigated. I will not repeat their results and conclusions.
“skillfully made,” or “brought to a perfect end”\textsuperscript{492} – and does so quite literally and physically based on the technical procedures actually used, not just on interpretations of textual references to the production of objects. As pointed out by Winter, the Sumerian terminology for crafting reflects a sense of great value attached to the objects they describe – a value that clearly stems as much from the skilled craftsmanship exhibited in the finished objects as from the operative values of the raw materials out of which they are made or the distinguished function they may have served.\textsuperscript{493} I would add that also emphasized in the wording – especially in phrases such as “brought to a perfect end” – is an implied mandate for a particular prescribed procedure attached to the making of valued objects that results in a seamlessness, a hidden perfection, that could not \textit{but} be perceived to stem from a magical, sacred, or divine source, or conversely, in some measure activate the magical, the sacred, or the divine, \textit{because it effectively erases the hand of the mortal maker}. To be stressed here is the sense that in Mesopotamia there clearly existed a “correct” way of making certain objects – indeed a procedure that was prescribed by a source other than the artists own inspiration and creativity. This emphasis would also account for the apparently “secretive” nature of certain crafting processes in certain contexts in Mesopotamia, as seen in Chapter III – processes in which the craftspeople themselves were selected for their “secret” knowledge and their work seems to have been done in a “secret” place.\textsuperscript{494}

While the discussion of art versus technique is clearly alive within the discourse of art history and related fields, the study of the ancient world is rarely unpacked on the level of technology. Several scholars have indeed addressed the material and technological aspects of

\textsuperscript{492} Winter 2003.
\textsuperscript{494} See Taussig 2006, p. 136, for the notion of the “secret” in magic and cult: “…there is a curious substitution of \textit{secret} for \textit{sacred}.”
artifact production in the ancient Near East. To a great extent these studies have come from non-
art historical perspectives and rarely touch on the actual processes of crafting.495 And, as
discussed previously, the art historians who have considered materials and technology in their
research also do not really address the hands-on procedural aspects.

Ömür Harmanşah points out this gap in scholarship: “Missing from [a] discussion of
‘objects and crafting’ is something in between the value-laden materials and the finished
meaningful objects; a satisfying account of the technological processes of production, what
André Leroi-Gourhan has famously called ‘the chain of operations.’”496 In ancient Near Eastern
studies scholarly attention tends to focus on a limited version of presentation (the materials and
making), favoring instead the representation (depictions on the finished objects), and it rarely
considers the two together as a coherent sequence of meanings from materials to finished object.
Thus, both materials and finished objects are assessed primarily for their symbolic values, their
agencies taken into account secondarily or not at all, and technological agency is effectively
absent.

Furthermore, in terms of technical achievements, the Western art historical tradition
privileges the authoritative hand of the individual artist, making it difficult for the audience
trained in that tradition to fully appreciate the prescriptive, authorless quality of a corpus such as
Pu-abi’s jewelry and the Ur jewelry in general. To this point Summers speaks of “collective

495 Most notable among them was Roger Moorey in his *Materials and Manufacture in Ancient Mesopotamia* (1985).
The volume is invaluable for its exhaustive research and presentation of all known archaeological materials and
methods of production; however, it is not – and was never intended to be – an attempt to interpret the artistic or
metaphysical reasons behind the various technological choices identified therein. Others who have written on
materials and methods include Mary Helms (1993) and Jennifer Ross (1999), who in different ways concentrate
largely on the procurement and use of materials for object production and the resulting economic and political
impact, both practical and symbolic, of those processes on society. Finally, there are those who have illuminated for
us the textual information on materials, technology, and craftspeople that survives from craft archives and other
496 Harmanşah 2008, p. 125; see also Leroi-Gourhan 1993 [1964].
styles, in which individual ‘hands’ are subordinated to prescribed technique and to the authority of prior artifacts, and in which this subordination is understood to have positive value.” It seems to me that Summers’ observation is potentially revealing in terms of what is valued artistically in many cultures, including our own, but particularly in non-Western ones, and certainly provides a useful way to additionally consider the significance embedded in the Ur jewelry – beyond that associated with gender, wealth, and prestige.

For the type of investigations just undertaken for Pu-abi’s jewelry, Alfred Gell’s work on the “magical efficacy,” or “enchantment,” of technology and the agency of the creative process becomes particularly important. Gell considered “art as a component of technology” – “as the outcome of technical process, the sort of technical process in which artists are skilled.” As a result, he first and foremost stressed the distinction between “beautiful” objects, which can include natural entities such as animals and sunsets, and objects that are “beautifully made” or “made beautiful” – a distinction that was likewise embedded in Sumerian artistic practices and the terminology associated with them, as just discussed. For Gell, this “madeness” of things called art – this “skilled crafting” – was part of a larger, “often unrecognized technical system, essential to the reproduction of human societies, which [he called] the technology of enchantment.” Here, Gell departs from the purely aesthetic manner (an assessment of “beautiful”) in which works of art are typically judged and valued to give greater, or at least more nuanced, value to the processes by which they were made (an assessment of “made beautiful”), thereby concluding that “the way an art object is construed as having come into the

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497 Summers 2003, p. 70.
499 Gell 1992, p. 43.
500 See also Koerner (1999) on “madeness” of art objects.
world which is the source of the power such objects have over us – their becoming rather than their being.”502 In other words, how an object was made, its presentation, conveyed power and meaning in addition to yet apart from its completed form, its representation. In fact, Gell concludes that this power – this technical capacity – is so great at times that one cannot conceive of the object’s making in terms other than a magical process. In some instances this capacity is best conceived of as human virtuosity; in others it is better defined as ritual magic, as supernatural, and the creators, craftspeople, or artists involved better described as ritual technicians, even magicians (see Chapter III).

Like Marcel Mauss and Walter Benjamin in earlier treatises,503 Gell thus introduces the element of magic in the production, reproduction, and the reception of art objects. The aspect of magic is often overlooked in our post-Enlightenment approach to the interpretation of works of art yet, as had been repeatedly pointed out in this dissertation, is undeniably a primary component of Mesopotamian artistic and ritual production. Whether referred to as magic or described in other terms,504 the examples given earlier of materials used in rituals of purification, of building, of making cult images – to name a few – all share in common the activation of some sort of overall efficacy via particular ingredients that were culturally ascribed as magical, sacred,

502 Ibid., p. 46; for a less agentive conclusion of the same phenomenon, see also Heather Miller’s review (2000, p. 202) of Dobres and Hoffman (1999) where she cites Bryan Pfaffenberger: “Meanings generated by technological processes are even more powerful than the symbolism encoded within the finished objects.”


504 Here, I am very conscious of the fact that the term “magic” in our current culture is frequently perceived as having negative or pejorative associations. However, in the present context, it is used without prejudice and in its original sense, that of a force with supernatural and/or transformative capabilities – see, for example, Mauss 2001; Mauss, “Techniques of the Body” (1935), in translation in Mauss 2006, pp. 77–95; Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” in translation in Benjamin 1968, pp. 217–52; Benjamin, “On the Mimetic Faculty,” in translation in Benjamin 1978, pp. 333–336; and Taussig 2006, p. 121ff., 2010.
and/or divine because of certain perceived to be inherent sacred/divine or sacred/divine-like properties and via seamless procedural accuracy. Regardless of the name one gives to such efficacy, the operation, or “scheme,” entailed a transfer of power from the material(s) to the completed procedure or object via prescribed techniques. Every stage of this progression is thus a technology of magic as much as a separate material or mechanical technology. The magical element often eludes us in the study of ancient objects, “for clearly, the observable world of modern man contains only minimal residues of the magical correspondences and analogies that were familiar to ancient peoples.” That said, it is also logical that the magical procedures were not written down and revealed for us by the ancients, that they were kept “secret” and considered esoteric knowledge in a manner similar to that discussed in Chapter III. The mechanics of magic generally demand exactly such secrecy. Yet, if one looks closely at the technical “residue,” the enchantment of technology that Gell proposes, while remembering that the transmission of magic or esoteric knowledge is often equally difficult to uncover from the literary or scribal traditions of Mesopotamia, the scheme transfer(s) might be there for all to see. Taussig has called this “the skilled revelation of skilled concealment.”

In the same vein, I propose that the technological processes employed to produce Pu-abi’s jewelry, most especially the golden ornaments worn on her head, acted as the next step in the transfer of efficacy to the final products, via techniques that were consistently repetitive, difficult, prescriptive, and aimed at maximizing the seamlessness of material and design – in

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505 Here, I have adopted and adapted Gell’s concept of “scheme transfer” (Gell 1992, pp. 53ff.)
507 Mauss 2001; see also Taussig 2006, p. 136, for the notion of “secrecy” in magic and cult.
508 Ataç 2010, p. 150ff., for “hidden,” “secret,” even “occult” knowledge in Mesopotamia in the periods after the Flood, where the Flood marks the beginning of the concealment of particular kinds of esoteric knowledge that thereafter can only be accessed by certain scholars or experts, the ummânu, mentioned in Chapter III.
509 Taussig 2006, p. 123.
addition to reinforcing the properties of purity and shine embodied in the materials themselves. In short, the making of Pu-abi’s jewelry, as described, entailed procedural ingredients essential to magical as well as ritual production – repetition, prescription, and seamlessness – all consistently applied at great additional expense of labor. Helms would refer to this as the “constant repetition of transformative acts.” The technical choices involved in the making of the jewelry nicely illustrate what Gell would have called the “enchantment of technology,” because these techniques served to deliberately reinforce the efficacy initiated by the materials and to further transfer to the final objects the innate physical properties of purity and shine as well as the assigned quality of sacredness that were encompassed by those materials. Such activation can be construed as “the power that the technical processes have of casting a spell over us so that we see the real world in an enchanted form,” or Gell’s “technology of enchantment,” via a series of scheme transfers that one could not but consider magical.

