

# Material Affective Engagements: Examples from Ancient Mesopotamia

Ulrike Steinert et Giovanna Colombetti 

Volume 3, numéro 2, 2022

Emotions in Contexts: Cultural Conceptions in Ancient and Medieval Societies

URI : <https://id.erudit.org/iderudit/1110118ar>

DOI : <https://doi.org/10.33137/aestimatio.v3i2.42532>

[Aller au sommaire du numéro](#)

Éditeur(s)

Institute for Research in Classical Philosophy and Science

ISSN

1549-4470 (imprimé)

1549-4497 (numérique)

[Découvrir la revue](#)

Citer cet article

Steinert, U. & Colombetti, G. (2022). Material Affective Engagements: Examples from Ancient Mesopotamia. *Aestimatio*, 3(2), 113–168.  
<https://doi.org/10.33137/aestimatio.v3i2.42532>

Résumé de l'article

This article applies approaches from current emotion research on material affective scaffolds—objects made and used to enhance, and more generally transform, affective states—to the emerging field of study focusing on emotions in ancient Near Eastern societies. Its main goal is to extend the framework of 4E cognition—with its central notion that human cognition is embodied, embedded, enactive, and extended—to the realm of affective states, emphasizing that through our bodily interactions with material objects we transform not just our cognitive processes but also our emotions, moods, and so forth. Thereby, the present study seeks to contribute to the exploration of the relationships between sensory experiences, emotions, moods, and the material world by investigating the affective meanings that material things acquire through people's entanglements with them.

The study focuses on one particular class of objects—Mesopotamian amulets from the first millennium BC, which served as bodily adornments but were also understood to have the power to evoke affective responses through their activation in ritual performances. Referring to scholarly compendia in Mesopotamian cuneiform texts, this study demonstrates that these objects were recommended by healing experts to influence different affective states, both in oneself and others. It examines the connection between affective states and specific material features of the amulet components (consisting of minerals, metals, and plant and animal substances). Finally, Mesopotamian views of affective states and their management are compared with those of contemporary cognitive-affective science. This comparison shows that although there are some analogies, there are also important differences that depend mainly on different understandings of the human mind and agency.

© Ulrike Steinert, Giovanna Colombetti, 2022



Ce document est protégé par la loi sur le droit d'auteur. L'utilisation des services d'Érudit (y compris la reproduction) est assujettie à sa politique d'utilisation que vous pouvez consulter en ligne.

<https://apropos.erudit.org/fr/usagers/politique-dutilisation/>

**é**rudit

Cet article est diffusé et préservé par Érudit.

Érudit est un consortium interuniversitaire sans but lucratif composé de l'Université de Montréal, l'Université Laval et l'Université du Québec à Montréal. Il a pour mission la promotion et la valorisation de la recherche.

<https://www.erudit.org/fr/>

# Material Affective Engagements

Examples from Ancient Mesopotamia

by

Ulrike Steinert

Johannes Gutenberg University Mainz  
[usteiner@uni-mainz.de](mailto:usteiner@uni-mainz.de)

and

Giovanna Colombetti

University of Exeter  
[G.Colombetti@exeter.ac.uk](mailto:G.Colombetti@exeter.ac.uk)

## Abstract

This article applies approaches from current emotion research on *material affective scaffolds*—objects made and used to enhance, and more generally transform, affective states—to the emerging field of study focusing on emotions in ancient Near Eastern societies. Its main goal is to extend the framework of 4E cognition—with its central notion that human cognition is embodied, embedded, enactive, and extended—to the realm of affective states, emphasizing that through our bodily interactions with material objects we transform not just our cognitive processes but also our emotions, moods, and so forth. Thereby, the present study seeks to contribute to the exploration of the relationships between sensory experiences, emotions, moods, and the material world by investigating the affective meanings that material things acquire through people’s entanglements with them.

The study focuses on one particular class of objects—Mesopotamian amulets from the first millennium BC, which served as bodily adornments but were also understood to have the power to evoke affective responses through their activation in ritual performances. Referring to scholarly compendia in Mesopotamian cuneiform texts, this study demonstrates that these objects were recommended by healing experts to influence different affective states, both in oneself and others. It examines the connection between affective states and specific material features of the amulet components (consisting of minerals, metals, and plant and animal substances). Finally, Mesopotamian views of affective states and their management are compared with those of contemporary cognitive-affective science. This comparison shows that although there are some analogies, there are also important differences that depend mainly on different understandings of the human mind and agency.

### About the Authors

ULRIKE STEINERT is a postdoctoral researcher at Johannes Gutenberg University Mainz, Germany, working within the project “Akkadian and Hittite Emotions in Context (AHEC) – Towards a Lexicon of Emotions in Cuneiform Texts from Ancient Mesopotamia and Asia Minor” funded by the Deutsche Forschungsgemeinschaft (DFG). Her research and publications focus on the history of ancient Mesopotamian medicine, women’s health, the Akkadian language, body and gender concepts, as well as on the study of

metaphor and emotions. She is the author of *Aspekte des Menschseins im Alten Mesopotamien. Eine Studie zu Person und Identität im 2. und 1. Jt. v. Chr.* (Leiden, 2012), a book on the body, self, and identity in Mesopotamian texts, and is currently preparing a monograph: *Women's Health Care in Ancient Mesopotamia: An Edition of the Textual Sources*. She is also the editor of several volumes, including *Assyrian and Babylonian Scholarly Text Catalogues* (Berlin, 2018), *Systems of Classification in Premodern Medical Cultures* (London, 2021), and *The Routledge Handbook of Emotions in the Ancient Near East* (coedited with Karen Sonik, London, 2023).

GIOVANNA COLOMBETTI is professor of philosophy at the University of Exeter, UK, where she leads the Mind, Body, and Culture research cluster of EGENIS (the Centre for the Study of the Life Sciences). She is also honorary adjunct professor in the Faculty of Health Sciences, University of Southern Denmark and coeditor in chief of *Emotion Review*. Her research expertise spans philosophy of mind and cognitive science (primarily debates on embodied-enactive and situated cognition), philosophy of emotion, phenomenology, and material culture studies. She is the author of several publications in these areas, including the monograph *The Feeling Body: Affective Science Meets the Enactive Mind* (2014, MIT Press). She is currently working on a second monograph on human affective relations to objects, specifically on human practices of using objects to regulate or “scaffold” our affective states.

**Keywords** 4E-cognition, affective states, emotions, material affective scaffolds, ancient Mesopotamian healing texts, amulets

## 1. Introduction

Philosophers of cognitive science have recently begun to discuss the role of material objects in relation to affective states, namely, emotions, moods, and motivational drives such as pain, pleasure, and energy level.<sup>1</sup> This work is a further development of the so-called 4E cognition framework, according to which cognition is embodied, embedded, enactive, and extended [Robbins and Aydede 2009; Newen, Bruin, and Gallagher 2018]. These terms refer to the idea that cognition is not the product of brain activity only but of embodied agents situated in the (material and social) environment. As the label “4E cognition” indicates, however, most work in this field has emphasized the embodied and situated nature of cognition—where this term typically refers to thinking, solving problems, and, more generally, processing information.<sup>2</sup> Discussions of the situated nature of affective states, and in particular of its relation to material objects, have started to appear only recently in the philosophy of cognitive science and 4E cognition and are still relatively scarce.

Our goal in this article is to contribute to this emerging literature on situated affectivity by applying some of its concepts to the study of ancient textual materials and artifacts. So-called cognitive archaeology (broadly, the study of how ancient artifacts contributed to shaping hominins’ cognitive capacities) has started to import and assimilate ideas from 4E cognition. Notably, Renfrew and Malafouris, as part of their material engagement theory (MET), draw extensively on the hypothesis of extended cognition to interpret certain ancient artifacts as constitutive parts of our ancestors’ cognitive

---

<sup>1</sup> See, e.g., Colombetti and Krueger 2015; Colombetti and Roberts 2015; Colombetti 2016; Maiese 2016; Piredda 2020; Saarinen 2020. We call all of these states affective states (or, sometimes, affects) as this is more general than emotional states. Emotions, moreover, are often distinguished from moods, both in philosophy and psychology [Stephan 2017]. Whereas emotions are typically about something (e.g., one is afraid of or angry with something or someone), moods (e.g., being irritable, depressed, or grumpy) are not about anything in particular.

<sup>2</sup> See, e.g., Clark 2008; Menary 2010; Rowlands 2010; Malafouris and Renfrew 2010; and Malafouris 2013.

activities, such as remembering and calculating [Clark 2008; Malafouris and Renfrew 2010; Malafouris 2013].

We welcome this encounter between archaeology and 4E cognition, and in particular we commend MET's emphasis on the importance of studying our interactions with material objects when it comes to understanding the human mind. MET, however, still characterizes the mind primarily as affectless thinking, problem-solving, and/or information processing. This understanding of cognition is deeply rooted in cognitive science and its philosophy and is hard to dispel, even within 4E approaches. As Malafouris and Renfrew announce in the introduction to their special issue on "the cognitive life of things", humans think through things [Malafouris and Renfrew 2010, 1]. The claim that we think through things, rather than only about them, is important. Yet it leaves out a crucial dimension of our relation to things, namely, the fact that we also feel through them.<sup>3</sup> "Feeling", as we use the term here, is a central aspect of affectivity; it refers to the conscious experience of being affected, touched, or moved by something or someone.<sup>4</sup>

In the last two decades, archaeologists have started to explore the relationships between sensory experiences, emotions, moods, and the material world and to investigate the affective meanings that material things, artifacts, and places acquire through people's "entanglements" with them.<sup>5</sup> In ancient Near Eastern studies, there is likewise an emerging interest in affectivity and the senses, visible in a few recent publications on the expression of emotions in texts, language, metaphors, and the visual arts.<sup>6</sup> For ancient Mesopotamian art, Irene Winter in particular has discussed the affective

---

<sup>3</sup> Malafouris [2013, 86] briefly acknowledges that "things have a strong affective response". By this he means, we take it, that things induce affective responses. He does not, however, develop this theme any further in the rest of his book.

<sup>4</sup> Feelings, as we understand them, are, therefore, by definition conscious. In this article, we discuss primarily conscious (or felt) affective states, even though we think that it is possible for affective states to be unconscious as well.

<sup>5</sup> The term "entanglement" comes from Hodder 2012. See also, e.g., Tarlow 2000 and 2012 for reviews of the literature; McMahon 2013; Gosden 2004; Hamilakis 2014; Harris and Sørensen 2010; and Fleisher and Norman 2016.

<sup>6</sup> For Mesopotamia, see, e.g., Sonik 2017 and other contributions collected in Kipfer 2017. Recent surveys on affects and the senses in sources from the ancient Near East include Schellenberg and Krüger 2019; Hawthorn and Rendu Loisel 2019; Nadali and Pinnock 2020; Hsu and Llop Raduà 2021; Kipfer and Wagner-Durand 2021; Neumann and Thomason 2022; and Sonik and Steinert 2023. For emotional contagion in the ancient Mesopotamian cult practices of lamenting, see also Delnero 2010

states that artworks such as divine or royal statues, monumental architecture, and reliefs evoked in ancient viewers, including positive responses of joy, delight, and awe.<sup>7</sup> How affects are evoked by artworks (literary and pictorial art) and material things has likewise been studied in fields such as art history and design theory.<sup>8</sup> Furthermore, research in neuro-aesthetics suggests that the perception of artworks activates physiological mechanisms triggering affective responses such as empathy and neurally represented bodily processes (mirror neurons).<sup>9</sup>

In line with these approaches, our aim in this article is to contribute to the 4E cognition framework by emphasizing and further exploring the affective dimension of material objects. One way to formulate the main goal of this article, then, is as extending the notion of material engagement from cognition to affective states, emphasizing that through our bodily interactions with material objects we transform not just our cognitive processes but also our emotions, moods, and so on.

To make this point, in what follows we focus on one particular class of objects: Mesopotamian amulets from the first millennium BC, which served as bodily adornments but were also understood to have the power to evoke affective responses through their activation in ritual performances. In §2 we provide some general background about these objects, including their shape, materials, and contexts of use. In §3 we refer to various compendia of Mesopotamian cuneiform texts to show that these objects were recommended by experts (authority figures such as healers and priests) to influence different affective states, both in oneself and others. Although Mesopotamian languages (e.g., Akkadian and Sumerian) did not have words equivalent to the English terms “emotion”, “affect”, or “mood”, the texts clearly refer to psychological states that we now characterize as fear, anger, depression/sadness, compassion, joy/happiness, and sexual attraction [see,

---

and 2021. For affective states evoked in Mesopotamian religious rituals and performances, see the contributions by [Ambos 2005a](#) and [2005b](#); [Maul 2005](#), 22–23; and [Rendu Loisel 2021](#).