Heather Lechtman, building on the work of Leroi-Gourhan, long ago pioneered the idea that technology could be “read” in ways analogous to artistic style and iconography: “Technologies are performances; they are communicative systems, and their styles are the symbols through which communication occurs. The relationships among the formal elements of the technology establish its style, which in turn, becomes the basis of a message on a larger scale.” Lechtman and others who followed her on this path offered the possibility that “meaning inhere[s] in the activity and performance of production, that is, in process as well as in

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511 Gell 1992, p. 44.
512 Leroi-Gourhan 1993 [1964].
product.”514 And in an operation similar to what was suggested for the agency of the materials under discussion in Chapter II, Dobres considers “technology as a verb of action and interaction, rather than a noun of possession.”515 She continues: “Because technology is an ever unfolding process, a ‘becoming,’ as it were, it necessarily interweaves the experiential making and use of material culture with the making and remaking of culture, and both with the making of social agents.”516

The process, or “becoming,” in this instance entails a cognitive operation of magical efficacy, or “scheme transfer,” analogous to that of so many more readily accepted cultural constructs, ranging from the Sacred Marriage ritual of antiquity517 to more modern conceptions of performing gender, for example.518 When the procedure is correctly performed and concluded, the princess or priestess is actually a goddess and the man/woman actually a female/male. Similarly, the sacred can also be “manufactured.”519 As pointed out by Mauss520 and Gell,521 all such operations fall under the heading of techniques or technologies because the key lies in “their becoming rather than their being;” or as rephrased by Dobres and Hoffman, “to recognize that technologies simultaneously concern material and social production, and that both lie at the heart of social production is to highlight the performative nature of technological practice.”522

Thus, through a combination of these lenses and the one presented by Gell it is clear that the overriding and “larger” message communicated by both the materials and the making of Pu-

515 Dobres and Hoffman 1999, p. 3.
516 Ibid.
517 See, for example, Bahrani 2002.
519 Dobres 1999, p. 130.
521 Gell 1992, p. 46.
522 Dobres and Hoffman 1999, p. 3.
abi’s jewelry, in addition to that of prestige and wealth, is one of purity, shine, and sacredness.

By the time Pu-abi’s jewelry, as well as that of related others, was completed, these concepts and constructs had been produced and performed all along – each step in the making process activating the next via magical scheme transfers. The finished jewels emerged as animated and enchanted, in much the same manner as was discussed for cult statues and temples in Mesopotamia, demonstrating the possibility that the sacred was not simply reflected in completed works or described by the materials of which those works were made but that purity, shine, and sacredness could be activated by the materials and performed through repetitive and prescribed skilled crafting. Both materials and making can thus be “read” as active and agentive in the context of the Ur jewelry, and through the seemingly deliberate doubling of semantic meanings embedded in both, efficacy was likewise doubled and enhanced in a conceptual operation quite familiar to Mesopotamian practices of artifact production.  

Whereas this notion of efficacious doubling is most commonly applied to iconographic representations, in which the visual depiction can enable magical transformation, I have applied it here to the material and technological aspects of production that precede the image itself – the conceptual space where the materials and making perform purity, shine, and sacredness and “the technology of enchantment is founded on the enchantment of technology.” Before concluding, I would like to muse, albeit rather speculatively, on what this efficacy – the ritual progression that can be traced from the selection of animated, charged materials to the performative making – might have produced in the finished items of Pu-abi’s jewelry and that of others related in type and technique. What did these jewels do in their made form?

523 Bahrani 2002.
524 Gell 1992, p. 44.
Unfortunately, it is hard to retrofit what is known about well-established cultic jewelry and those who fashioned it, how and of what materials in the first millennium B.C. to the examples of third millennium B.C. jewelry such as that found at Ur in its tombs and graves with so little information about its makers and its making. This is not to suggest the fact that not all jewelry in Mesopotamia was cultic and not all craftspeople were ritual technicians. The cultural context and choice of assigning any sort of agency to the material, to the maker, to the making, and to the jewelry itself are critical and varied at any one time and certainly over millennia. However, working backwards from the first millennium B.C. information given in previous chapters, it is possible to make several logical connections between the later, more detailed descriptions of cultic jewelry (as well as its makers and making) and jewelry inventories known from texts, images, and objects that date to the earlier second and third millennia B.C. When these, in turn, are even cursorily compared to the materials, making, and design of Pu-abi’s and related adornment as described in this dissertation, the connection becomes more intriguing.

In Chapters II and III some of the ritual procedures associated with the making and adorning of cult images, and actual deities, were discussed. Elaborating on those first millennium B.C. procedures, the clothing and jewelry that were essential to a divinity’s or a divine statue’s appearance and efficacy were commonly known as the divine lubuštu, a term that in the first millennium B.C. not only referred to the statue’s wardrobe and ornaments but also to the
ceremony that took place while dressing the statue with these fineries.\textsuperscript{525} In this particular context the ritual aspect of adornment was incorporated into the term itself and makes clear that clothing and adorning of the statue were part of the official cult and religion, not a cosmetic procedure related the mere decorating of a divine statue. Underscored once again is the fact that jewelry could be, and was, part of the divine assemblage and itself endowed with the qualities and efficacy of the divine. This correlates well with the fact that such jewelry was made of materials that themselves could be assigned sacred qualities (Chapter II), that it was created and destroyed along with the statues in the late-period \textit{akītu} rituals (Chapter II), that it was displayed and seemingly worshipped independently of the deity in one of the late-period Ishtar rituals (Chapter II and below), that it was housed in a holy and “secret” room in late-period temples (Chapter III), and that it was fashioned by craftspeople who were divinely selected in these later periods (Chapter III). Yet, the listing of jewelry belonging to deities and cultic personnel can be found to exist in much the same manner in earlier periods and made of the same materials, whether or not it was always identified by the same term, or any term at all.

The two most complete examples of such earlier inventories exist in the form of extant texts. The first consists of a document dating to the Old Babylonian period and known as \textit{Ishtar of Lagaba and her Dress}.\textsuperscript{526} The tablet lists various ornaments of gold, silver, lapis lazuli, and carnelian as well as cylinder and stamp seals (of unspecified materials), vessels and lamps (of bronze and copper), figural objects (an image/figurine? and several vulvae), and an assortment of

\textsuperscript{525} Matsushima 1993, p. 216–8. However, in a more general sense, the term \textit{lubuštu} refers to royal garments and jewels as well as to priestly ones and ones belonging to private persons (see \textit{CAD L}: 232–8, \textit{lubuštu}); hence, it is not necessarily a term that is specifically cultic in nature.

\textsuperscript{526} Leemans 1952; see also al-Rawi 1983.
garments and ribbons of fine fabrics – all of which belong to Inanna (or to her cult image) and in
sum are referred to as her lubuštu.

The second example dates to the 15th century B.C. and is comprised of long lists of
jewelry belonging to the goddess Ningal.527 These tablets were excavated at the site of Qatna in
Syria and describe the jewels of gold, silver and precious stones listed therein as both gifts to
Ningal’s temple treasury and ornaments for her cult statue, thus dedications to and adornments
for an originally Sumerian deity despite being found far west of the her homeland. However, no
clothing is mentioned in these particular inventories, only jewelry. Here, the word used to
describe this collective inventory is šukuttu528 rather than lubuštu, perhaps because of the
singular emphasis on jewelry. Additional second millennium B.C. inventories listing the jewelry
of deities – specifically of Adad and once again, Ishtar – are largely unpublished but discussed
briefly by Farouk al-Rawi in relation to the better-known ones above.529

An Isin-Larsa period text found in fragments at Ur likewise refers to what could be
considered cultic jewelry but this time belonging to an en-priestess of Nanna, En-ane-du.530 The
text commemorates her installation as en-priestess and in one section indicates that a statue of
En-ane-du was fashioned. Of interest here is that the face of the statue was inlaid with silver and
gold and that jewelry was made for the statue, much like the processes known and discussed
earlier regarding the making of statues of deities. In fact, the jewelry is described as “a thing
suitable for her divinity,”531 suggesting the divinity of En-ane-du herself, as was the case for

527 Bottero 1949; see also al-Rawi 1983.
528 See CAD Š: 608–9: šukuttu.
529 al-Rawi 1983.
530 Frayne 1990, pp. 224–31, no. 15; see also Westenholz 2006 for a detailed account of en-priestesses in the third
and early second millennia B.C. and their insignia of office, which included jewelry – specifically breast ornaments
(pectorals, necklaces?) and the so-called aga-tiara or crown of gold.
531 Frayne 1990, p. 229, No. 15, Col. iv (Rev.), Frgm. 16.
later priestesses. But most important of all in the context of this dissertation, the text contains a curse towards the end that is directed at anyone “who might be tempted to remove the jewels from the statue or otherwise deface it.”\footnote{Ibid; p. 225 for Frayne’s commentary, p. 230, No.15, Col. v (Rev.), Frgm. 20, for actual text.} Thus, it becomes abundantly clear that the jewelry was considered to be an integral part of the statue and its efficacy and therefore to have had the same potency as the divine statue itself. It also highlights the importance of unmaking, and thus making, in ancient Mesopotamian ritual production – supporting the emphasis on procedure and becoming that were presented previously.