<sup>7</sup> See [Winter 1995](#), [2010b](#), and [2010c](#). For a recent foundational study on emotions and ancient visual arts with a focus on Mesopotamia, see [Sonik 2023](#).

<sup>8</sup> See, e.g., [Bennett 2001](#), [2005](#), and [2012](#); [O’Sullivan 2001](#); [Van Alphen 2005](#); [Norman 2004](#).

<sup>9</sup> See, e.g., [Freedberg and Gallese 2006](#) and [Gallese 2011](#). For approaches linking neurosciences, psychology, and art (history), see, e.g., [Robinson and Pallasmaa 2015](#) (with a focus on architecture) and [Solso 2003](#).

e.g., [Steinert 2021](#); [Sonik and Steinert 2023](#)]. They also refer to a variety of object-involving practices and rituals for managing or “regulating” (to use a term from contemporary affective science) these states in oneself and others. In §4 we interpret Mesopotamian amulets as material affective scaffolds—objects made and used to enhance, and more generally transform, affective states.<sup>10</sup> Although we do not know what effects using these amulets had on people, it is apparent from the texts that both expert authority figures and people from various social strata held them in high regard and attributed various powers to them. It is thus plausible to assume that people would have had feelings toward these objects (e.g., of attraction, attachment, awe, or reverence) and that having/using these objects in certain situations would have influenced how people felt (more confident, safer, more attractive, and so on). The situation is not unlike that of people today who use stones and crystals to protect themselves or others from misfortune as well as to feel more self-assured, serene, balanced, and so forth. The use of amulets and other magic objects intended to manipulate or influence other people’s affective states and relations toward others is also amply attested in other ancient cultures, and practices such as these have been interpreted as strategies to cope with anxieties, risks, and uncertainties with regard to other people’s emotions.<sup>11</sup> These are all good examples of objects by means of which people do not just change how they think but also, and primarily, how they feel. As such, they illustrate well that the human mind is situated as a cognitive-affective mind, and not as an affectless, cold, problem-solving one. In §4 we examine in more detail the connection between affective states and specific material features of the amulets, such as color, shape, hardness, and more. Finally, in §5 we compare the Mesopotamian view of affective states and their regulation with that of contemporary cognitive-affective science. We show that although there are some analogies, there are also important differences that mainly depend on different understandings of the human mind and agency.

---

<sup>10</sup> The term was introduced in [Colombetti and Krueger 2015](#).

<sup>11</sup> See, e.g., [Betz 1986](#); [Boschung and Bremmer 2015](#); [Eidenow 2007](#); [Faraone 1991, 1999](#). Note that, therefore, the contemporary psychological notion of “emotion regulation” does not exactly capture the function of Mesopotamian amulets because it refers primarily to the regulation of one’s own emotions (or self-regulation) rather than that of others. This is why later in the main text we talk instead of “affective management”.



## 2. Mesopotamian amulets: context and functions

Like many other ancient cultures, the Mesopotamians endowed various objects with special powers. Archaeological findings and specialized compendia of cuneiform texts from the first millennium BC indicate that they used different kinds of amulets in several everyday situations. These objects were thought to have protective, prophylactic, and apotropaic functions, i.e., protecting from harm, preventing disease, and warding off sickness and misfortune. They were also thought to bring good fortune and positive conditions, such as health and attractiveness.

Compendia from major urban centers of learning in Babylonia and Assyria, such as Babylon, Sippar, Uruk, Nineveh, and Assur, provide detailed guidelines for making and using different types of amulets.<sup>12</sup> They usually contain long lists of ingredients and instructions, sometimes compiled together with incantations and ritual actions accompanying them. A catalog listing the text corpus pertaining to the profession of the conjurer/exorcist (*āšipu*, *mašmaššu*), often termed the *Manual of Exorcism* by modern scholars, informs us that amulets belonged firmly to the practice of this healing profession.<sup>13</sup> This is also confirmed by specimens of amulet texts that were found in the libraries of conjurers (especially those from the so-called house of the incantation priest at Assur).<sup>14</sup>

Amulets were often worn on the body and came in different shapes and materials. Some would have functioned simultaneously as adornments and charms—as in the case of pieces of jewelry in the shape of floral ornaments, figurines of protective spirits, and divine symbols.<sup>15</sup> Indeed, amulets were often made of the same materials as jewelry, such as precious metals and stones [see [Plate 1](#), p. 122 below; [Postgate 2009](#)]. Other materials came from

<sup>12</sup> See [Schuster-Brandis 2008](#), 187–300, for an overview.

<sup>13</sup> See the latest edition by [Geller 2018](#), 300, 308.26 with further literature.

<sup>14</sup> For the library in the house of the incantation priest, which belonged to a family of exorcists and healers with links to the Aššur temple active in the eighth and seventh centuries BC, see, e.g., [Pedersén 1986](#), 61–75; [Maul 2010](#). For amulet texts from this library, see, e.g., [Köcher 1971](#); sub BAM 344, 346, 351, 353, 356–357, 361, 365–368, 371–374, 476–477; and [Schuster-Brandis 2008](#). For a microhistorical study of the healer Kišir-Aššur, a prominent member of this family, see [Arbøll 2021](#).

<sup>15</sup> See, e.g., [Salje 1997](#); [Winter 2010a](#). For divine personal jewelry as power objects, see the myth of *Inanna's Descent to the Netherworld* (known in the Akkadian version as *Ištar's Descent*) in [Black, Cunningham, Ebeling, Flückiger-Hawker, Robson, Taylor, and Zólyomi 1998–2006](#), col. 1.4.1; [Foster 2005](#), 498–505.

plants and animals. In ancient Babylonia and Assyria, especially in the first millennium BC, healers assembled a wide range of stones and metals on strings of wool, linen, or animal tendons, often tying various knots in them [Schuster-Brandis 2008]. They prescribed such amulet strings (designated in Akkadian as *takšīru* (knotting, string [of amulet stones]), *kušaru* (amulet string), *ṭurru* (string), or *kišādu* (necklace) to be worn around the neck or other body parts for a wide range of purposes. As an alternative, or in addition, to strings with beads, minerals and plant/animal ingredients could be wrapped in a piece of leather and worn as a medicine bag (*mêlu*) around the neck.<sup>16</sup> Besides prophylactic and apotropaic functions, these objects were also ascribed therapeutic properties and were used to treat headache, hair loss, epilepsy, stroke, paralysis, fevers, infertility, and loss of sexual desire.<sup>17</sup> Other types of amulets included clay cylinders inscribed with a protective spell and figurative pendants depicting protective beings. Pendants in the shape of male and female genital parts unearthed in Mesopotamia may have been worn to stimulate sexual desire, potency, or fertility; they were also given as votives to temples.<sup>18</sup>

In this article, we focus in particular on amulet strings that were believed to have affective functions. Specifically, they were thought to influence the affective state of the wearer as well as that of the people interacting with him or her. Moreover, the materials of these amulets mattered for their purported functions, as they were thought to exert a positive influence at the level of body, affective state, and socioeconomic well-being. They were often made of carefully chosen (semi)precious stones and metals. Many of these materials had to be imported and must have been expensive, affordable only to the upper strata of society (although cheaper versions of amulets for less wealthy clients can be found in pertinent texts). Their inherent powers, however, had to be “activated”; this was usually accomplished by reciting magic spells over the amulet strings before attaching them to the body. These spells often explicitly hinted at the affectively charged nature of amulet uses.

---

<sup>16</sup> For the Akkadian terms, see *CAD* K, 448–449 sub 2; *CAD* T, 87; *CAD* T, 164–165; Reiner 1959–1960; Stol 1993, 107–108; Schuster-Brandis 2008, 59–63.

<sup>17</sup> See, e.g., Biggs 1967, 29, 45, 53, 67; Zisa 2021, 180–186 and below; Stol 1993, 102–104, 107–113; Schuster-Brandis 2008, 72–186; Böck 2010, 92–93, 94–96, 98 and 2013, 36; Heeßel 2010, 157–163; Finkel 2018.

<sup>18</sup> See, e.g., Biggs 1967, 10; Wiggermann 2009–2011, 419–423; Seidl 2014–2016; Braun-Holzinger and Sallaberger 2016–2018.



Plate 1. Pieces of jewelry found in a grave at Babylon, Merkes (ca 13th/12th century BC)

Clothing pin (silver), a large bead (rock crystal), cylinder seal (rock crystal), three necklaces of precious stones and gold, and a silver bracelet. VA Bab. 1377 01–07. ©Staatliche Museen zu Berlin – Vorderasiatisches Museum, Photograph by Olaf M. Teßmer.

Textual evidence for the association of stones with affective states can be gleaned from different sources, especially from collections of amulet prescriptions and stone description texts. Another source is the lexical list *HAR-ra: hubullu*, which can be designated as a bilingual (Sumerian-Akkadian) “dictionary of the material world” [Schuster-Brandis 2008, 10] and served as a key text in scribal education. With the help of this list, scribal students learned how to write various Akkadian words and expressions and their Sumerian equivalents. Tablet XVI of *HAR-ra: hubullu* contains vocabulary having to do with the topic of minerals (a class of materials written with the classifier  $na_4$  (stone), which in fact comprised stones, metals, shells, artificial materials such as glass, and plant materials such as “date stone”). The tablet includes not only the names of particular types of stones or minerals



© Staatliche Museen zu Berlin - Vorderasiatisches Museum, Foto: Olaf M. Teßmer

Plate 2. A necklace with semiprecious stones and gold beads found in a grave at Babylon, Merkes (first half of the first millennium BC)

VA Bab. 2550.001. © Staatliche Museen zu Berlin – Vorderasiatisches Museum, Photograph by Olaf M. Teßmer.

(e.g., hematite, lapis lazuli, diorite) but also terms for material objects made from these stones (e.g., seals, statues, vessels, jewelry) and entries characterizing the properties of particular stones (e.g., hardness, brightness, colors) and their functions (e.g., “stone for pregnancy”, “stone for a woman having difficulties in bringing pregnancies to term”).<sup>19</sup>

Interestingly for our purposes, a few entries in Tablet XVI are genitive phrases attributing affective qualities to stones. These entries speak of a

<sup>19</sup> See [Schuster-Brandis 2008](#), 10–11 for a discussion of the structure of HAR-ra: *hubullu* Tablet XVI.

stone of strife (na<sub>4</sub>-du<sub>14</sub> = *aban šalti*), a stone of compassion (na<sub>4</sub>-arhuš = *aban rēmi*), a stone of dignity/attractiveness (*aban bālti*), a stone of loving (na<sub>4</sub>-ki-âĝ-gá = *aban rāmi*), and a stone of not loving (na<sub>4</sub>-nu-ki-âĝ-gá = *aban lā rāmi*),<sup>20</sup> also characterized as a hate stone (na<sub>4</sub>-hul-gig = *aban zēri*) [Landsberger, Reiner, and Civil 1970, 31.77]. The genitive construction suggests that the affective labels referred to the function attributed to the stones (i.e., stones for creating or influencing a specific state).

The relation between these affective functions and specific types of stones is not entirely clear. On the one hand, some texts indicate that there might have been a one-to-one correspondence between some types of affective states and particular stones. For example, the stone of compassion (*aban rēmi*) appears once in an amulet text as the name of a specific stone (although its external appearance remains unknown to us) [Schuster-Brandis 2008, 399 and Kette 19]. Similarly, the commentary HAR-gud on the passage discussed in HAR-*ra*: *hubullu* Tablet XVI equates the stone of loving with a type of carnelian (*sām̄ti*(<sup>na<sub>4</sub></sup>GUG) *sīlim*).<sup>21</sup> On the other hand, we also find several different stones associated with the same states. The stone of dignity (*aban bālti*), for example, is described in the text *abnu šikinšu* as having the appearance of cat fur and thus seems to be the name of a particular stone [Schuster-Brandis 2008, 35.38]. But in texts describing the necklace of (King) Hammurapi, the epithet “stone of dignity” is given to a different stone—the *luludanītu*-stone [see §3, p. 126 below]. Similarly, in amulet prescription texts we find passages that designate different stones as a stone of joy/happiness (*aban hidāti*, *aban hūd libbi*; NA<sub>4</sub> ŠÀ.HUL), such as the *papparmīnu* stone, the snake eye stone (*īn šerri*), and the fish eye stone (*īn nūni*).<sup>22</sup> These descriptive stone names presumably refer to the characteristic appearance of the stones in question, as they resemble animal eyes in their colors, bands, or patterns [see Plate 3].

<sup>20</sup> Landsberger, Reiner, and Civil 1970, 10.210–212 and 219–220.

<sup>21</sup> Landsberger, Reiner, and Civil 1970, 31.76–77. For «*sām̄ti sīlim*», cf. CAD S, s.v. *šīlu* (*šīlu*) A, although one might think of an allusion to «*salīmu*»—also «*sīlīmu*»—(reconciliation, peace, concord).

<sup>22</sup> CT 51, Text 88 (+) 89 cols ii.4’–6, iii.9’ in Schuster-Brandis 2008, 333–340, Text 12; 418. The name «*papparmīnu*» refers to a black stone with two white stripes: cf. Schuster-Brandis 2008, 404 *sub* BABBAR.MIN<sub>5</sub>.





Plate 3. An “eye stone” (chalcedony) with an inscription by King Lipit-Ištar dedicating it to the goddess Ninlil (ca 1934–1924 BC) for his long life and well-being

The pendant possibly belonged to a necklace presented to the goddess’ cult statue. Yale Peabody Museum Division of Anthropology Babylonian Collection, cat. no. YBC BC 016969. Photograph by Karl Kaufman. From [Lassen, Wagensonner, and Frahm 2019](#).

### 3. Amulets for specific affective states

When one browses through the text corpus as a whole, it is remarkable that quite a considerable number of amulets concern domains of affective states that were significant in people's daily experiences and social interactions (including both commoners and members of the elite). This suggests that Mesopotamian healers would have regularly prescribed the use of amulets to influence the affective state of their clients and of the people with whom their clients interacted.

In this section, we discuss some amulet prescriptions and spells recited over the amulets in question that exemplify their use for the purpose of influencing affective states. We organize the examples around recurring themes, such as soothing anger and/or hatred, warding off fear and depression, and inducing joy, goodwill, and sexual desire. As we will see, the affective states meant to be influenced by the amulets belonged both to the amulet's wearer and to other individuals (humans as well as deities). In addition, it was thought that exerting an influence on one specific affective state would have effects on others as well. Thus, the same amulet might have been prescribed for multiple interrelated purposes (e.g., dissolving anger in others while warding off fear and/or depression in oneself).

#### 3.1 Soothing the anger of deities and dispelling fear and depression

We find recurring amulet prescriptions for calming the anger of a powerful individual toward the client (the person for whom the healer prescribed the amulet; in the amulet texts, as in other technical literature, the client is referred to almost entirely by generalized terms indicating a male or female—"man"/"human being", "woman", or, in a few cases, "baby/child").<sup>23</sup> Thematic rubrics introducing the amulets tell us that, usually, the angry individual was a deity of the Mesopotamian pantheon; sometimes it was the king or a nobleman, e.g., «*kišir libbi ili ana amēli paṭāri*» (to undo the wrath [lit. knot of the heart] of a god toward a man) or «*uzzi ili šarri kabti u rubê ana amēli lā ṭehê*» (to prevent that the wrath of god, king, magnate, or prince come close to a man).<sup>24</sup>

<sup>23</sup> Households or families were magically protected by other types of objects, mainly in the form of amulet tablets bearing imagery or incantations, which were hung up in the house.

<sup>24</sup> Schuster-Brandis 2008, 51 Ketten 25–26. See further Schuster-Brandis 2008, 50–51 Ketten 1–2, 8–10, 19, 23–24, 27. The use of metaphors as found in the phrase "knot of the heart" is a recurring feature of Akkadian affective expressions and concepts: see, e.g., Steinert 2021, 451 and 2023, 56; Gabriel 2023, 415.

Closely connected to the topic of calming divine anger are the reconciliation of the deity with the client and the arousal of the deity's compassion, which are likewise attested in several rubrics, e.g., «ila kamla itti amēli sul-lumi» ([to] reconcile an angry god with a man), «ilu ana amēli rēma rašê» ([so that] a god has mercy with a man).<sup>25</sup> Since divine anger was believed to cause all kinds of suffering, distress, and other negative states in the affected human being, ritual practices such as prescribing amulets, intended to calm the deity's wrath and reestablish a favorable relationship between the human being and the deity, might also have addressed the emotional effects that divine wrath had on the human being. In particular, experiencing fear was seen as a sign that one suffered from divine wrath. Moreover, pathological symptoms of constant fear or panic were also associated with the attack of demons—superhuman beings personified as destructive natural forces that were associated with a primordial chaotic state of the cosmos and regarded as main causes of suffering, sickness, and death.<sup>26</sup> Besides elaborate rituals and medicinal remedies, Mesopotamian healers prescribed amulets to protect their clients from fear attacks caused by these supernatural agents. For example, there were amulets to protect from the attack of the *hay(y)attu* demon (lit. [pathological] terror), which induced feelings of panic and seizures similar to epilepsy.<sup>27</sup> Furthermore, texts describe amulet charms “in order to prevent fright [in the night, i.e., nightmares], fear and

<sup>25</sup> Schuster-Brandis 2008, 50–51 Ketten 16–17 as well as Ketten 3, 7, 12, 18, 20–21 *et passim*.

<sup>26</sup> Demons differed from deities in two main respects. First, they were not anthropomorphic but represented through mixtures of zoo- and anthropomorphic features. Second, demons usually did not receive the regular cultic offerings that sustained an affective bond and a moral order of responsibility and dependence between humans and deities; instead, demons were often described as asocial and immoral. Moreover, they were conceptualized as liminal beings associated with liminal places, with the realm and forces of untamed nature/wilderness. Although some could be protective, their powers were often seen as ambivalent and needed to be controlled or kept at bay. Some demons were associated with specific deities and acted as their deputies. For further discussion, see Verderame 2011 and 2017; §5, p. 149 below.

<sup>27</sup> Schuster-Brandis 2008, 76 Kette 170 *nēmedī hay(y)atti*, referring to a special type of glass for warding off terror (information courtesy of Sona Eypper). For other amulets against constant fear, see Schuster-Brandis 2008, 75 Ketten 89–92.



the Supporter-of-Evil-demon from approaching a man.”<sup>28</sup> Constant fear thus appears to have been regarded as the consequence of aggressive, hostile, or angry feelings and attacks on the part of supernatural or powerful beings. Often, symptoms of pathological fear are described as being accompanied by misfortune and physical symptoms.<sup>29</sup>

In Mesopotamian healing texts, references to pathological fear are also found in the context of another serious condition, called *hīp libbi* (heartbreak). This illness involved painful feelings of melancholy or depression<sup>30</sup> and was attributed to the wrath of one’s personal god as well as to evil sorcery (considered highly defiling).<sup>31</sup> It was believed that sorcerous acts performed against a person could bring his personal deities to despise him, and this in turn would induce fear and heartbreak in him. The following passage underlines this connection, listing a range of symptoms forming a complex syndrome:

If a man is constantly frightened, (and) ditto (i.e., he is upset day and night, he repeatedly suffers losses, (his) profit is cut off, (people) slander him, who (-ever) speaks to him does not say the truth, the finger of evil is pointed against him, he is not well received in his (lord’s) palace, his dreams are bad, he keeps seeing dead people in his dreams, he suffers from heartbreak (depression)..., the wrath of god and goddess are upon him,...those who see him, are not happy to see him...): witchcraft has been performed against that man, he has been rendered abhorrent to his god and goddess....<sup>32</sup>

<sup>28</sup> Schuster-Brandis 2008, 348: 17–20 [UET 7, 121.ii.6 and parallels]; 328–329, 354, 357 [SpTU IV, no. 129.iv.22, v.9].

<sup>29</sup> See, e.g., Abusch and Schwemer 2011 and 2016. For fear and its link to mental and psychological conditions, cf. Stol 1993; Buisson 2016; Attia 2018; and Steinert, Panayotov, Geller, Johnson, and Schmidtchen 2018, 251–252, 258–259.

<sup>30</sup> For *hīp libbi* (melancholy), cf. the discussions in Stol 1993, 27–32; Buisson 2016; Attia 2018 and 2019; Steinert, Panayotov, Geller, Johnson, and Schmidtchen 2018, 258–259; and Van Buylaere 2021 with further literature.

<sup>31</sup> See, e.g., Abusch and Schwemer 2011, Text 7.7. Evil sorcery (*kišpū*), performed to damage someone, was believed to be performed by people out of hatred or jealousy toward the targeted victim. For witchcraft beliefs and the extensive corpus of Mesopotamian antiwitchcraft literature, see, e.g., Schwemer 2007 and 2019; Abusch and Schwemer 2011 and 2016. For amulet prescriptions specifically intended to protect the wearer from the evil and dangerous power of sorcerous machinations, see also Schuster-Brandis 2008, Ketten 32–38 *et passim*.

<sup>32</sup> SpTU II, no. 22 (+) SpTU III, no. 85, cols i.44–45; cf. cols i.21–29; see Schuster-Brandis 2008, 251, 257, Text 6; Abusch and Schwemer 2016, 24–25, Text 3.4, 1 MS a.

The amulet collections offer examples of amulets for this condition.<sup>33</sup> In the lines following this passage, the healer is instructed to prepare first a leather bag filled with three plants: *aktam* plant (which was renowned as an anti-witchcraft plant) and *dadānu* (a type of false carob), both used as medicinal plants, and *taskarinnu*-wood (boxwood).<sup>34</sup> The bag formed part of a more elaborate amulet necklace consisting of eight stones:

*Pappardilū*-stone, *marhallu*-stone, *zalāqu*-stone, light-colored *šurru*-stone, car[nelian, *engīsu*-stone], *hulālu*-stone, *alallu*-stones:

Eight stones for the case that a man is constantly in fear, [sorrow (lit. bad feeling of the heart) constantly affects him], he talks to himself, he is constantly weary and distressed, the wrath of the god and goddess is upon him. These stones and leather bag(s) you thread on a linen cord. You recite this incantation seven times over (the amulet). (Then) you put it around his neck.

*Spell* Oh Ea, creator of people and seed, (Oh) Asalluhi, who shapes them (the people), (Oh Sun god) Šamaš, shepherd of their lands, (Oh Moon god) Šin, who makes their enclosures bow down (to him), (oh) Bēlet-ilī (mother goddess) who nipped off their bodily shape (from clay). Asalluhi, their god, may provide for him and cheer him up. The joyfulness of the god is [brings?] joyfulness [for him?].<sup>35</sup>

---

The translation follows [Abusch and Schwemer 2016](#) (with minor modification); all other translations, unless indicated otherwise, are by Ulrike Steinert.

<sup>33</sup> See, e.g., [BAM 375](#) cols i.8–11; [K. 3937: 2'](#); [Schuster-Brandis 2008](#), 75 *Kette* 125; 209–211, Text 3 col. i.2'. Online: [https://www.geschkult.fu-berlin.de/e/babmed/Corpora/BAM-4/BAM-4\\_-375/index.html](https://www.geschkult.fu-berlin.de/e/babmed/Corpora/BAM-4/BAM-4_-375/index.html).

<sup>34</sup> [CAD A/1 282–283](#); [CAD D 17](#); [CAD T 280–282](#), esp. sub b-4' for uses of pieces of boxwood in amulet charms.