Furthermore, the above phenomenon is in exact parallel to what was pointed out earlier for the akītu Festival rituals of Neo-Assyrian and Neo-Babylonian times (Chapters II and III), in which the statues of deities were made, and at times destroyed, along with the jewelry. In fact, the earliest akītu Festivals can be traced back to the site of Ur (where this tablet was found) during the Early Dynastic period.\footnote{M. Cohen 1993, p. 401; Westenholz 2006, p. 40.} The comparison is therefore logical on many levels, and one can envision, if not prove, a similar ritual progression taking place here – from the distribution of unworked materials of gold, silver, and precious stones to the summoning of gold- and silversmiths and stonemasons, then the fashioning of the statues and their jewelry according to ritual prescriptions, and finally the installation of the statues adorned with their jewelry. In other words, the jewelry was seemingly as alive and divine and effective as the statue itself.

Another text from the same Isin-Larsa period and also excavated at Ur describes a list of gold and silver objects dedicated to the goddess Ningal by the royal family, possibly on the occasion of the installation of the same en-priestess, En-ane-du.\footnote{Gadd 1951, p. 29 ff.; Westenholz 2006, p. 39.} The list again comprises objects that, due to the context, could easily be equated with an inventory of cultic jewelry and is
furthermore notable for the prominence of combs among the gold and silver articles. The presence of combs in particular ties this group of ornaments to objects found in great numbers and in dramatic form in the graves and tombs at Ur (Figs. 55a, b), with Pu-abi’s among them (Pl.1), as discussed in Chapter IV.

An even earlier mention of jewelry in a cultic context stems from the Ur III period at Ur and consists of a tablet listing gold jewelry and other objects that belonged to the treasury of Nanna and Ningal but were received by the jeweler, presumably for cleaning or repair and presumably used to adorn the statue of the deity. Here, we have a very close parallel for both the use of jewelry in cult and its cultic maintenance by a jeweler, as was known from later periods and discussed earlier (see Chapter III), as well as for a possible jewelry depository, not unlike that known from later periods, the bij pirišti (see Chapter III). There exist additional Ur III textual examples of what would constitute the jewelry inventories of deities, both of which are discussed by W. F. Leemans in connection with the document Ishtar of Lagaba. The one entails the enumeration of valuables belonging to Inanna, possibly stemming from Umma, and the other is a better-preserved and longer enumeration of the jewelry, wardrobe, and assorted objects stated to be the “property of Ningal” and under the care of a priest in a temple at Eresh. Yet another illustrates the burial goods of an en-priestess at Ur during this same period, featuring the gold aga-tiara or crown and gold breast ornaments that represented the insignia of the office of en-priestess.

535 Legrain 1947, p. 213, no. 344; see also Leemans 1952, p. 27.
538 Ibid, p. 27.
539 Ibid, p. 30; see also al-Rawi 1983, p. 137.
540 Sallaberger 1995 (see also Westenholz 2006); it is also worth mentioning the texts found at Ebla describing the jewels given to princesses and priestesses on occasion of their marriage or ordination, used again only at death.
As a bit of an aside, there exist as well many references from an array of periods but certainly beginning in the third millennium B.C. to women known as nu-gigs.\textsuperscript{541} The term was seemingly used to describe several different status categories for women but appears most frequently as an epithet for any of several goddesses, Inanna/Ishtar chief among them, and as a designation for the priestesses related to the cults of these goddesses. The nu-gigs are consistently associated with particular types of jewelry and headdresses, presumably rather specific insignia of office of a sort described above for en-priestesses, and their rituals intimately connected to the jewels themselves and the donning and removing of them, as if the efficacy of their ritual procedures relied, at least in part, on that jewelry.\textsuperscript{542} The temple of Inanna of Zabalam is described as “clad in the jewels of the nu-gig.”\textsuperscript{543} Of interest but difficult to interpret is the inscription on a cylinder seal from the cemetery at Ur where Pu-abi was found declaring “Mesanepada, king of Kish, husband of the nugig-priestess,”\textsuperscript{544} a king assumed to be the Mesanepada who founded the first dynasty of Ur. It is not my intention to sort out who these nu-gigs were and how they functioned; the topic is complicated and well beyond the scope of this dissertation. I mention them here only because they represent another category of religious personnel whose jewelry was a crucial aspect of their ritual functioning, illustrating yet again that in certain situations jewelry can be considered as an animated element of ritual and cultic production.

\textsuperscript{541} Westenholz 1989.
\textsuperscript{542} See, for example, Westenholz 1989, pp. 254, 260; Menzel 1981, no. 2 (T2–4).
\textsuperscript{543} Westenholz 1989, p. 258; see also Sjöberg and Bergmann 1969, p. 35, TH no. 26.
\textsuperscript{544} Woolley 1934, p. 312; Cooper 1986, p. 98, Ur 5.2.
That said, it would be of future interest to properly collect and compile a list of the exact items of jewelry mentioned in the various written inventories – a selection of them mentioned here – then compare these lists with depictions of and actual extant items of jewelry, such as those found with Pu-abi and those related in type and technique (see Chapter IV). Even a superficial glance indicates that certain types of jewels appear to be more closely associated with inventories of goddesses and priestesses than others – with aga-tiaras or crowns, breast ornaments, combs, and hair ribbons standing out most prominently. Likewise, there are images that must depict what would be a deity’s or a cult statue’s cultic jewelry, such as a plaque from the Ishtar Kititum temple at the site of Ishchali in Mesopotamia that depicts a goddess in an array of jewelry that correlates visually with the textual descriptions given in the above lists and inventories (Fig. 59). Similarly, the well-known and oft-published plaque uncovered at Ashur, cited in Chapter IV, depicts what is purported to be a goddess or her cult image, most frequently identified as Ishtar because of the Ishtar Temple near which the plaque was found, wearing an array of jewelry (Fig. 49c, d). The visually most prominent item of jewelry on the figure is a choker with a motif of triangular elements that closely resembles the many similar ones found in the so-called Royal Cemetery at Ur (Figs. 46, 48), and as a variation, on Pu-abi herself (Pl. 9; figs. 3, 9).

The typology of Pu-abi’s jewelry, and that of related others, was barely addressed in this dissertation but would be well worth investigating further to see if such an analysis supports a connection to any of the known depictions or inventories, especially given the ritual animation of the jewelry on the level of materials and manufacture proposed in the previous chapters. Amy

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545 Work on the imagery and insignia associated with depictions and descriptions of goddesses and priestesses has been undertaken, for example, by Winter 1987, Collon 1999, Westenholz 2006, and Suter 2007, so a comparison to the items worn by Pu-abi would be a logical extension of these studies.
Gansell’s work on the identification of distinct “sets” of jewelry at Ur would be of critical relevance and importance to such an undertaking.\footnote{See Gansell 2007.} I suspect that if one were to integrate the textual documentation above with what is known artifactually and archaeologically at Ur, there would appear a considerable number of clues that the types of inventories associated with goddesses and priestesses known from later periods could also be determined to have existed in earlier times – specifically at Ur and at the time of the “Royal Cemetery” and very possibly manifested in the bejeweled bodies of Pu-abi and others. If so, the consistency and conservatism of Mesopotamian cultic practices over the long duration of its history would thus once again appear to be in evidence.

Of course, the most tantalizing example of what could easily be considered cultic adornment is the jewelry donned and then taken off by Inanna/Ishtar in the compositions known respectively as \textit{The Descent of Inanna} and \textit{The Descent of Ishtar}, as well as the many other literary texts that mention Inanna’s and/or Ishtar’s jewelry.\footnote{For the a comprehensive transliteration, translation, and analysis of \textit{The Descent of Inanna}, with a detailed comparison to \textit{The Descent of Ishtar}, see Sladek 1974; for a selection of the numerous texts that feature Inanna’s and/or Ishtar’s jewelry, see, for example, Alster 1985, especially pp. 147, 150, ll. 7–18; Sefati 1998; and Black et al. 2004, especially pp. 84–7. The \textit{Descent of Inanna} texts stem primarily from the Old Babylonian period of the early second millennium B.C. while the \textit{Descent of Ishtar} texts date to the Middle Assyrian period of the later part of the same millennium (Sladek 1974).} As previously mentioned in Chapter II, various Sumerian songs allow for such an interpretation as well.\footnote{Kramer 1969b, p. 638; Jacobsen 1976, pp. 32–7; Alster 1985; Sefati 1998, pp. 247–56.} These verses detail the cultic or ceremonial dressing of Inanna via an abundance of ornaments and other adornment. Here, I would like to draw attention once again to the repeated use of jewelry in connection with certain deities, especially Inanna/Ishtar and to a great extent Ningal as well, and to reinforce the suggestion made by others that in the case of \textit{The Descent}, the jewelry therein
may even be representative of or interchangeable with the divine me, the powers and functions of civilization as decreed by the gods, or at least with the powers of Inanna/Ishtar herself.

The jewelry that is so closely associated with Inanna/Ishtar in The Descent and temptingly equated with the me is referred to often in other literary compositions as well; one such example is found in the narrative known as Enki and the World Order and mentioned in Chapter III, in which Inanna complains that she has not been given any divine powers and functions. Enki, the god of wisdom who is in charge of dispensing these powers and functions, reminds Inanna that her powers are the garments and jewelry (the cultic attire?) that are so consistently linked to her identity in so much literary and visual imagery. In the Exaltation of Inanna, the me are highlighted again and described as if they were jewelry that Inanna “hung from her hand” and “clasped to her breast.” In other translations of the same text Inanna is referred to as “Lady of all the divine attributes,” she “of all the great ornaments,” or “Queen of the me” and “much bejeweled.” Again, the suggestion that the me might somehow be conceptually linked to jewelry in general, and to cultic adornment in particular, is an enticing one. Moreover, might the materials decorating temples and seemingly also equated with the me in some instances, as discussed in Chapter II, likewise fit into this conceptual construct? Might the materials, the jewelry, and the power frequently being suggested to reside in both be conflated with and related to the me, the divine powers, in some form and in certain instances?