<sup>35</sup> [SpTU II](#), no. 22 (+) [SpTU III](#), no. 85 cols ii.1–12; [Schuster-Brandis 2008](#), 251, 257 *Kette* 88. As the reader will notice from this and the following text passages, many of the mineral (or plant) ingredients listed in the amulet prescriptions cannot be safely identified and therefore are left untranslated. Only in a few cases, e.g., Akkadian «*sāmtu*» (carnelian) or «*uqnū*» (lapis lazuli), has modern research collected sufficient linguistic, textual, or archaeological clues to propose conventional labels as identifications, although often the ancient categories do not fit modern taxonomies in a one-to-one fashion. E.g., the word «*sāmtu*» typically refers to a red gemstone mostly designating carnelian, but this label could include other similar-looking stones and carnelian-colored glass [see [CAD S](#), 121b; [Schuster-Brandis 2008](#), 413; [Thavapalan 2020](#), 144–148]. Likewise, although the label «*uqnū*» primarily means “lapis lazuli”, it was also applied to other blue stones as well as blue glass, faience, and glaze [[Schuster-Brandis 2008](#), 453–454; [Thavapalan 2020](#),

As these passages suggest, the stones and other ingredients worn by the patient were thought to influence his relationship with his gods in a positive way. They were meant to change the gods' affective state toward him. This effect was mediated by the spell recited over the amulet before attaching it to the patient's neck. In this incantation, important high-ranking deities are invoked to intercede for the patient, convincing his personal god (and goddess) to be again well disposed (joyful) toward him. As the last line of the spell implies, the pacification of the personal gods was thought to make the patient happy again, replacing the pathological states of fear and sorrow. Thus, the magically activated amulet worn by the patient was thought to be instrumental in reestablishing an affective bond and relationship between the gods and the patient and thus to influence the feelings of all actors involved. Although anger is predominantly expressed by the socially superior toward the socially inferior in Mesopotamian texts, one also encounters amulets "for the case that a man constantly curses his god or his goddess" (*šumma amēlu ilšu u ištaršu ittanarrar*). The client himself could thus also be angry with his personal deities, and amulets might have been meant to calm him down or to help him reconcile himself with his deities by changing his mood toward them.<sup>36</sup> Interestingly, though, the patient's behavior is again explained as having been provoked by sorcery, which in turn caused enmity between the victim and his gods:

If a man constantly utters lies and curses toward his god and goddess, witchcraft has been performed against him; he is rendered detestable for his god and goddess. [SpTU II, no. 22 (+) SpTU III, no. 85, col. iv.15–16]

### 3.2 Protecting from the hatred and anger of legal opponents

Another theme of amulet prescriptions related to witchcraft is concerned with protecting the wearer from the evil schemes, actions, and aggressive feelings of his enemy or opponent in litigation (*bēl lemutti/dabābi*).<sup>37</sup> Thus, we find amulet prescriptions for situations in which a man had to meet his

---

310–314, 358]. For the difficulties of identifying ancient terms for minerals, see the discussion and glossary in [Schuster-Brandis 2008](#), 391–460.

<sup>36</sup> [Schuster-Brandis 2008](#), 51 Kette 22; 254, 260, Text 6 [SpTU II, no. 22 (+) SpTU III, no. 85 col. iv.13–17].

<sup>37</sup> [Schuster-Brandis 2008](#), 51 Kette 53 *kipdī bēl dabābišu šuddī* ([to] thwart the schemes of his legal adversary), also Ketten 54–55. For rituals against a personal or legal enemy, see also [Schwemer 2007](#); [Abusch and Schwemer 2011](#), Text 8.12–8.13; [Abusch and Schwemer 2016](#), Text 3.5 and 3.8; [Steinert 2020a](#). For an overview of Mesopotamian legal systems, court proceedings, and the involved functionaries (including

legal opponent in court and needed to secure success in these proceedings. These amulet prescriptions were also accompanied by ritual specifications and incantations. Many of these were collected under the rubric “Egalkura”, or “[For] entering the palace”, which included procedures for ensuring success in audience situations when a person went to a higher authority (the king, prince, or a court jury) whose goodwill he needed to win.<sup>38</sup> In these rituals, amulets and specific stones played a crucial role as objects of adornment exerting a positive empowering effect on the wearer. There are also spells describing how the opponent is brought to change his mind and come to terms with the client. Turning one’s opponent’s rage into a peaceful and positive attitude seems to be a common purpose of spells for calming anger and for “entering the palace” as well as for IGI.BI HÚL.LA-spells (used to inspire someone else’s goodwill) [see §3.4, p. 132 below]. For example, in KAR 237+ rev. 6–9, the client wishes:

May the [rag]ing ones take on a joyful [lo]ok, may the ʿangry onesʼ [lift] their [he]ads [pay attention]! May [his] ra[ge and] maliciousness be [covered up] in the ground, may his joyful mood be with me!<sup>39</sup>

### 3.3 Soothing the husband’s anger

Yet another type of Mesopotamian anger ritual is concerned with the husband’s anger against his wife.<sup>40</sup> These rituals generally include an incantation or prayer to the goddess Ištar, who presided over all matters connected to love, marital life, and sexuality. In several of these spells, the woman pleads that her husband may return to her and the family, and the ritual actions applied in this context underline the aim of reuniting husband and wife. They often include an offering to Ištar and prescriptions for a simple amulet or phylactery attached to the woman’s body:

---

the ruler), see [Démare-Lafont 2006–2008](#), 72–91; [Neumann 2006–2008](#), 346–351 with further literature.

<sup>38</sup> For studies and overviews of these texts, see, e.g., [Klan 2007](#); [Stadhouders 2013](#); [Stadhouders and Panayotov 2018](#); [Steinert 2020a](#).

<sup>39</sup> Incantation for (É.GAL.KU<sub>4</sub>.RA ša) *hūd pānī* (joy of the face): cf. [Meinhold 2017](#), no. 25.

<sup>40</sup> For these rituals, see, e.g., [Scheil 1921](#); [Farber 2010](#); [Steinert, Panayotov, Geller, Johnson, and Schmidtchen 2018](#), 217, 268, commentary on l. 108. The encountered rubrics are «KA.INIM.MA sinništu ša mussa eliša sabus/šabsu» (spell for the case that a woman’s husband is angry with her), «[KA.INIM.MA] sinništu zikarša nekelmuši» ([spell[s] for the case that] a woman’s man is angry with her), «KA.INIM.MA kamla turra» (spell to bring back the angry one).

*The procedure for it* A sinew from the ankle of a gazelle, male *ašlu*-rush and red wool you twist together into one cord. You knot fourteen knots [into the cord], [and] whenever you make a knot, you recite the spell. The woman puts [it] around her waist. [Through] this ritual, she will be loved [again].<sup>41</sup>

### 3.4 Inducing joy and winning goodwill

Other amulets were thought to have the effect of arousing joy (ŠĀ.HŪL.LA; *hidūtu*) in persons with whom the wearer interacted.<sup>42</sup> From the prescriptions and spells it can be gleaned that inducing joy in others essentially meant winning their goodwill, sympathy, and favor. Such amulets are said to ensure that “wherever he goes”, people would “be happy to see” the wearer and act according to his wishes. Some of the amulets for creating joy could be used for the alternative purposes of speaking, being heard, and finding consent (*qabû*, *šemû u magāru*) and entering the palace (Egalkura). Prescriptions for inducing joy are also included in collections of rituals (likewise titled “for entering the palace”) consisting mainly of spells and prescriptions for ointments and amulets (or simple adornments).<sup>43</sup> While amulets for joy and for entering the palace seem to have been directed primarily at other human beings, some texts indicate that their effect was meant to be reciprocal, i.e., that other people’s joyful mood and attitude toward the wearer would in turn result in the wearer’s happiness.

We also find prescriptions and rituals with the rubric IGI.BI HŪL.LA ([so that] who sees him, will be happy [to see him]). These, too, are concerned with winning the support and goodwill of other people, especially authorities, in audience situations or in lawsuits.

A particularly intriguing necklace prescription that probably belonged to the rituals for entering the palace was known in antiquity as “fourteen stones for the necklace of Narām-Sîn (variant: Rīm-Sîn), king of Ur”.<sup>44</sup> Two

<sup>41</sup> “Tisserant 17” obv. cols ii.10’–14’; Scheil 1921, 22–23; Farber 2010, 78:

DŪ.DŪ.BI SA.MUD MAŠ.DÀ, <sup>u</sup>NINNI<sub>5</sub>(text: TIR) NÍTA  
<sup>sig</sup>HÉ.ME.DA DIŠ-*niš* NU.NU  
 14 KEŠDA KÉŠ *e-ma* KÉŠ ÉN ŠID-*nu*  
 MUNUS *ina* MURUB<sub>4</sub>-šá GAR-*an*  
 DŪ.DŪ.BI-*ma ir-ra-a-ma*.

<sup>42</sup> Schuster-Brandis 2008, 78 Ketten 223–224.

<sup>43</sup> Schuster-Brandis 2008, 78 Ketten 224 and 229. For the Egalkura rituals, see Klan 2007; Stadhouders 2013; Stadhouders and Panayatov 2018; and Steinert 2020a.

<sup>44</sup> For the text sources and discussion, see Schuster-Brandis 2008, 164–166, Kette 204, 341–345, Text 13; Stadhouders 2013.

incantations that were recited over the prepared necklace (varying according to the preserved text sources) provide an idea of the context in which this necklace was worn and describe the effect that it was hoped to unfold. The first of these spells focuses on the power of the necklace to inspire positive feelings of admiration and approval in other people, expressed in the idiom of joy:

Wearing the fourteen stones (that make up) the necklace of Rīm-Sîn, king of Ur, I will enter the palace.  
 When I make my entry into the pa[lace],  
 Let god and king, courtier and prince, be pl[eas]ed with me.  
 As I walk down the street, may I be glorified among [my] family. Let the lads of the city exult and cheer when seeing me,  
 Let the girls of the city rejoice over me as over (the month of) Ayyaru (a month of merry-making) when seeing me.<sup>45</sup> [SpTU IV, no. 129, iv.19'–27']

A second text manuscript preserves a different spell, which elucidates the connection between the necklace stones and the wearer's appearance. The stones are believed to render the wearer attractive to the people around him, giving him positive qualities that will affect his speech and smile:

Lapis-lazuli, *pappardilû*-stone, green *šurru*-stone, *mekku*-stone, *parašû*-carnelian (lit. carnelian from Marhaši), *lamassu*-stone, *abašmû*-stone, *egizangû*-stone, *turminû*-stone, *turminabandû*-stone, antimony (*šimbizidû*), *ašpû*-stone, “bearded” *muššaru*-stone, *dušû*-stone from Marhaši.

14 stones (making up) the necklace of Rīm-Sîn, king of Ur.  
 You recite the incantation “My(!) smile is lapis-lazuli, *pappardilû*-stone is my(!) (text: your) speech”.

*Spell* My[!] smile is lapis-lazuli, *pappardilû*-stone is my speech.  
 Precious like *šurru*-stone is my utterance, my “Yes” is a mountain of *mekku*-stone,  
*Parašû*-carnelian are my words.  
 Precious *lamassu*-[stone], stone of the *lamassu*-protective goddess,  
 Let me get much [dign]ity (*bāltu*) and good luck (*lamassu*)! ...<sup>46</sup>

<sup>45</sup> See Schuster-Brandis 2008, 341–342, Text 13, Kette 204, version I. The translation follows Stadhouders 2013, 304.

<sup>46</sup> Schuster-Brandis 2008, 344–345, Text 13, version II [CT 51, 89], cols i.10'–22': cf. Stadhouders 2013, 305. The translation follows Stadhouders, with minor adjustments. The *parašû*-carnelian (lit. carnelian from Marhaši), which in stone lists is explained as a type of carnelian spotted with yellow dots, may be a pun on the verb «parāšu» (to flatter) as in “carnelian for flattering”: cf. Stadhouders 2013, n8;

### 3.5 Arousing sexual desire

Also of interest in connection with affective states are amulet stones for arousing sexual desire, ŠĀ.ZI.GA/*nīš libbi* (arousal of the heart) in the wearer. We know from specialized compendia concerned with ŠĀ.ZI.GA that such amulets were destined to treat loss of sexual desire and to arouse (predominantly) male sexual desire with the help of spells and with the further application of ointments, potions, and ritual acts.<sup>47</sup> These texts feature spells and prescriptions that explicitly speak of sexual acts and heterosexual love. They also refer to the man “approaching his woman”, to his “heart (not) rising for his woman”, and to him “going to his woman”. The expressions «*nīš libbi/libbu + našû*» (arousal/rising of the heart) can also apply to a woman or to both partners as experiencing subjects.<sup>48</sup> Since the prescriptions announce that the client (or sometimes both partners) would become aroused and able to have intercourse, we can infer that amulets for this purpose were applied in preparation for sexual intercourse.