549 Sladek 1974, pp. 20, 85; Glassner 1992. For a full transliteration and translation of the me as listed in the composition known as Inana and Enki, see ETCSL, 1.3.1; for the same with a detailed analysis, see Farber-Flügge 1973. It is also worth mentioning here that the me have been compared to the earlier third millennium B.C. Fara god lists of deified objects, professions and other entities (Selz 1997, p. 173) mentioned in Chapter II.
551 ETCSL, 4.07.2.
552 Hallo 1997, p. 519.
553 Kramer 1969a, p. 579.
Here, I would like to reiterate a point that was mentioned briefly in Chapter II concerning the concept that in the Mesopotamian mindset identity and presence could reside in both the organic body and in inorganic objects that were in contact with the body.\textsuperscript{554} Considered in this light, the materials, garments, and jewelry that are so closely tied to the identity and powers of Inanna/Ishtar – or to the identity and cultic functioning of other deities and priestesses and to the creation, identity, and efficacy of cult statues and images – undoubtedly participated in this conceptual operation of distributed agency or personhood.\textsuperscript{555} The jewelry is thus not unlike the case of the king’s garment in the Mesopotamian substitution ritual\textsuperscript{556} or of the gold overlay on statues of deities, literally conceptualized as skin.\textsuperscript{557} One could say the same for temples – that these selected materials acted, in essence, as the skin or clothes or adornment of temples, which were also conceptualized as living entities of a sort. All of these can be considered examples of inorganic extensions of biological bodies, whether mortal or divine, and therefore as efficacious as the original source itself.\textsuperscript{558} While much has been made in this dissertation of the agency of the materials and the making of Pu-abi’s jewelry, it is this type of agency I consider as relevant to the finished ornaments found on her body – both as a possible extension of the person and/or as a possible ritual, even cultic, activation of it.

The Old Babylonian Ishtar ritual mentioned in Chapter II,\textsuperscript{559} in which Ishtar’s jewelry is displayed and seemingly worshipped in its own right towards the end of the ritual, is a further illustration of inanimate objects taking on animated form, presumably by virtue of their bodily

\textsuperscript{554} Bahrani 2008, p. 78.
\textsuperscript{555} See again, Gell 1998; also Bahrani 2003, 2008; Winter 2007a; Selz 2008; Pongratz-Leisten 2011.
\textsuperscript{556} Bahrani 1995a, p. 377; Bahrani 2003, p. 130.
\textsuperscript{557} Archi 1990; Lewis 2005.
\textsuperscript{558} For the idea of bodily contagion, or corporeal techniques, as they play into notions of distributed agency or personhood, see, for example, Mauss, “Techniques of the Body (1935),” in translation in Mauss 2006; Taussig 1993 and 2006, especially p. 122; and Gell 1998, p. 99ff.
\textsuperscript{559} Groneberg 1997, p. 136ff.
association with a biological entity. This ritual, in combination with what has been discussed regarding the *Descent of Innana* and *Descent of Ishtar*, offer powerful evidence that jewelry could be considered such an animated extension of the body or of identity, codifying aspects of such distributed cultic agency that were indicated as early as the third millennium B.C. in the Fara God Lists.\(^{560}\) If one accepts this premise, then it is not difficult to embrace the various jewelry inventories and rituals involving jewelry mentioned throughout this dissertation – both the archaeological and the literary examples – as instances of similar magical and/or cultic phenomena, of bodily contagion or contagious magic.\(^{561}\) It is thus no surprise that such jewelry would require, just as the cult images themselves did, prescribed materials and procedures of manufacture in order to activate the extended presence, or distributed agency, of the biological body, or perhaps conversely, to activate the transformation of the biological body into a sacred, cultic, or even divine, entity.

**PU-ABI’S ENCHANTED ADORNMENT**

While these are admittedly speculative musings, there is undoubtedly a thread to be followed that logically (or at least potentially so) leads us to the burial assemblage of Pu-abi, and to that of other interments, at Ur. For instance, as already mentioned, it would be well worth compiling, with the help of Gansell’s work on jewelry sets at Ur,\(^ {562}\) a typology of the ornaments, particularly as they might relate to known inventories and depictions of priestesses and deities. I

\(^{560}\) Krebernik 1986; Selz 1997; see also Pongratz-Leisten 2011 for further commentary on divine agency.


\(^{562}\) Gansell 2007.
am quite certain that the most notable items of Pu-abi’s attire (as well as those of similar type and technique) could indeed be matched to items that are specifically referred to in many of these inventories and that seem to be particular to cultic personnel and/or to deities and their cult statues. In other words, I believe there is a case to be made for considering the jewelry associated with Pu-abi and related others as cultic adornment. There would be no more logical place or period to find such a phenomenon, as Ur was the site of the first known akītu Festival, at roughly the time of the “Royal Cemetery,” and the locus of intense cultic activity for the next several hundred years during which many of the above-mentioned examples of inventories and related rituals were established. Winter has already shown that the ritual office of en-priestess of Nanna, although better known from later periods, can be traced back to the Early Dynastic III period (the time of the “Royal Cemetery”) and specifically to Ur itself.\(^563\) The suggestions that Pu-abi might have been a priestess and her jewels cultic adornment would thus mesh well with Winter’s scenario, as well as with Maxwell-Hyslop’s observation,\(^564\) referred to early on in this dissertation, and with Andrew Cohen’s similar thinking but in terms of the sanctification of royalty,\(^565\) that certain bodies buried at Ur appear as if they were buried as cult statues.

In the future, I would like to also examine and comment on the iconography of the individual ornaments as well as that of the dressed body as an entity unto itself. There is much to be said about the symbolism of abundance that is signaled by many of the jewels, especially those that adorn Pu-abi’s head. The presence among Pu-abi’s jewelry of so much iconography related to vegetation and procreation, and to fertility in general, is rather obvious and has

\(^{563}\) Winter 1987.
\(^{564}\) Maxwell-Hyslop 1960; personal communication 2006.
therefore been pointed out many times; however, a full treatment of the implications of this iconography in terms of the Ur material has not yet been undertaken. The diadem found next to Pu-abi (B16684/ U.10948; Fig. 60) but not addressed in this dissertation most powerfully illustrates this aspect and can be unpacked so as to correlate almost exactly to the iconography of abundance and ritual on the cultic vessel known as the Warka vase (Fig. 61). I suspect that such lines of investigation would further support the identification of some of the interments, Pu-abi in particular, as priestesses related to deities and cults responsible for such crucial life forces. In fact, the entirety of Pu-abi’s burial – with its individual artifacts considered in tandem with its deceased bodies – could be addressed as a single, larger artwork, or tableau, of its own. This composite “picture” almost directly mimics the well-established presentation and representation on the Warka vase, corresponding to what Gell might have called an “ensemble artwork.” Furthermore, such a pictorial analysis would lend itself well to both applications and contradictions of Benjamin’s and Taussig’s theories of mimesis and magic as they relate to representation, and the duplicating of what has been found to be operationally present in the materials and manufacture – efficacy through the repetition of seamless and accurate material and mechanical, as well as representational, procedures.

What the dressed image of Pu-abi does, especially given its apparent “life” in burial, has not been examined at all in this dissertation but would perhaps be the most fascinating study of all. For instance the distinction between Pu-abi’s head ornaments and those that dominate her

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567 Bahrani 2002.
lower body in her visual representation is striking and must be evaluated (Fig. 3). There is a marked material and color discrepancy between her upper and lower body – one that manifestly emphasizes gold at the top and colored stones on the bottom, the red of carnelian most particularly. It seems unlikely that it is mere coincidence for Pu-abi’s body to be delineated in this manner. Winter has very recently begun to tackle exactly this topic, suggesting that in Mesopotamia gold (and gold jewelry) was used in headgear or areas around the head to imbue the body, the personage, with the light and luster associated with divinity in a conceptual operation that she compares to the halo in images of later Christianity and to the golden aura attested in other religions. It is tremendously exciting that Winter includes Pu-abi’s head ornaments in her set of examples from Mesopotamia, as such a conclusion would make infinite sense in the context of the ritually charged materials used in and the ritually repetitive and seemingly prescriptive making of that same jewelry, as presented in this dissertation. I would now add to Winter’s body of evidence for the purposeful “lighting” of the head area, visually speaking, the properties of shine and purity that are both inherent to the material of gold and then specifically capitalized on in the very methods used to manufacture the gold ornaments made for Pu-abi to wear on her head. As a full sequence this would represent the seemingly intentional progression of animation from materials to making to made that was proposed in my

570 Winter 2012. One could add further support to this notion by way of the face-shining, or lustration, rituals attested in later periods in which the face of the cult statue (the deity) was illuminated to incite the cultic epiphany of the deity (see, for example, Menzel 1981, nos. 22 [T24–28], 24 [T32–38], 29 [T46–48]). Clearly, the material of gold would enhance that experience, most particularly if hammered into flat sheet items of gold that all the better reflected shine and light – such as the ornaments made in this manner for Pu-abi (Chapter IV) or the gold “skin” that was known to adorn the faces of cult statues (Chapter II). Of great interest to me in the context of Pu-abi’s headdress is that a similar lustration ceremony is attested for the Larsa dynasty en-priestess En-ane-du at Ur (see Frayne 1990, no. 20, pp. 299–301). Could this have been the main purpose for using so much gold and for expending so much labor to create gold items that maximize on shine?
introduction, the “chaîne opératoire”\textsuperscript{571} that, in my opinion, allowed the ornaments in question here to materialize from their creation as a group of charged – magically and ritually charged – cultic objects.