Mesopotamian ritual experts also performed different forms of love magic for clients, most of which aimed at rousing feelings of affection and sexual attraction in the targeted object of desire.<sup>49</sup> Among these incantations and rituals are also examples in which a necklace was prepared for the client, assuming it would render him irresistible to the person whose love he sought to win. The following spell and ritual “to make a woman come (to have intercourse)” (MUNUS GIN.NA) underlines that this effect was thought to be caused by the ingredients of the necklace:

Like the *sāsu*-stone may I be verily firm!

Like a pointy [stick] let me thrust incessantly in your [fem.] gate!

...

Tin is my *mouth*, *pappardilû*-stone is my tongue!

At the root of my hair is a snake-stone!

I am the *mekku*-stone of which no equal exists in the country!

...

*The procedure for it*      You place tin, *pappardilû*-stone, snake-stone, *mekku*-

---

CAD P 180. For the concepts *bāštu/bāltu* (dignity) and *lamassu* (protective deity), cf. Steinert 2012, 405–469.

<sup>47</sup> See Biggs 1967; Schuster-Brandis 2008, 136–137 Ketten 126–129; Kette 237; Zisa 2021, 184–186 *et passim*.

<sup>48</sup> See Zisa 2019 and 2021 for discussion.

<sup>49</sup> For overviews of Mesopotamian love magic, see, e.g., Biggs 1967, 70–78; Leick 1994, 193–201; Wiggermann 2009–2011, 414 §2.5; Wasserman 2016, 17–18, 235–274.

stone and *ittamir*-stone around your neck. You anoint your face with tin and *ittamir*-stone (mixed in oil)...You make a game piece of a penis [from clay] and recite [the incantation] three times. You can wait for her and the woman will come [to have intercourse].<sup>50</sup>

The incantation and prescription work with several puns and associations: the hardness of the *sāsu* stone, the pointy stick (*ziqtu*), and the *mekku* stone (a kind of glass) allude to the male member and the desired intercourse with the beloved woman. Thus, in the incantation the word «*mekku*» serves as a pun on «*mekkû*» (stick), metaphorically praising the manhood of the reciter.<sup>51</sup>

#### 4. Affective material engagements: Mesopotamian amulets as affective scaffolds

From the previous section, we can see that the Mesopotamians had developed strategies for altering and managing a variety of affective states. Particularly interesting for our purposes is that these strategies involved making and using (mainly wearing) a variety of objects embedded in the context of various rituals (e.g., spell recitation).

In sum, we have identified the following affective-regulatory functions:

- soothing the anger of powerful individuals (deities, high authorities, legal opponents, husbands, demons); relatedly, deflecting the effects of evil sorcery, regarded as a main cause of divine anger, and responsible in turn for making one feel miserable, depressed, and dejected;
- protecting oneself from being taken over by negative affective states, such as fear and anxiety, depression or heartbreak, and anger;
- arousing positive affective states in others (humans and deities) as well as oneself, especially compassion, goodwill, and joy; relatedly, acquiring a positive aura that would make other people well disposed and truthful to one; and
- arousing sexual desire in oneself and others.

<sup>50</sup> Following Zomer 2018, 277–279, VAT 13226, ll. 7–8, 11–14, 17–24 (with minor modifications).

<sup>51</sup> See §4 for discussion of links between the materiality of amulet ingredients and effects they are believed to unfold. See also Zomer 2018, 279. The game piece of the penis made from clay that is taken from the gate of the woman's house may likewise have served as an amulet pendant.



The case of Mesopotamian amulets thus nicely illustrates the point that human “material engagements” [see Malafouris 2013] are aimed at supporting not just cognitive capacities usually treated as affectless, such as recalling information and planning, but also affective states. Drawing on Colombetti and Krueger [2015], we can say that Mesopotamian amulets were used as *material affective scaffolds*, that is to say, as material environmental supports for enabling and/or shaping a variety of affective states. These amulets can also be understood as *affective artifacts* in the restricted sense suggested in Piredda 2020, that is, as objects that provided their wearers with an extended or enhanced sense of self through a “resonance effect” with the object. For example, we have cited a spell recited over the “necklace of Narām-Sîn” [p. 133 above], which described how the amulet stones would enhance the wearer’s appearance and attractiveness to others, e.g., by giving his smile the appearance of lapis lazuli (“my smile is lapis lazuli” or “precious like *šurru*-stone is my utterance”). Since they were worn as adornments, the amulets can be seen as becoming a part of the wearer’s body image,<sup>52</sup> having an influence on how the wearer perceived herself and was perceived by others.

Whereas studies of material affective scaffolds so far have focused on their functions in managing the affective states of individuals and groups, the Mesopotamian texts have introduced us to the use of amulets as affective scaffolds for influencing oneself and others reciprocally and, often, simultaneously so. For example, amulets for calming divine anger were also thought to remove the negative effects of the deity’s anger on the patient (fear and depression) and to restore a positive relationship between the wearer and the gods. Other types of amulets (e.g., for winning favor and extinguishing the husband’s anger or the hatred of opponents), although primarily targeting others, were seen as mediating the relationship between the wearer and other people by altering their affective states toward the wearer. These artifacts thus provide a good example of “situated affectivity” in which affective states are seen as complex and dynamic events unfolding in the course of human beings’ entanglements with their physical and social environment—complementing and enriching the 4E cognition view that our psychological life is not just brought about by brain and bodily processes but also structured and transformed by our interactions with the environment.<sup>53</sup>

---

<sup>52</sup> For a discussion, see Colombetti and Krueger 2015, 1165.

<sup>53</sup> Similar approaches to the interconnections between human affective experiences and material culture have been developed by archaeologists such as Hamilakis

We now take a closer look at the material properties of amulets and their relation to affective states, connecting material properties and attributed effects of amulet ingredients to sensory experience as well as to associated abstract concepts, both of which are culturally grounded [cf. Hamilakis 2014]. We show that properties such as color and hardness were regarded as closely connected with affective states, and sometimes in quite specific ways. Importantly, however, the power of amulets usually also had to be “activated” through various ritual performances, such as reciting spells, invoking deities, and associating objects with certain celestial bodies. These ritual actions appear to have been considered necessary for endowing amulets with specific affect-related functions.

As we learn from the stone description text *abnu šikinšu*, minerals serving as the most important ingredients for amulets were distinguished and appreciated above all on the basis of their external appearance (color, pattern, shape) and material properties, such as hardness and durability. These properties are often compared with the characteristic appearance of other things in the environment—especially animals, plants, and celestial phenomena [Schuster-Brandis 2008, 25 *et passim*]. Some properties, such as magnetic powers, are characterized as “seizing” or “being alive”. It can thus be surmised that a close connection existed between, on the one hand, the appearance and material composition of the stones and, on the other, the affective functions attributed to them—although the texts usually do not explain why certain minerals were associated with certain emotions or moods. It is likely that at least some desirable affective states were linked to auspicious and positively evaluated qualities (e.g., attractiveness and allure, brilliance, luster, hardness, durability). This is suggested, for example, by the frequent comparisons of the lover’s body with precious stones and metals in Mesopotamian erotic and love literature as well as by incantations in the context of Egalkura rituals, which equate stones with the appeal and affective power of an alluring bright smile.

---

[2014] and Harris and Sørensen [2010]. Hamilakis [2014, 115–116, 124–125] suggests that we analyze the relationships between humans, environments, and things as of “trans-corporeal, affective entanglements” mediated by the senses, involving “sensory flows” in a “field of experience”. Harris and Sørensen [2010] introduced the term “affective fields” to investigate how “the encounter with the material world is inherently affective” [145], understood as networks or fields of relations between people, places, and things, in which emotions are “produced, triggered or provoked, changing the states of affairs in a given situation” [150].

#### 4.1 Color

In Mesopotamia, color played an important role in the evaluation of various objects and bodily states (e.g., in connection with sickness and health). Colors were linked with positively and negatively valued abstract concepts, including psychoemotional states [Thavapalan 2020, 37 *et passim*]. For example, darkness was associated with sadness and gloom, brightness with cheerfulness and joy [Steinert 2021 and 2023]. Color is also a primary feature of minerals in stone description texts [Schuster-Brandis 2008]. Aspects of color (brightness, hue, banding, translucence) contributed to the perceived attractiveness and value of stones and metals as much as the fact that they were often imported luxury commodities. Moreover, cuneiform texts often emphasize brightness and radiance as essential properties of precious stones and metals—properties intimately associated with divine power [Thavapalan 2018 and 2020]. Thus, color very likely also played a role in the selection of minerals for amulets to influence affective states.

For example, in the case of the “fourteen stones for the necklace of Narām-Sîn, King of Ur” [p. 133 above], one manuscript specifies the affective function of several ingredients whose colors are known from stone description texts or inscribed stone objects—suggesting that the two may have been related.<sup>54</sup> It specifies, for example, the black *turminû* stone as a stone for sparking sexual desire (*nīš libbi*) and the light-blue to gray *ašpû* stone as a “stone of kingship”, which can be used for soothing divine wrath. Positive connotations are likewise attached to the greenish *abašmû* stone (designated as a “stone of voluptuousness” [na<sub>4</sub>-hi-li]); to the white-red, banded *turminabandû* and white-brownish *muššaru* stone (sardonyx), both of which are stones for creating joy; and to the *lamassu* stone (a pink/light red chalcedony or rose jasper), associated with the protective goddess *lamassu* providing grace and divine favor.

Here is another color-relevant passage that describes 15 stones used for the “amulet necklace of (King) Hammurapi”—a particularly famous amulet, allegedly used for the first time by the renowned Old Babylonian king (reigned ca 1792–1750 BC):<sup>55</sup>

Fish-eye stone: a stone for happiness...

*Sābu*-stone: its redness is bright/light red, ..., a stone against terror, to undo divine anger [lit. “to loosen the knot of a god’s heart”], a stone to prevent that

<sup>54</sup> SpTU IV no. 129, cols iii.1’–18’; Schuster-Brandis 2008, 341, Text 13, version I.

<sup>55</sup> Schuster-Brandis 2008, 346–353, Text 14, ll. 1.4–6, 13–20. See also Simkó 2017.

hatred or the *alluhappu*-demon approach a man.<sup>56</sup>

...

*Muššaru*-stone: its appearance (is as follows): its redness is like bird blood, its whiteness is like..., a stone to prevent headache, a stone for entering the palace, a stone for happiness,...

*Turminabandû*-stone: its redness is like bird blood, its whiteness is like the plumage of the *ittidû*-bird, a stone to prevent fright, terror and the Supporter-of-Evil-demon from approaching a man.<sup>57</sup>

In the entries concerning the *sābu* stone and the *turminabandû* stone, the color red may be linked with the function of preventing fear/terror. This would be in line with other passages indicating that bright red garments were worn by the exorcist to scare off sickness demons, according to the series Udug-hul (“malicious udug-demons”).<sup>58</sup> However, since the *muššaru* stone has red and white stripes similar to the *turminabandû* stone but is associated with happiness instead of fear, the links between the color red and particular affective states do not appear to be as straightforward or systematic as one might expect from a few stock associations of colors with emotions found in modern English and other contemporary languages (e.g., red as the color of love and anger, green representing envy).

A brief look into experimental and comparative research on color–affect associations reveals both cross-cultural commonalities and highly culture-specific features. Studies undertaken with contemporary speakers of different languages suggest that associations between color and affective state are based on and reinforced by perceptual, linguistic, and cultural factors to varying extents, confirming the embodied nature of cognition and affectivity.<sup>59</sup> Experiments show that colors can elicit strong cognitive and psychological effects: the color red, for instance, triggers arousal and alertness; it can

---

<sup>56</sup> The word «*alluhappu*» refers to a net used in hunting and warfare for catching game or overwhelming enemies; second, it designates a demon who traps and overwhelms its victims like a net.

<sup>57</sup> The *muššaru*-stone probably refers to a banded agate or sardonyx (of a red-brown and white color). The *turminabandû* stone has been identified as striped red-white breccia through inscribed pavement stones from Nebukadnezzar’s procession street in Babylon: see Schuster-Brandis 2008, 407, 433.

<sup>58</sup> See Geller 2016, 23 and 298, ll. 35–36; Thavapalan 2020, 152–153.

<sup>59</sup> E.g., Soriano and Valenzuela 2009; Fugate and Franco 2019; Jonauskaitė, Parraga, Quiblier, and Mohr 2020; and Takahashi and Kawabata 2018.

interfere with some cognitive tasks and alter one's perception of the environment (e.g., room temperature) and of other people [Elliot, Maier, Moller, Friedman, and Meinhardt 2007; Mehta and Zhu 2009]. The physiology of emotional responses may contribute to a few color-emotion associations; thus, the cross-culturally common association expressed by the phrase "to be red with anger" seems to be a metonymic reference to the reddening of the facial color observed during outbursts of rage [Allan 2007; Valdez and Mehrabian 1994; Fugate and Franco 2019]. The affective meanings of colors can further be mediated by associations with natural or cultural objects (e.g., yellow with sunshine, blue with a clear sky or water), leading to color connotations and symbolisms, some of which are culture specific or may vary from person to person, while others are shared cross-culturally.

Cognitive scientists have further observed that color meanings are systematically related to the dimensions of valence (positive–negative), potency (weak–strong), and activity (active–passive) [see, e.g., Adams and Osgood 1973]. While the dimension of valence appears to show a higher level of cross-cultural variation and many cases of ambiguity (where a color may have both positive and negative connotations), one cross-culturally encountered correspondence is that bright colors tend to be judged positively and dark colors negatively and are thus linked with positively and negatively valued emotions, respectively.<sup>60</sup> Similarly, with regard to the dimension of activity and potency, saturated and long-wavelength colors (e.g., red) are perceived as exciting and strong, whereas short-wavelength colors (e.g., blue, green) are perceived as calm, quiet, and soothing, which leads to matchings with affective states considered to have the same properties [see, e.g., Adams and Osgood 1973; Soriano and Valenzuela 2009]. The associations of colors with affective states are further influenced and reinforced both through metaphorical expressions (as in "to feel blue") and through perceptual experiences, cultural theories, values, and salient objects [e.g., Takahashi and Kawabata 2018; Jonauskaitė, Parraga, Quiblier, and Mohr 2020].

In Mesopotamia, similarly to other cultures, particular colors as attributes of materials and objects may have been associated with more than one affective state. The value and emotional connotations of amulet stones may

---

<sup>60</sup> This association is also reflected in the common conceptual metaphors HAPPY IS LIGHT and SAD IS DARK [Kövecses 2000]. (Following a standard convention in cognitive linguistic studies, conceptual metaphors are rendered here in capital letters, which indicates their conceptual nature as mappings or transfers between two concepts or conceptual domains.)

have depended on several aspects of color (not only on hue but also on saturation and brightness) and on other material properties of the stone in question (e.g., patterns, such as bands) [see [Thavapalan 2020](#)]. For example, in the “necklace of Hammurapi” mentioned earlier, we observed that stones with a bright red color were associated with joy but also with countering fear, which could be related with perceptions of potency/power, liveliness, and positivity as associated qualities of the color red in Mesopotamia. In present-day cultures, red is often associated with anger as well as love, lust, jealousy, and fear, while yellow may be linked with joy in some cultures or with envy or cowardice in others [see [Hupka, Zaleski, Otto, Reidl, and Tarabrina 1997](#); [Soriano and Valenzuela 2009](#)].

As a second example, the necklace for soothing the anger of one’s personal deities discussed in [§3, p. 126 above](#), had eight stones of differing colors. *Pappardilû* and *hulālu* have been identified as banded agates (black with white stripes), and *zalāqu* and *šurru* (obsidian; flint stone) are of a light or translucent color associated with brilliance and joyful feelings, contrasting with the reddish carnelian.<sup>61</sup> All these stones are evaluated as positive in the Mesopotamian scholarly tradition. In a similar vein, several cognitive science studies note that happiness/joy may be associated with multiple colors (hues). In addition, the passage referred to the (brownish, banded) *alallu* stone. The mythological text *Lugal-e* mentions that the god Ninurta bestowed unusual hardness on this stone to use it as his weapon. Here, the hardness of the stone implies valued qualities such as strength and durability, which may have been the primary motivation for using the *alallu* stone in amulets (rather than its particular color) [[Schuster-Brandis 2008](#), 393].

#### 4.2 Other connections to materiality

Studies of ritual objects and religious symbols have often pointed out the role of their material and physical properties in creating meaning, in evoking abstract concepts, and in altering human thoughts and feelings.<sup>62</sup> Boivin [[2009](#)] argues that ritual objects can serve as “material metaphors” that contribute to participants’ understanding of the ritual, thus helping to induce specific transformations in them. Similarly, [Sørensen \[2020\]](#), drawing

<sup>61</sup> For *šurru* as a label for several chemically differing, translucent stones of varying color, including flint, obsidian, and rock crystal, see [CAD](#) §, 259; [Schuster-Brandis 2008](#) 457–458. For *pappardilû*, *hulālu*, and *alallu*-stone, see [Schuster-Brandis 2008](#), 393, 401–402, 436–437 *et passim*.

<sup>62</sup> See, e.g., [Turner 1967](#) on color symbolism and [Barth 1975](#).

on Turner 1990, highlights the role of ritual symbols in allowing ritual participants to perform a “cognitive reappraisal” of their situation, fostering effects at the level of social relations.

We can also identify metaphorical or analogical links between amulet shapes and materials and human affective states in Mesopotamian ritual texts and amulet prescriptions. One of the rituals for soothing a husband’s anger, as we saw, involved tying knots. Through this symbolic as well as performative action, the knots were believed to reinstate the bond between husband and wife. In another ritual, the woman would hold a piece of magnetite in her right hand and a model cargo boat made of iron in her left hand.<sup>63</sup> While the boat metaphorically denoted the woman, the magnetite apparently stood for the desired attraction between husband and wife, which the ritual aimed to restore. Other amulets for sexual attraction or arousing sexual desire were also made of magnetite [Zisa 2021, 184]. Further ingredients in this type of amulet were “male copper” and lapis lazuli—probably denoting masculinity, as lapis lazuli is often compared with (the color of) men’s beards.<sup>64</sup>

Consider also the following amulet charm, with the label ŠŪR.HUN.GÁ “[for] calming [someone’s] anger” (preserved in a Late Babylonian compendium from Uruk):

For calming (someone’s) anger:

*agargarītu*-mineral, *amīlānu*-plant, *imbu’ tâmti* [lit. product of the sea] in a leather bag.

Šubû-stone, (*yā*)*nibu*-stone: two stones for calming anger.

The stones and the bag you thread on a linen cord. You put [this] around his neck. [SpTU II, no. 22 (+) SpTU III, no. 85 cols iv.1–3; Schuster-Brandis 2008, 254, 260]

Interesting in this example is the selection of materials that have a connection to the sea, rivers, and generally water, which may be metaphorically linked to the idea of cooling hot feelings of anger and rage.<sup>65</sup> This notion

<sup>63</sup> Scheil 1921, 25–26, rev. cols iii.7–10; Farber 2010 80.

<sup>64</sup> Schuster-Brandis 2008 Kette 127, Text 4.86’–88’. For lapis lazuli associated with hair and both male and female sexual prowess, see Leick 1994, 119–120, 128, and pl. 2; Winter 2010a. For gendered varieties of minerals, see Thavapalan 2020, 158, suggesting that “darker varieties were considered ‘male’ and lighter ones ‘female’”. Powdered minerals and metals were also mixed with oil and applied to the genitals or body to stimulate sexual desire in both partners: see Schuster-Brandis 2008, 54 with Biggs 1967, 18, no. 2.9, 22, no. 6.14, 33, no. 14.15; Zisa 2021, 183–184 *et passim*.

<sup>65</sup> See Steinert 2021 for the association of anger and heat in Akkadian texts. It has been shown that metaphors such as ANGER IS HEAT and ANGER IS A HOT FLUID IN

can also be grasped in Akkadian antiwitchcraft incantations, where calming the witch's hot anger/hostility is compared with extinguishing fire or cooling down the witch's heated body with cold water, enacted in actual ritual performance by pouring water.<sup>66</sup> In the amulet above, both *agargaritu*-mineral and *imbu' tâmti* (lit. product of the sea) have associations with the river or seashore,<sup>67</sup> and it has been suggested that *šubû* and (*yā*)*nibu* stone refer to types of marine shells [Schuster-Brandis 2008, 421, 446]. The text rubric remains elusive with regard to whether the amulet was used to calm the anger of the wearer or to protect him or her from the wrath of other people. In any case, the function of the amulet here appears once again to be linked directly with the material properties of its components.

These examples show that, in Mesopotamian rituals, objects and substances such as minerals were used to influence affective processes by virtue of their metaphorical or analogical relations with desired affective states, which were linked to the material qualities of the objects/substances or to properties of their place of origin. Thus, amulet ingredients could serve as “material metaphors” [see Boivin 2009] that signaled and materialized the intended effects of the amulets.

---

A CONTAINER are very common cross-culturally: see, e.g., Lakoff and Kövecses 1987; Kövecses 2000 for a cross-linguistic survey. Kövecses 2000 argues that this common metaphor is motivated and grounded in shared embodied experiences and actual physiological changes during anger states (e.g., increased skin temperature, blood pressure, and pulse). Levenson 2003 presents supportive evidence for the view that processes of the autonomic nervous system activate visceral changes that shape our subjective emotional experience, which in turn forms the basis for emotion metaphors used in linguistic expressions. For experimental research in support of the embodied view of cognition and the grounding of abstract concepts in physical experience, see Wilkowski, Robinson, and Feltman 2009, which discusses the systematic link between anger and heat in cognitive processing associated with a simulation of heat-related sensory experiences through neural activation: see also Vess 2012; Zhong and Leornadelli 2008; and Williams and Bargh 2008, which suggest that perceptions of temperature (warm/cold) are systematically interlinked to social experiences (intimacy/exclusion) through embodied cognition.

<sup>66</sup> See Abusch 2016, 335–337, Tablet V.98–111, 118–120, 132–141; 372, Ritual Tablet 83'–85' *et passim*: cf. Steinert 2023, 55.

<sup>67</sup> Cf. Schuster-Brandis 2008 421–422; CAD A/1 144–145; CAD I/J 108–109, with discussion.



### 4.3 Charging the amulets

Studies on the efficacy of material symbols and aesthetic objects in magic rituals and religious practice have often highlighted how things become vehicles of magical transfer or powerful devices through performative ritual actions of inscribing force into them, often by linking them with superhuman agency.<sup>68</sup> We have seen that in Mesopotamian texts the preparation of most amulets and/or their attachment to the body was accompanied by the ritual expert's recitation of spells meant to activate or charge them, often by invoking deities and asking them to intervene through the amulet and bringing about a change in a human affective state. Amulet activation could take other forms too. For example, particular to some of the amulets for arousing sexual desire is that their stones were strung on a thread made from the "wool of a rutting ram" ready to mount its partner. This can be regarded as an ingredient charged with sexual power meant to be transferred to the wearer.<sup>69</sup> Both the recited spells and the material qualities of the substances or objects used for amulets contributed to their intended effects.

Yet other forms of amulet activation involved associating them with celestial bodies in various ways. We can see this celestial association in, for example, the description of one of the amulets against legal opponents, which could also be used to protect the wearer from hatred (evil magic) and to calm the wrath of the healing goddess Gula.<sup>70</sup> This amulet contains an *ašpû* stone (a light-blue or gray translucent stone) in the shape of a lunar crescent. The appearance of the *ašpû* stone was also compared with that of a clear sky or a cloud.<sup>71</sup> The amulet texts further describe a variety of *ašpû* known as "star *ašpû*", whose pattern resembles a constellation or other heavenly body [Schuster-Brandis 2008, 349–351, Text 14.42–46].

The choice of stones with specific physical features that allude to the divine/celestial sphere recalls images of Mesopotamian rulers (e.g., Narām-Sîn

<sup>68</sup> See, e.g., Sørensen 2020: cf. Stec and Sweetser 2013 on good luck charms as "performative material anchors" or Scott 2006 on the "force field of spirituality" surrounding saints' relics in medieval Europe.

<sup>69</sup> See Schuster-Brandis 2008, 137 Ketten 137, 139; Text 9 [BM 56148+ cols v.41–42]; Biggs 1967, 53; Zisa 2021, 165–173, 204–206 for sexually loaded animal substances in ŠĀ.ZI.GA therapies.