Before concluding I must briefly acknowledge the issue of sacred or divine kingship that naturally would play a role in any discussion of Pu-abi’s identity – the extent to which she might have represented a royal figure, a cultic/sacred/divine personage, or a purposeful fusion of the two. The trope of divine-like kings and queens, via the conflation of image and prototype,\textsuperscript{572} is one vexed with problems and controversy but very much in discussion again at present.\textsuperscript{573} Some might argue that what I have proposed as an interpretation of Pu-abi’s jewels could just as easily be applied to the presentation and representation of her as sanctified royalty.\textsuperscript{574} Indeed, the royal and the divine in Mesopotamia did mimic each other and created boundaries that were deliberately blurred in order to activate the presence of the sacred or divine in the mortal component of the equation. And it is precisely through media such as the materials and insignia (e.g. jewelry) associated with divine beings and buildings that such mimesis and magical transfers worked. As has been studied in depth for other contexts, rituals of animation and power, whether mortal or divine, all rely on exactly such ambiguity,\textsuperscript{575} and as with so many examples from Mesopotamia, the distinction is often “unimportant.”\textsuperscript{576} Unfortunately, a more detailed consideration of the identity of Pu-abi must wait for another day. For now I believe that some

\textsuperscript{571} Leroi-Gourhan 1993 [1964].

\textsuperscript{572} Freedberg 1989, pp. 30–32; Selz 2008.

\textsuperscript{573} See, for example, Charvat 2002 [1993], especially p. 228; Ornan 2007; Selz 2008; Winter 2008a; Michalowski 2008; Ornan, “A Silenced Message: Royal Deification in Ancient Near Eastern Art,” lecture at the University Seminar for the Ancient Near East, Columbia University, April 2, 2012; and Ornan 2012.

\textsuperscript{574} See, for example, Cohen 2005; Gansell 2007; Winter 2008a; Ornan, “A Silenced Message: Royal Deification in Ancient Near Eastern Art,” lecture at the University Seminar for the Ancient Near East, Columbia University, April 2, 2012; and Ornan 2012.

\textsuperscript{575} See, for example, Kertzer 1988; Bahrani 1995a; Taussig 2006 (especially pp. 144, 146); and Selz 2008.

aspect of the sacred or the divine was being constructed in the both the “dead body and live image”\textsuperscript{577} of Pu-abi and thereby in her person and identity, in death if not necessarily in life, and that the materials and making of her jewelry were active agents in that process.

CONCLUSION

Having carefully studied and considered the materials and manufacture of the individual ornaments belonging to Pu-abi and related others, I have been able to read the jewelry as evidence for ritual activity in the archaeological record of Ur, in contrast to the purely social and political history of royal power and prestige that is generally applied to it. In fact, I have argued in Chapter IV that the exact opposite was taking place in the making of Pu-abi’s adornment than what is described by Swift for the making of Roman jewels, where the deliberate technical ostentation and individual character of the jewelry is what signaled power and prestige in the Roman world of elite and imperial obsessions and ambitions: “Such designs impress through an awareness, on the part of the viewer, of the difficulty with which they are achieved.”\textsuperscript{578} Pu-abi’s jewelry is instead marked by an outward simplicity of forms, a repetition of technique and design geared towards retaining the purity of the materials used and enhancing their inherent shine, the virtual manufacture of the semantics of purity and shine into the finished jewels, and a seamlessness of construction that seems prescriptive in its consistency. And, as demonstrated, the making of Pu-abi’s jewelry entailed supreme skill and enormous labor intensity yet the two were all but hidden. The ostentation here lay purely in the perceived preciousness of the

\textsuperscript{577} Belting 2005, p. 307.
\textsuperscript{578} Swift 2009, p. 148.
materials and the sheer amounts used, hence the far easier focus all these years on the economic and political significance of the burial, and thus on the royal nature of the power and prestige deemed to be associated with it. Yet, it is precisely the seamless, hidden, and arguably secretive nature of the techniques chosen for the making of her jewels that create an ambiguous situation not unlike that discussed in Chapters II and III for the creation of cult statues and their “golden garments,” to remind us of one example, thereby begging a question similar to that asked by Nicholas Hilliard and quoted at the very start of this dissertation: were they made by man or the gods? Was the hand of the craftsperson literally and deliberately being hidden, even erased, in the making of Pu-abi’s and related jewelry?

In a charged ritual environment such as Ur in the middle of the third millennium B.C., it makes sense that technologies of ritual would have included materials and manufacture. Indeed, the progression from materials to making that has been described in this dissertation turns out to be so internally coherent that, once tapped into, the narrative almost writes itself for us to read. It is a “narrative of production” – not only of jewelry but also of purity, shine, and the sacred. As recently pointed out by Caroline Walker Bynum with regard to the baking of the sacred bread, or body of Christ, and one of the holiest items of medieval Christianity, the bread was being made in a sacral and prescribed way so that it emerged from the baking as sacred. Similar enchanted technologies seem to have been at work at Ur, as long as one allows oneself to find such enchantment.

579 Oppenheim 1949.
CATALOG OF JEWELRY ASSOCIATED WITH
THE BODY OF PU-ABI,
TOMB CHAMBER OF PG 800, “ROYAL CEMETERY,” UR, MESOPOTAMIA

Cat. no. 1 (Pl. 1; figs. 10–14)

Object: Hair comb with floral attachments
Materials and methods: Gold and lapis lazuli; solid gold hammered into wire pin at one end and into a triangular-shaped body at the other, splitting further into seven (7) prongs with flower attachments; one lapis lazuli ball bead with gold cap at center of each hammered gold flower; gold plain wire is twisted across the back to reinforce the seven prongs and flower attachments.
Dimensions: L. 27.5 cm; W. 27.0 cm
Weight: 363.1 gr.
Find spot: PG 800, tomb chamber with Pu-abi, at top of skull.
Museum number: B16693
Excavation number: U.10937
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pls. 127–30

Cat. no. 2 (Pl. 2; figs. 10, 15)

Object: Wreath of poplar leaves strung with beads
Materials and methods: Eighteen (18) hammered gold leaves with carnelian beads at tips and with hammered gold suspension loops designed to be strung on four (4) stands of beads; strung with lapis lazuli cylindrical beads and carnelian truncated bi-conical and lentoid beads.
Dimensions: L. 63 cm (as strung)
Weight: 175.3 gr.
Find spot: PG 800, tomb chamber with Pu-abi, around skull with other poplar wreath (cat. no. 3, U.10935bis) between willow wreath (cat. no. 4, U.10936) and hair ribbon (cat. no. 6, U.10934).
Museum number: B17709
Excavation number: U.10935bis (NB: also referred to as U.10935a—recorded in Woolley’s field notes together with cat. no. 3, mus. no. B17710)
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pls. 127–29

Cat. no. 3 (Pl. 3; figs. 10, 16)

Object: Wreath of poplar leaves strung with beads
Materials and methods: Twenty (20) hammered gold leaves (without carnelian beads at tips) and with hammered gold suspension loops designed to be strung on two (2) stands of beads; strung with lapis lazuli cylindrical and carnelian truncated bi-conical and lentoid beads.
Dimensions: L. 70.0 cm (as strung)
Weight: 216.3 gr.
Find spot: PG 800, tomb chamber with Pu-abi, around skull with poplar wreath (cat. no. 2, U.10935bis) between willow wreath (cat. no. 4, U.10936) and hair ribbon (cat. no. 6, U.10934).

Museum number: B17710
Excavation number: U.10935bis (NB: also referred to as U.10935a—recorded in Woolley’s field notes together with cat. no. 2, mus. no. B17709)
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pls. 127–29

Cat. no. 4 (Pl. 4; figs. 10, 17–19)
Object: Wreath of willow leaves and floral attachments strung with beads
Materials and methods: Thirty-seven (37) individual hammered gold leaves with carnelian beads at tips combined to form eleven (11) three-leaf elements and two (2) two-leaf elements, all with hammered gold suspension loops designed to be strung on three (3) stands of beads; thirteen (13) hammered gold flowers, the flowers inlaid with lapis lazuli and white paste; strung with gold and lapis lazuli bi-conical, spherical, ovoid, and pear-shaped beads.
Dimensions: L. 66.0 cm (as strung)
Weight: 255.0 gr.
Find spot: PG 800, tomb chamber with Pu-abi, around skull over other wreaths and hair ribbon (cat. nos. 2, 3, 5, 6).
Museum number: B17711
Excavation number: U.10936
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pls. 127–29

Cat. no. 5 (Pl. 5; fig. 10)
Object: Wreath of rings strung with beads
Materials and methods: Twenty (20) gold round wire rings with hammered gold suspension loops; strung with lapis lazuli cylindrical beads and carnelian discoid, lentoid, and truncated bi-conical beads.
Dimensions: L. 36.5 cm (as strung)
Weight: 277.6 gr.
Find spot: PG 800, tomb chamber with Pu-abi, around skull under other wreaths (cat. nos. 2–4, U.10936 and10935bis) and hair ribbon (cat. no. 6, U.10934).
Museum number: B17708
Excavation number: U.10935
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pls. 127–29