<sup>70</sup> SpTU II, no. 22 (+) SpTU III, no. 85 cols iii.32–35; Schuster-Brandis 2008, 253, 259, Text 6 Kette 53.

<sup>71</sup> Schuster-Brandis 2008, 30 *abnu šikinšu*, l. 76. For *ašpû* as a kind of chalcedony, see Schuster-Brandis 2008, 401–402.

and Neo-Assyrian kings) wearing necklaces with pendants showing divine symbols, including a solar disk, star, crescent moon, or horned crown [Plate 4, p. 146 below].<sup>72</sup> The integration of small pendants in the shape of lunar crescents made from bronze or copper is also mentioned in a number of amulet prescriptions.<sup>73</sup>

The association of amulet stones with celestial bodies such as zodiacal signs and constellations further developed and flourished in the system of astrological magic and medicine of Mesopotamia in the first-millennium BC, which added to the perceived power of amulets [Plate 5, p. 147 below].<sup>74</sup> It is also noteworthy that in some amulet prescriptions, the ingredients had to be left outside overnight, often under a particular star, in order to bring them into contact with divine powers.<sup>75</sup> For example, the amulet prescription for a man who had acquired an enemy, or who was plagued by the frightening effects of sorcery or other people's hatred, was to thread on a string 13 stones and seven leather bags filled with specific minerals and plants.<sup>76</sup> Before the

<sup>72</sup> See, e.g., Hrouda 1991, 125–126, 129 for examples.

<sup>73</sup> Schuster-Brandis 2008, 53, 84, 132, 152, 265–266.

<sup>74</sup> For Mesopotamian astromagic, with its relations between deities and their manifestation as celestial bodies and different cosmic elements and domains of nature belonging to their sphere of influence (e.g., plants, types of wood, and stones), see, e.g., Finkel 2000, 212–217, nos 55–56; Geller 2014; Heeßel 2000, 104–110, 128–130, 318–338, 469, Table II; Heeßel 2005 and 2008; Reiner 1995, 114–118; Schuster-Brandis 2008, 13–14 *et passim*; Wee 2014 and 2015; Weidner 1967, 29–31. For the association of deities with stones, plants, and utensils used in cultic contexts, see Livingstone 1986, 176–187; Schuster-Brandis 2008, 13 with further references. Moreover, according to this tradition, specific magico-medicinal rituals had to be performed at particular dates: those related to the strongest influence of specific heavenly bodies (e.g., zodiacal signs). E.g., one such calendar states that rituals to cause a woman to love a man should be performed in the “region” of Pisces (designated in Akkadian as the Tails (*zibbātu*), and rituals to cause a man to love another man in the “region” of Scorpio (*zuqaqīpu*): see BRM 4, 20, ll. 6–7 *et passim*. See Geller 2014, 27–39; Steinert 2020a, 62–71 for a discussion. At least the scorpion has strong associations with sexuality in Mesopotamia [Pientka-Hinz 2009–2011, 576–580], which explains the choice of the zodiacal sign for performing love magic.

<sup>75</sup> Schuster-Brandis 2008, 14, 68, 104, 109, 277; BM 56148+ [Text 9] cols i.17–27 *et passim*.

<sup>76</sup> Schuster-Brandis 2008, 103–104 Ketten 55, 258 SpTU II, no. 22 (+) SpTU III, no. 85 [Text 6] cols ii.13–iii.2, esp. ii.29–43; see Abusch and Schwemer 2016, Text 3.4, 2, ll. 1–45, MS a.



Plate 4. Detail of a limestone stela of Aššurnasirpal II (883–859 BC) from the Temple of Ninurta at Nimrud (Kalhu)

The king is shown wearing a necklace with pendants representing divine and astral symbols: a Moon crescent; a forked object representing a thunderbolt, the symbol of the storm god Adad; a Maltese cross (instead of a winged sun disk) for the Sun god; and a star or rosette for the goddess of love and war, Ishtar. Another symbol usually included in representations of such royal necklaces is a horned crown, symbol of the highest god (Ashur in Assyria). BM 118805. © The Trustees of the British Museum. Shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License.

amulet was attached to the patient's neck, the beads and bags had to be purified with holy water and placed before the goat star (Lyra), associated with the goddess Gula [Reiner 1995, 52–55]. Having received an offering, the goddess was then directly addressed in a prayer like spell recited over the beads and leather bags and was beseeched to support the patient and thwart the schemes of his enemy. In this way, the amulet ingredients were activated with divine agency and power and then attached to the body, providing a kind of protective shield.



Plate 5. Three gemstones and two dome seals (carnelian, agate) with signs of the zodiac

A scorpion for Scorpio, a hybrid goat-fish for Capricorn, a set of scales for Libra, a lion for Leo, and a bull for Taurus (Hellenistic to Sasanian periods, 330 BC–600 AD). The smaller gems were likely mounted to rings and used as seals. Yale Peabody Museum Division of Anthropology Babylonian Collection, cat. nos. YBC BC 038127-038129, 032210, 032221. Photograph by K. Wagen-sonner. From Lassen, Wagen-sonner, and Frahm 2019, 269, cat. nos. 136–140.

Given the importance of material properties and ritual activation contributing to the intended effects of Mesopotamian amulets, we may also compare them with anthropologist Dario Novellino's concept of powerful magical objects as "tool signs" [2009]. Novellino defines "tool signs" as

any natural or man-made object, word, sound, gesture, or bodily movement that is perceived to be an essential vehicle of cross-ontological communication



and action on the material world, and whose technical effectiveness is always embedded in social processes. [Novellino 2009, 760]

As Novellino points out drawing on his fieldwork, tool signs are believed to have the power to influence other things and beings, to bring about changes in their environment, or to communicate with their environment. The manipulation of tool signs through spells and other performative actions “has the effect of revealing the agency of such things” and “compelling them to act”; their influence, according to Novellino, should be seen as one of “attunement” (of their properties with other features in the environment), through which tool signs are able to mediate relationships between different sentient beings [Novellino 2009, 760]. In a similar way, the ritually activated amulets of Mesopotamian healers were imbued with divine agency, which allowed the amulets to unfold their perceived inherent properties and to bring about a change in the affective state, not just of the wearer but also of other (human or divine) agents toward the wearer.<sup>77</sup> For example, the cooling properties of the minerals from the sea or river used in an amulet against anger, as discussed above, suggest that these were thought to help eliminate hot feelings of anger by attuning other agents’ feelings to their “cool” state. In other examples, such as the rituals to soothe the husband or the amulets to calm a deity’s anger, divine intercession appeared a prerequisite to bring about the desired effects mediated by magic objects. In almost all the cases we discussed, amulets were seen to have the power to alter the affective bases of interpersonal relationships.

We have shown that Mesopotamian healers recommended a variety of objects, and related practices and rituals, for influencing, managing, altering, or creating the affective states of different sentient beings, human and divine. Such objects and practices are good examples of *affective scaffolds*. In addition, they illustrate well the more general point that human material

---

<sup>77</sup> As Anna Perdibon [2019] shows, several natural entities that served as important healing substances—including a number of sacred trees and plants, minerals (e.g., sulfur), and rivers and springs (and their water)—can appear as personified (and sometimes divine) agents that are addressed in Mesopotamian healing incantations in which they are invoked to unfold their positive powers for a treated patient. These examples suggest that the use of magico-medicinal substances and their perceived efficacy are not based only on principles of analogy and metaphor, whereby ingredients function as objects with specific properties that are activated or “enacted” to work in a specific case [see Steinert 2020b]. Mesopotamian healing traditions also provide glimpses of animistic beliefs, in which the healing substances themselves are endowed with agency and personhood [see Perdibon 2019].

engagements aim to support and transform not just affectless cognition but also the affective mind.

## 5. Comparing Mesopotamian and contemporary understandings of affective states and their management

In this final section, we briefly compare the picture of affectivity and the mind entailed by the Mesopotamian texts we looked at with the one that prevails in contemporary cognitive and affective science. As we will see, there are commonalities as well as differences.

### 5.1 Where affective states come from

Mesopotamian texts conceptualized affective states as involving primarily feelings (i.e., experiences felt in the body) and specific bodily, expressive, and behavioral processes [see [Steinert 2021](#); [Sonik and Steinert 2023](#)]. In this respect, their view overlaps with some contemporary approaches in the philosophy of emotion and affective science, according to which emotions and other states include experiential, behavioral, physiological, and expressive components [[Scarantino 2016](#)]. One difference, however, is that when it comes to identifying the main causes of affective states, the Mesopotamians appear to have given comparatively more importance to agentive powers external to the individual (e.g., the actions and intentions of other people, deities, and other supernatural beings). They characterized affective states primarily as effects of external forces regarded as seizing and stirring a person, where external agents' emotions toward the person were actively affecting him or her.

As we saw, malicious sorcery linked to feelings of enmity and envy was thought to be a main cause of fear and depression. It was performed to influence specific deities, turning them angry or unfavorable toward their protégés (the ultimate target). Influenced by sorcery, the deities would use their powers to affect the physiological and feeling state of the targeted person, making him or her scared or depressed. Sorcery was also believed to affect the victim directly, to make him or her sick and confused, and to cause negative feelings and various kinds of misfortunes through performing manipulative magical actions or through other powers that witches and sorcerers were believed to possess (e.g., through an evil glance causing damage; malicious, slanderous words that caused the victim to be socially rejected by other people; or sending evil "signs" that signaled death and induced fear and panic in the victim). This view of affective states as forces linked to external agents (including both humans and supernatural beings) affecting one from the outside is very common in the ethnographic record and is

also found in other ancient cultures (e.g., in Homeric Greece), and the cross-linguistic phenomenon of metaphorical expressions that describe affective states as forces affecting the experiencer may point to a common aspect of human experience [see, e.g., Heelas 1986; Dodds 1951; Padel 1992; Kövecses 2000; and Plamper 2015, 4–5, 14].

In some cases, in Mesopotamian texts we also find conceptualizations of affective states themselves as personified agents of demonic or semidivine status, acting on human bodies and minds very much like disease demons attacked and affected their victims—a notion encountered in numerous other societies past and present.<sup>78</sup> Demons, more generally, served as an etiological model to interpret and explain various undesirable bodily or psychological processes (e.g., decay processes, pain, insanity, overwhelming emotions). There were different types of demons with different characters; these included restless spirits of the dead; protective spirits responsible for happiness, health, and good luck; and disease demons roaming in the wilderness or associated with ambivalent or liminal places in the environment (e.g., rivers, uninhabited areas, steppes).

In their role as disease agents, demons were believed to act on their own (e.g., because they were persistently malignant), or they acted as instruments or deputies of deities (who were likewise senders of disease and misfortune). While deities as personifications of cosmic and social order were usually considered to send sickness or misfortune when angered by a human being (because of some act of negligence or offense), demons—sometimes ascribed divine status—were a constant menace attacking human beings in unprotected situations. They usually behaved in an immoral and aggressive way because they did not receive a cult or offerings, and thus stood outside the social order encompassing humans and gods, and were characterized by mutual dependence and obligations.

Importantly, these various forces were mostly regarded as influencing one's affective states directly, in the sense of without mediation, that is, very much as a strong wind shakes and bends trees and other objects in its course,

<sup>78</sup> See §3 for fear demons and Köcher 1953, 80–81, ll. 13–23, with Wiggermann 1996, 219; Sibbing-Plantholt 2021, 356–359 for the visualization (in the form of statues or representations) of abstract notions such as grief or deathly distress (*niziqtu*) as active, personified beings of demonic or divine character. For ancient Greek personifications of affective states (as divine or demonic in character), compare, e.g., Dodds 1951 and Padel 1992. For negative affective states as demons in early Christianity, see, e.g., Brakke 2005.

without any intermediary. In fact, we also saw that a person did not need to be aware of, say, a deity's anger toward him in order to become afraid or depressed. Some texts characterize the occurrence of affective states such as fear or depression in a person as a *post hoc* indication that a deity had turned against him. No evaluation or even awareness on the part of the person seems to have been required for him to be affected by the deity (just as one does not need to be aware of the influence of pollution to become, and feel, unwell).