Cat. no. 6 (Pl. 6)
Object: Hair ribbon
Materials and methods: Hammered gold sheet.
Dimensions: L. approx. 173 cm; W. 1.7 cm
Weight: 385.3 gr.
Find spot: PG 800, tomb chamber with Pu-abi, wrapped around skull so that it crossed over itself at several points.
Museum number: B17711a
Excavation number: U.10934
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pls. 127–28

Cat. no. 7 (Fig. 20)
Object: Hair rings (2, 3, or 4; only 2 illustrated here)
Materials and methods: Gold round wire wrapped to form triple coils.
Dimensions: Dimensions not available
Weight: Weight not available
Find spot: PG 800, tomb chamber with Pu-abi, in soil next to mid-skull (NB: in the excavation report Woolley says that he presumes the hair rings were fixed in the hair but had fallen back on the soil due to the decay of the hair; also, Woolley states that four (4) hair rings were found like this, all under the number U.10942, while in the catalog section of the report, he lists U.10942 as consisting of “3 spiral coils;” The University of Pennsylvania Museum lists their museum number 98-9-9a,b as from PG 800, tomb chamber with Pu-abi, but have no U. associated with this particular museum number yet have another hair ring – B16992a,b; U. 10890 – assigned to PG 800, tomb chamber with Pu-abi; Woolley, however, says in his field notes that U.10890 was found near the skull of the attendant at foot of Pu-abi’s bier, not with Pu-abi herself; it is thus unclear how many were actually found with Pu-abi and which numbers correspond to which hair rings.)
Museum number: WA/ME121361
Excavation number: U.10942
Credit line: The Trustees of the British Museum
Publication: Woolley 1934, Text, p. 83ff.

Cat. no. 8 (Pl. 7)
Object: Pair of earrings
Materials and methods: Gold round wire hammered into two (2) lunate-shaped lobes or hammered sheet of each of two (2) lobes rolled into wire.
Dimensions: L. 10.5 cm; W. approx. 10.3 cm; D. approx. 4.3 cm
Weight: approx. 84.7 gr.
Find spot: PG 800, tomb chamber with Pu-abi, with skull immediately below hair ribbon.
Museum number: B17712a,b
Excavation number: U.10933
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pls. 127–29

Cat. no. 9 (Pl. 8; fig. 21)
Object: Necklace with central rosette medallion strung with beads
Materials and methods: Gold round wire and flat wire medallion, alternating petals inlaid with lapis lazuli (others missing inlay?); strung with gold and lapis lazuli spherical and ovoid beads.
Dimensions: L. 39.7 cm (as strung)
Weight: 56.3 gr.
Find spot: PG 800, tomb chamber with Pu-abi, around neck.
Museum number: B16694
Excavation number: U.10982
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pl. 128

Cat. no. 10 (Pl. 9)
Object: Necklace or cloak collar (?) of triangular elements strung with beads
Materials and methods: Eleven (11) hammered and repousséed gold triangular elements; twelve (12) lapis lazuli triangular elements; strung with gold and lapis lazuli bi-conical beads (NB: length as reconstructed seems too long to be a necklace—see more below).
Dimensions: L. 63.6 cm; W. 2.8 cm; Th. 0.5 cm (as strung)
Weight: 148.0 gr.
Find spot: PG 800, tomb chamber with Pu-abi, around neck or shoulders (NB: in his field notes Woolley states emphatically that “the triangles did not come together but were separated by small beads of lapis and gold”—a clear reference to and contrast with the more common choker version of this type of ornament, the so-called dog collar; consequently, Woolley suggests the possibility that the strung triangular beads formed the collar, or upper border, to the cloak, cat. no. 11, rather than a choker or necklace; in support of this it is the fact that the length of the collar as reconstructed at present is almost exactly the same length as the so-called belt, cat. no. 13, which might then have formed the bottom border of the cloak as easily as a belt).
Museum number: 83-7-1-87
Excavation number: U.10983
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pl. 130

Cat. no. 11 (Fig. 22; see also figs. 3, 9)
Object: Cloak (?)
Materials and methods: Gold tubular beads of twisted (braided) wire; gold, silver, lapis lazuli, and carnelian bi-conical beads; gold, lapis lazuli, and carnelian elongated bi-conical beads; gold and carnelian date-shaped beads; gold, lapis lazuli, and carnelian spherical and ovoid beads; carnelian cylindrical beads; agate cylindrical, tubular, and elongated bi-conical beads; total number of beads in present reconstruction = 3,569.
Dimensions: Various
Weight: 2,276.9 gr.
Find spot: PG 800, tomb chamber with Pu-abi, all over front and back of body from neck to waist (NB: in his field notes and in the excavation report Woolley claims that most of the beads could be traced as single chains running in distinctly vertical formations from neck to waist on the front and back of her body.)
Cat. no. 12 (Fig. 23; see also top of image, figs. 9, 22)

**Object:** Assorted beads strung together

**Materials and methods:** Gold cylindrical beads; lapis lazuli and carnelian cylindrical and elongated bi-conical beads; the modern stringing into a distinct piece of jewelry should be questioned – why would these beads not have formed part of the cloak (cat. no. 11) since they are not mentioned as separate entity in field notes or in excavation report and have no distinct U. number?

**Dimensions:** L. 64.5 cm (as strung)

**Weight:** 96.9 gr.

**Find spot:** PG 800, tomb chamber with Pu-abi (no precise location because no specific mention of these as a separate entity in field notes or in excavation report—hence no U. number).

**Museum number:** 83-7-1-88

**Excavation number:** no verifiable U. number

**Credit line:** University of Pennsylvania Museum of Archaeology and Anthropology

**Publication:** Zettler and Horne 1998, p. 95, Cat. no. 31

Cat. no. 13 (Pl. 10; figs. 24–26)

**Object:** Belt or cloak border (?)

**Materials and methods:** Total of 390 beads in total: fifty (50) gold cylindrical beads; two-hundred-eighty (280) lapis lazuli cylindrical beads; and sixty (60) carnelian cylindrical beads; twenty-nine (29) rings of solid gold wire.

**Dimensions:** L. 63.5 cm; W. 10.5 cm (as strung)

**Weight:** 824.0 gr.

**Find spot:** PG 800, tomb chamber with Pu-abi, across body at waist level (NB: in the excavation report Woolley specifically states that the beads were found in ten rows of alternating colors from which the gold rings had been suspended, all of which he presumed had been sewn onto cloth or leather originally; Woolley’s drawing of the belt beads and rings makes it clear that these were found lying horizontally across the body in contrast to the distinctly vertical patterns of the cloak beads; in his field notes Woolley mentions that small ball beads of gold, lapis lazuli, and carnelian were also found with the larger tubular beads of the belt, although they are not shown in the present reconstruction; worth noting is that the length of the belt as reconstructed at present is exactly the same length as the triangular bead collar, cat. no. 10 – making it possible that the so-called belt might have been the lower border of the cloak much like the collar might have been the upper border, as Woolley himself suggested in his excavation report before reverting back to the idea that the elements more likely formed a belt).

**Museum number:** B17063

**Excavation number:** U.10867 (rings) and U.10879 (beads)

**Credit line:** University of Pennsylvania Museum of Archaeology and Anthropology
**Publication:** Woolley 1934, *Text*, p. 83ff.; *Plates*, pl.130

Cat. no. 14 (no image available)

**Object:** Thigh beads  
**Materials and methods:** Ten (10) large faceted, date-shaped beads—four (4) of gold,  
four (4) of lapis lazuli, two (2) of carnelian.  
**Dimensions:** Dimensions not available  
**Weight:** Weight not available  
**Find spot:** PG 800, tomb chamber with Pu-abi, on top of the thigh bones (NB: in his field notes and excavation report Woolley holds out the possibility that these beads were connected to the belt in terms of their deposition but at the same time remarks that they are of a different character than the belt beads—could they have been part of the cloak?).  
**Museum number:** WA/ME121494  
**Excavation number:** U.10880  
**Credit line:** The Trustees of the British Museum  
**Publication:** Woolley 1934, *Text*, p. 83ff.

Cat. no. 15 (Pl. 11)

**Object:** Garter  
**Materials and methods:** Twenty-four (24) beads—eight (8) gold flattened rectangular beads; nine (9) lapis lazuli flattened rectangular beads; six (6) carnelian flattened rectangular beads; and one (1) carnelian spherical bead.  
**Dimensions:** L. approx. 35 cm (as strung)  
**Weight:** Weight not available  
**Find spot:** PG 800 (tomb chamber with Pu-abi), around right knee.  
**Museum number:** B16783  
**Excavation number:** U.10979  
**Credit line:** University of Pennsylvania Museum of Archaeology and Anthropology  
**Publication:** Woolley 1934, *Text*, p. 83ff.

Cat. no. 16 (Fig. 27)

**Object:** Cuff (?)  
**Materials and methods:** Twenty-six (26) lapis lazuli cylindrical beads; fifteen (15) lapis lazuli bi-conical beads; fifty-four (54) carnelian elongated bi-conical beads; twenty-nine (29) small carnelian discoid beads; total number of beads in present reconstruction = 124 beads.  
**Dimensions:** L. 13.6 cm; W. 5.5 cm  
**Weight:** 48.0 gr.  
**Find spot:** PG 800, tomb chamber with Pu-abi (NB: there is no excavation number, i.e. U. number, assigned to this piece and no mention of a specific entity like this in either the field notes or in the excavation report—hence, it is unclear to me why this has been made into a distinct item of jewelry.)  
**Museum number:** B17292  
**Excavation number:** no U. number  
**Credit line:** University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Zettler and Horne 1998, p. 95, cat. no. 31

Cat. no. 17 (Fig. 28)
Object: Finger ring
Materials and methods: Gold wire; one single piece of wire wrapped eleven (11) times to make one continuous coil; the wire takes the form of both plain round and twisted wire so that the six (6) twisted wire inside coils appear braided and are framed on each side by two and a half (2 ½) plain round wire outer coils.
Dimensions: Diam. 1.8 cm; H. 0.7 cm
Weight: 2.5 gr.
Find spot: PG 800, tomb chamber with Pu-abi, on (near?) the fingers.
Museum number: B16717
Excavation number: U. 10877a
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.

Cat. no. 18 (Fig. 29)
Object: Finger ring
Materials and methods: Gold wire; one single piece of wire wrapped nine to ten (9–10) times to make one continuous coil; the wire takes the form of both plain round and twisted wire so that the five to six (5–6) twisted wire inside coils appear braided and are framed on each side by one and a half to two (1½–2) plain round wire outer coils; almost identical to B16717 (U.10877a) but slightly larger.
Dimensions: Diam. 2.0 cm; H. 0.6 cm
Weight: 2.8 gr.
Find spot: PG 800, tomb chamber with Pu-abi, on (near?) the fingers.
Museum number: B16718
Excavation number: U.10877b
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.

Cat. no. 19 (Fig. 30)
Object: Finger ring
Materials and methods: Gold wire; one single piece of wire wrapped eleven (11) times to make one continuous coil; the wire takes the form of both plain round and twisted wire so that the six (6) twisted wire inside coils appear braided and are framed on each side by two and a half (2½) plain round wire outer coils; almost identical to B16717 (U.10877a).
Dimensions: Diam. 2.0 cm; H. 0.7 cm
Weight: 3.0 gr.
Find spot: PG 800, tomb chamber with Pu-abi, on (near?) the fingers.
Museum number: B16719
Excavation number: U.10877c
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.
Cat. no. 20 (Fig. 31)

Object: Finger ring

Materials and methods: Gold wire; one single piece of wire wrapped seven to eight (7–8) times to make one continuous coil; the wire takes the form of both plain round and twisted wire so that the five (5) twisted wire inside coils appear braided and are framed on each side by one to one and a half (1–1½) plain round wire outer coils; similar to B16717-9 (U.10877a–c) except with fewer overall coils.

Dimensions: Diam. 2.0 cm; H. 0.5 cm
Weight: 2.7 gr.
Find spot: PG 800, tomb chamber with Pu-abi, on (near?) the fingers.
Museum number: B16720
Excavation number: U.10877d
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.

Cat. no. 21 (Fig. 32)

Object: Finger ring

Materials and methods: Gold and lapis lazuli; flat sheet of gold in shape of cylinder with the longitudinal edges of the sheet rolled over to form the rounded edges of the ring; inside a wavy, or cable, pattern of cloisons is formed by two (2) flat, narrow gold strips standing on edge, presumably soldered or brazed to the cylindrical back sheet of gold; this pattern is then inlaid with pieces of lapis lazuli cut to fit each space; the lapis lazuli inlays appear to be held in place with bitumen, of which traces are visible. (NB: Woolley published the ring assigned the museum and U. numbers given here as a different ring – see Woolley 1934, pl. 138 and p. 564; University of Pennsylvania Museum, however, has the ring assigned those museum and U. numbers as associated with the ring described here.)

Dimensions: Diam. 2.1 cm; H. 1.1 cm
Weight: 3.9 gr.
Find spot: PG 800 (tomb chamber with Pu-abi), on (near?) the fingers.
Museum number: B16721
Excavation number: U.10878
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology
Publication: Woolley 1934, Text, p. 83ff.; Plates, pl. 138

[There are supposedly five (5) similar rings – four (4) of twisted wire and one (1) inlaid with lapis lazuli. Four of these seem to be housed in the The British Museum under the museum/U. numbers ME121375/U.10949a, ME121376/U.10949b, ME121378/U.10950, and ME121379/U.10950. It is unclear to me where the fifth ring is and what identification numbers are associated with it. Woolley clearly states that Pu-abi was found with ten rings (Woolley 1934, p. 88); however, his concordance of these rings likewise does not entirely match the present arrangement in the respective museums. As I was unable to sort out, examine, or properly photograph the four (or five?) rings at The British Museum, I have not included them in the catalog or illustrated them. These omissions are also mentioned in the text of the dissertation – see Chapter IV.]
Cat. no. 22 (Pl. 12; fig. 44)

**Object:** Toggle pin

**Materials and methods:** Gold and lapis lazuli; solid gold pin body that gradually widens towards top where it meets pinhead; pinhead consists of a round lapis lazuli bead drilled through its center and capped on two sides with domes of hammered sheet gold; pinhead joined to body of pin by a gold nail driven through top of lapis lazuli bead, or conversely, by a gold rivet coming up through lapis lazuli bead from body of pin; body of pin drilled through with a hole near the top, just below pinhead.

**Dimensions:** L. 21.3 cm

**Weight:** 97.4 gr.

**Find spot:** PG 800, tomb chamber with Pu-abi, against right upper arm (with cylinder seal, cat. no. 25, U.10939).

**Museum number:** B16729

**Excavation number:** U.10940

**Credit line:** University of Pennsylvania Museum of Archaeology and Anthropology

**Publication:** Woolley 1934, Text, p. 83ff.

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Cat. no. 23 (Fig. 33)

**Object:** Toggle pin

**Materials and methods:** Gold and lapis lazuli; solid gold pin body that gradually widens towards top where it meets pinhead; pinhead consists of a round lapis lazuli bead drilled through its center and capped on two sides with domes of hammered sheet gold; pinhead joined to body of pin by a gold nail driven through top of lapis lazuli bead, or conversely, by a gold rivet coming up through lapis lazuli bead from body of pin; I believe the body of pin was drilled through with a hole near the top, just below pinhead, but was not able to observe this for myself.

**Dimensions:** L. 16.8 cm

**Weight:** Weight not available

**Find spot:** PG 800, tomb chamber with Pu-abi, against right upper arm (with cylinder seal, cat. no. 26, U.10872).

**Museum number:** WA/ME121353

**Excavation number:** U.10941

**Credit line:** The Trustees of the British Museum

**Publication:** Woolley 1934, Text, p. 83ff.

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Cat. no. 24 (Fig. 34)

**Object:** Toggle pin

**Materials and methods:** Gold and lapis lazuli; solid gold pin body that gradually widens towards top where it meets pinhead; pinhead consists of a round lapis lazuli bead drilled through its center and capped on two sides with domes of hammered sheet gold; pinhead joined to body of pin by a gold nail driven through top of lapis lazuli bead, or conversely, by a gold rivet coming up through lapis lazuli bead from body of pin; I believe the body of pin was drilled through with a hole near the top, just below pinhead, but was not able to observe this for myself.
Dimensions: L. 17.8 cm  
Weight: Weight not available  
Find spot: PG 800, tomb chamber with Pu-abi, against right upper arm (with cylinder seal, cat. no. 27, U.10871? Woolley does not specify whether this third toggle pin was found with third cylinder seal, as he does with the other two).  
Museum number: WA/ME121352  
Excavation number: U. 10870  
Credit line: The Trustees of the British Museum  
Publication: Woolley 1934, Text, p. 83ff.

Cat. no. 25 (Fig. 35)  
Object: Cylinder seal; inscribed “Pù-abi, nin;” double register banquet scene with male and female participants.  
Materials and methods: Lapis lazuli  
Dimensions: H. 4.9 cm; W. 2.6 cm  
Weight: Weight not available  
Find spot: PG 800, tomb chamber with Pu-abi, against right upper arm (with toggle pin, cat. no. 22, U.10940).  
Museum number: WA/ME121544  
Excavation number: U.10939  
Credit line: The Trustees of the British Museum  
Publication: Woolley 1934, Text, p. 83ff.; Plates, pl. 193

Cat. no. 26 (Fig. 36)  
Object: Cylinder seal; double register banquet scene with only female participants, including musicians.  
Materials and methods: Lapis lazuli  
Dimensions: H. 3.9 cm; W. 1.9 cm  
Weight: 30.8 gr.  
Find spot: PG 800, tomb chamber with Pu-abi, against right upper arm, with toggle pin, cat. no. 23 (U.10941).  
Museum number: B16728  
Excavation number: U.10872  
Credit line: University of Pennsylvania Museum of Archaeology and Anthropology  
Publication: Woolley 1934, Text, p. 83ff.; Plates, pl. 193

Cat. no. 27 (Fig. 37)  
Object: Cylinder seal; double register banquet scene with male and female participants.  
Materials and methods: Lapis lazuli  
Dimensions: H. 4.4 cm; W. 2.3 cm  
Weight: Weight not available  
Find spot: PG 800, tomb chamber with Pu-abi, against right upper arm.  
Museum number: WA/ME121545  
Excavation number: U.10871  
Credit line: The Trustees of the British Museum
Cat. no. 28 (Fig. 38)

Object: Amulet in form of recumbent calf strung with beads

Materials and methods: Carved lapis lazuli; pierced through its center; strung with one large oblong agate bead, one large flattened lentoid lapis lazuli bead, one large diamond-shaped lapis lazuli bead, one small ovoid lapis lazuli bead at the top, and one small biconical lapis lazuli bead at the bottom.

Dimensions: L. 17.2 cm; W. 1.9 cm

Weight: Weight not available

Find spot: PG 800, tomb chamber with Pu-abi, above/right next to right shoulder.

Museum number: WA/ME121419

Excavation number: U.10946 and U.10947

Credit line: The Trustees of the British Museum

Publication: Woolley 1934, Text, p. 83ff.; Plates, pl. 143

Cat. no. 29 (Fig. 39)

Object: Amulet in form of two recumbent and addorsed antelopes

Materials and methods: Hammered gold over (bitumen?) core; pierced through its center?

Dimensions: L. 3.2 cm; W. 2.9 cm

Weight: Weight not available

Find spot: PG 800, tomb chamber with Pu-abi, at right arm near elbow, with cat. nos. 29 and 31 (U.10944a,b and U.10945).

Museum number: WA/ME121404

Excavation number: U.10943

Credit line: The Trustees of the British Museum

Publication: Woolley 1934, Text, p. 83ff.; Plates, pl. 142

Cat. no. 30 (Figs. 40, 41)

Object: Amulets (two) in form of fish

Materials and methods: Hammered gold over (bitumen?) core, each with a string hole pierced from the mouth through one gill.

Dimensions: L. 3.2 cm; W. 1.3 cm (same for both)

Weight: Weight not available

Find spot: PG 800, tomb chamber with Pu-abi, at right arm near elbow, with cat. nos. 29 and 31 (U.10943 and U.10945).

Museum number: WA/ME121405, WA121406

Excavation number: U.10944a,b

Credit line: The Trustees of the British Museum

Publication: Woolley 1934, Text, p. 83ff.; Plates, pl. 142

Cat. no. 31 (Fig. 42)

Object: Amulet in form of fish
Materials and methods: Carved lapis lazuli; a string hole pierced from the mouth through one gill.

Dimensions: L. 3.0 cm; W. 1.1 cm

Weight: Weight not available

Find spot: PG 800, tomb chamber with Pu-abi, at right arm near elbow, with cat. nos. 29 and 30 (U.10943 and U.10944a,b).

Museum number: WA/ME121407

Excavation number: U.10945

Credit line: The Trustees of the British Museum

Publication: Woolley 1934, *Text*, p. 83ff.; *Plates*, pl.142

**Cat. no. 32 (Fig. 43)**

Object: Amulet in form of recumbent bearded bull strung with beads

Materials and methods: Lapis lazuli carved in the shape of a bearded bull amulet; pierced through its center; strung with two large lapis lazuli diamond-shaped beads, one large lapis lazuli trapezoidal bead, one large carnelian oblong bead, and one small biconical lapis lazuli bead at top and bottom respectively (NB: in his field notes Woolley states that “bearded bull attached to an oblong carnelian bead and a lapis diamond” so only accounts for two of the five beads in present stringing.

Dimensions: L. 12.0 cm

Weight: 51.3 gr.

Find spot: PG 800, tomb chamber with Pu-abi, above/next to left shoulder (NB: in his field notes Woolley says “found under the left ear”).

Museum number: B16726

Excavation number: U.10985

Credit line: University of Pennsylvania Museum of Archaeology and Anthropology

Publication: Woolley 1934, *Text*, p. 83ff.; *Plates*, pl. 143

**Cat. no. 33 (Pl. 13; fig. 45)**

Object: Dress or belt pin

Materials and methods: Gold; solid gold wire pin hammered into a triangular shape towards top and then rolled over into a tube.

Dimensions: L. 12.5 cm

Weight: 55.2 gr.

Find spot: PG 800, tomb chamber with Pu-abi, to the left of the waist but clear of the body, resting on the wood of the bier (possibly related to fastening of belt, cat. no. 13, U.10867/U.10879).

Museum number: B16908

Excavation number: U.10938

Credit line: University of Pennsylvania Museum of Archaeology and Anthropology

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Plate 2: Pu-abi’s poplar wreath; Cat. no. 2; B17709; U.10935bis [U.10935a]
Plate 3: Pu-abi’s poplar wreath; Cat. no. 3; B17710; U.10935bis [U.10935a]
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Figure 9: Pu-abi’s body ornaments (Aruz and Wallenfels 2003: Cat. no. 62a-h; photo courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
Figure 10: Top row, Pu-abi’s head ornaments (Aruz and Wallenfels 2003: Cat. no. 61a-e, front; photo courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology); Pu-abi’s comb, Cat. no. 1, Pl. 1; Middle row, left to right, Pu-abi’s poplar wreath, Cat. no. 2, Pl. 2; Pu-abi’s poplar wreath, Cat. no. 3, Pl. 3; Pu-abi’s willow wreath, Cat. no. 4, Pl. 4; Bottom row, Pu-abi’s ringlet wreath, Cat. no. 5, Pl. 5 (all photos but top left by Anna Marie Kellen, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
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(All photos on this page by author, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
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Figure 19: Pu-abi’s willow wreath, Cat. no. 4, microphotography detail of suspension loop as it meets one of the ring pendants

(All photos on this page by author, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
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Figure 23: Pu-abi’s additional beads, Cat. no. 12 (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
Figure 24: Microphotography detail of Pu-abi’s belt, Cat. no. 13, showing the seam join on one of the cylindrical gold beads (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
Figure 25: Microphotography detail of Pu-abi’s belt, Cat. no. 13, showing the folded over edges on one of the cylindrical gold beads (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
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Figure 27: Pu-abi’s “cuff,” Cat. no. 16 (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
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Figure 29: Pu-abi’s ring, Cat. no. 18, microphotography (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
Figure 30: Pu-abi’s ring, Cat. no. 19, microphotography (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
Figure 31: Pu-abi’s ring, Cat. no. 20, microphotography (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
Figure 32: Pu-abi’s ring, Cat. no. 21, microphotography (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
Figure 33 (left): Pu-abi’s toggle pin, Cat. no. 23 (author photo © The Trustees of The British Museum)
Figure 34 (right): Pu-abi’s toggle pin, Cat. no. 24 (author photo © The Trustees of The British Museum)
Figure 35: Pu-abi’s cylinder seal, Cat. no. 25 (Aruz and Wallenfels 2003: Cat. no. 60a; © The Trustees of The British Museum)

Figure 36: Pu-abi’s cylinder seal, Cat. no. 26 (Aruz and Wallenfels 2003: Cat. no. 60b; photo courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)

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Figure 44: Microphotography detail of Pu-abi’s toggle pin, Cat. no. 22, showing cap at top of pin (author photo, courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
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Figure 46: Gold, lapis lazuli, and carnelian ornaments associated with Body 51, PG 1237, Ur, Mesopotamia, ca. 2500 B.C., The British Museum, ME122339-122341, ME122343-122344 (Aruz and Wallenfels 2003: Cat. no. 72a,b,d,e; © The Trustees of The British Museum)
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Figure 48: Gold, lapis lazuli, and carnelian ornaments associated with Body 55, PG 1237, Ur, Mesopotamia, ca. 2500 B.C., The British Museum, ME122388-122392 (Aruz and Wallenfels 2003: Cat. no. 74a,b,c,d; © The Trustees of The British Museum)
Figures 49a, b: Jewelry hoard, discovered beneath floor of Akkadian palace, Tell Asmar, Mesopotamia, ca. 2500 B.C., present location unclear (after Frankfort 1934: Fig. 29); right, burial items, Burial 344, Kish, Mesopotamia, ca. 2500 B.C., present location unclear (after Watelin and Langdon 1934: Pl. XXXV)  

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Figure 52: Shell inlay of a woman’s head, Ninni-zaza temple, Mari, ca. 2550-2250 B.C., Syria, National Museum, Damascus, 2137 (Aruz and Wallenfels 2003: Cat. no. 104b; photo courtesy of the National Museum, Damascus)
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Figure 54b: Gold rosette ornaments, PG 1133, Ur, Mesopotamia, ca. 2500 B.C., The British Museum, ME122207-122208 (Aruz and Wallenfels 2003: Cat. no. 76; © The Trustees of The British Museum)
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Figure 56: Gold and lapis lazuli flowers, PG 1237, Ur, Mesopotamia, ca. 2500 B.C., University of Pennsylvania Museum of Archaeology and Anthropology, 30-12-692, 30-12-736, 30-12-737 (Zettler and Horne 1998: Cat. no. 94; photo courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)
Figures 57a, b: Gold basket earrings with pendants, Treasure A, Troy, Anatolia, ca. 2500 B.C.?, Pushkin State Museum of Fine Arts, Moscow, A5880, A5879 (Tolstikov and Treister 1996: Cat. nos. 15, 14; photos courtesy of the Pushkin State Museum of Fine Arts, Moscow)

Figure 58: Gold basket earrings with pendants, Poliochni, Greece, ca. 2450-2200 B.C., National Archaeological Museum, Athens, 7159 (Aruz and Wallenfels 2003: Cat. no. 174; photo courtesy of the National Archaeological Museum, Athens)
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ABBREVIATIONS:

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
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<td>CAD</td>
<td>Chicago Assyrian Dictionary</td>
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<tr>
<td>ETCSL</td>
<td>Electronic Text Corpus of Sumerian Literature</td>
</tr>
<tr>
<td>ePSD</td>
<td>Pennsylvania Sumerian Dictionary Project</td>
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<tr>
<td>RLA</td>
<td>Reallexikon der Assyriologie</td>
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Baadsgaard, Aubrey

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Bachofen, Johann Jakob

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