This account of affective causation is in line with the Mesopotamian view of human agency, which acknowledged both inner personal autonomy, or self-control, and control by external powers—with a somewhat stronger emphasis on the latter [Steinert 2012 and 2017]. On the one hand, human beings were regarded as being endowed with consciousness, will, and personal agency. These human properties are linked with the concept of mind (*tēmu*), which denoted intelligence and reason as much as social or common sense, i.e., mental faculties that allowed human beings to plan or make decisions, to fulfill their tasks in society, and to act responsibly in accordance with social norms and rules [Steinert 2012, 385–404]. Human beings also had an embodied self (*ramanu*) that represented aspects of agency and individuality, a sense of self, as much as responsibility for one's actions. This embodied self was also the locus of emotions, drives, and impulses [Steinert 2012, 257–270]. Affective and mental states as internal states or processes were also located concretely in the body or internal organs, although they were seen as influenced by external processes of social interaction [Steinert 2021]. On the other hand, however, the human being was seen as mainly dependent on divine goodwill, support, and the presence of divine beings that represented faculties of the self, vital forces, and aspects of bodily and psychological well-being regarded as being close or part of the individual.<sup>79</sup> The power of the gods over human existence was emphasized in many ways, in particular through the concept of personal destiny or fate (*šīmtu*). This

---

<sup>79</sup> For these divine beings representing part of the human being, including the personal god and goddess as well as protective spirits called *lamassu* (*lamma*), *šēdu* (*udug*), and incorporated “soul aspects”, see Steinert 2012; Zgoll 2012. Generally, when these beings are close to their human protégé (or inhabit his or her body), the individual will experience health, good luck, psychological well-being, happiness, and success, but when these deities leave, the individual is deprived of these positive experiences and faculties.



concept was based on the idea that the gods decreed and instated the order of the cosmos and society and every human being's lot (social position, physical features, and capacities); they could also change the fate of an individual if they pleased. Therefore, although human beings were seen as having some personal agency in local matters, this was limited compared to the influence of the gods, which affected many more aspects of human existence.<sup>80</sup>

Corresponding to the focus on external causation of affective states and their inherently social and interpersonal nature, individuals in Mesopotamian texts are also often depicted as dependent on social relations, on support, protection, and guidance by others (one's family, group, friends, or personal gods), especially in times of crisis. Mesopotamian so-called wisdom texts reflecting on the problem of individual misfortune further illustrate that, although people would appraise their personal problems or situation, they would typically also look for help or advice from others (humans or gods) to amend that situation and to bring about a change of one's state of mind. In the texts *Ludlul bēl nēmeqi* and in the *Babylonian Theodicy*, so-called pious sufferers are depicted as capable of inner reflection and of changing their perspective of themselves and their life. These changes, however, are initiated by external actors and events. Thus, the protagonist of *Ludlul bēl nēmeqi* comes to accept the paramount power of the god Marduk over his existence only after the god saves him from death and restores him to his former health and position. In the *Babylonian Theodicy*, the sufferer lamenting the injustice in the world comes to think and feel differently about life by being confronted with the contrasting viewpoints of his friend and interlocutor [see [Oshima 2014](#); [Steinert 2017](#)].

Overall, then, the understanding of agency and the mind that we glean from Mesopotamian texts is one that places considerable attention and emphasis on external events. Contemporary accounts in psychology and cognitive science also, of course, regard various events external to the individual as causal influences on affective states. However, a difference with the Mesopotamian view is that contemporary accounts, especially in the cognitivist tradition, emphasize that external events induce affective states (and emotions in particular) not directly but via the mediation of internal processes of interpretation and evaluation.<sup>81</sup> (What "internal" means is usually taken for

<sup>80</sup> Many other cultures have similar beliefs about divine agency: see, e.g., [Boyer 2001](#).

<sup>81</sup> See [Scherer, Schorr, and Johnstone 2001](#). The idea that emotions are cognitively elicited is very popular in contemporary affective science. There are, of course,

granted and not spelled out.) A main assumption of cognitive science is that mind and cognition are internal to the organism in the sense that they correspond to brain processes [Vidal and Ortega 2017]. According to the influential “component process model” [Scherer 2009], for example, emotions are always necessarily caused and driven in the first place by internal cognitive-evaluative processes called “appraisals”. These processes individualize the emotional response and make it causally dependent not from the environment directly but from how the individual interprets the environment. In fact, one of the main functions of the notion of appraisal is to explain why different individuals respond differently to the same external events.

### 5.2 The management of affective states

This takes us to a second point of comparison. Both Mesopotamian and contemporary scientific accounts assume that affective states can be harmful or beneficial and so need to be managed (the harmful states need to be reduced or eliminated, and the beneficial ones promoted). Yet, because of the difference in explanations regarding the origin of affective states we just discussed, we also find differences in the theory and practices of their management.

Drawing on the anthropologist Paul Heelas, we find that there are significant cross-cultural differences not only in the understanding of affective states but also in the ways different cultures may combine or stress psychodynamic or sociodynamic management techniques and strategies [Heelas 1986, 253–255]. Heelas gives several examples of societies in which collective rituals, ceremonies, and sacrifices are regarded as key strategies to engender beneficial affective states, to release, work on, or eliminate harmful states in individuals and groups. Some societies also employ cognitive strategies (e.g., mental reflection) to work on affective states. We saw that the strategy of Mesopotamian healers for deflecting states of fear, anger, and depression and for fostering happiness, desire, and attraction was mainly to find ways to act on external forces. Amulets, once activated or charged, became objects with the required powers.

---

many different theories of what affective states are and what brings them about [cf. Scarantino 2016]. We cannot review them all here; we think, however, that it is fair to say that most accounts tend to regard affective states as internal to the individual and as triggered by likewise internal psychological states or processes (e.g., schemas, judgments, or core relational themes). In sum, unlike the Mesopotamians, contemporary accounts generally do not think of affective states as triggered directly or without mediation by some event, force, or agent in the environment.

Other practices (e.g., incantations, use of celestial bodies) were also designed to activate or deactivate various agentive forces. In contemporary cognitive-scientific accounts, we find more emphasis on “internal” regulatory cognitive strategies for altering one’s affective states that involve not so much acting on the environment but mental reorganization, such as changing one’s outlook on a certain situation, reassessing one’s capacity to cope with it, distraction techniques, refocusing, or changing priorities [Gross 2014]. It is not that contemporary cognitive science accounts deny or ignore the influence of the environment on affective states and assume that manipulations of the environment have no role in their management. The main difference is that in contemporary cognitive science, changes to the environment are generally considered merely instrumental for changing cognition. It is the latter that is seen as directly influencing affective states. For example, a therapist may recommend some kind of world-involving practice, yet usually with the idea that this practice will eventually induce some internal transformation, such as a change in self-evaluation or coping strategies.<sup>82</sup>

This perspective on affective self-regulation differs from the Mesopotamian amulet-involving management strategies, as these were aimed at changing an individual’s affective state primarily through other agents’ feelings. We can argue that the amulets and other ritual actions that magic experts employed on behalf of a client to manipulate others’ harmful affective states offered at the same time strategies to help clients cope with their own anxiety and to gain control over situations of crises, misfortune, and uncertainty caused by other people.<sup>83</sup> The role of material objects as affective scaffolds was seen as a decisively active one, since those objects were thought to be endowed with agency to affect interpersonal relationships, rather than being merely instrumental for actors’ cognitive reappraisal of their affective state and situation.

### 5.3 The role of other people

A third and final point of comparison regards the role of other people in influencing one’s affective states and vice versa. The Mesopotamian texts we examined depict affective states as closely dependent on interpersonal

---

<sup>82</sup> See Koole and Veenstra 2015 for the related point that current accounts of affective regulation are primarily internalist.

<sup>83</sup> Cf. Eidenow 2007 for a related reading of ancient Greek practices of employing magic objects and consulting oracles in situations of risk caused by affectively loaded relationships.

relations—as constitutively dependent on them, in fact. This is in line with existing literature that characterizes the human person in Mesopotamia not only as deeply dependent on others and controlled by external powers but also as conscious of his or her social status, roles, and behavior; as concerned about reputation, honor, and social recognition; and as sensitive about how he or she was regarded by others around them. This indicates that although individual merits and faculties such as intelligence, cunning, and the ability to solve problems were recognized and highly valued in Mesopotamia (especially in rulers), the group or society had prominence over the individual, and the individual’s view of himself or herself reflected how he or she was evaluated and regarded by others. Furthermore, powers/faculties of the self, as well as positive experiences such as success, good luck in one’s life, etc., were regarded as being bestowed by the gods and as depending on divine support and approval (e.g., by one’s personal deities) as well as on the presence of personal protective spirits.<sup>84</sup>

We have seen references to the idea that the forces said to influence a person’s affective state were also said to influence other people’s attitude toward that person. Fear and depression, for example, were regarded as complex syndromes involving changes not just in someone’s body and feelings but also in how people considered and related to that individual—including people not trusting him or being ill-disposed toward him and even not telling him the truth. Joy was characterized as involving pleasant feelings and as a visible condition endowing the joyous person with an alluring appearance that would attract the goodwill and admiration of others as well as their truthfulness. Relatedly, the regulation of affective states through amulets, spells, and so on was aimed at influencing not just one’s own body and feelings but also interpersonal relations, including in particular how others regarded, felt, and behaved toward one. In the case of joy, for example, we saw the suggestion that using necklaces made with certain amulet stones and activated through specific incantations would give one the power to inspire the admiration and approval of others.

The idea that how we appear influences how others feel toward us is certainly not alien to us. We, too, commonly assume that looking confident, miserable, grumpy, optimistic, energetic, and so on has effects on how people

---

<sup>84</sup> See [Steinert 2012](#) and [2017](#) for a discussion and for comparisons with similar views of the human person in other cultures. For comparisons of concepts of personhood and identity in antiquity, see also [Janowski 2012](#); [Bons and Finsterbusch 2016–2017](#).

around us feel and evaluate us. As the song goes, “When you’re smiling, the whole world smiles with you”. Social psychological research supports this view, showing, for example, that moods are highly contagious and spread across groups (the so-called ripple effect) [Barsade 2002]. Managing one’s emotional expressions (e.g., smiling) to regulate interpersonal relations is also important in many professions. And, like the Mesopotamians, many of us take care of our looks because we want to be socially accepted, or even liked and admired. This phenomenon ranges from keeping oneself tidy to wearing makeup as well as items such as jewelry, ties, and other accessories. What seems different in the Mesopotamian case is that the power of looks to change people’s attitude toward oneself was explicitly recognized and capitalized on by experts and integrated into their descriptions of affective syndromes and their management. The compendia explicitly call upon some amulets to bring luck to the wearer by making him look attractive and thereby induce goodwill in those interacting with him. In our culture, we usually hear this kind of advice from advertisers rather than clinical psychologists. In psychotherapy, affect or emotion regulation remains something one does primarily to one’s own mind. Changes in interpersonal relations are generally regarded as a consequence of changes that occur first of all in the individual’s mind. The Mesopotamian texts, on the other hand, suggest a much more, and more explicitly, interdependent society than most contemporary Western ones. They characterize how one relates to others as part and parcel (rather than a mere consequence) of one’s affective state. Relatedly, they present the management of one’s attitude toward others, and of others toward oneself, as necessary constituents of affective regulative processes. In sum, there are clear similarities between Mesopotamian and contemporary accounts of affective states: they both regard them as involving bodily changes, feelings, visible expression and demeanor and as effecting changes in people around one. They also both recognize that affective states should and can be altered (influenced or managed). There are, however, interesting differences too, which depend on seemingly different views of personal agency. Compared to contemporary accounts, the Mesopotamians texts depict affective states (and more generally the self and its agency) more prominently as depending on external forces and as constitutively involving specific forms of interrelatedness with others. Accordingly, they also regard affective management as a process that ought to act on external forces and that will necessarily come with changes in one’s relations to others (simultaneously leading to changes in one’s own feelings). This determines a difference between Mesopotamian and contemporary psychological views

of the role of objects in affective management, where the former attribute to objects the power to act on external forces as well as to influence how others see, evaluate, and behave toward one.

*Acknowledgments* We thank Douglas Cairns, Brian Rappert, Karen Sonik, and an anonymous reviewer for comments on earlier versions of this article. Ulrike Steinert acknowledges support from the Deutsche Forschungsgemeinschaft (German Research Foundation, project nos 215342465/GRK 1876/2 and 495257771, “Akkadian and Hittite Emotions in Context”) and the Research Training Group 1876 “Early Concepts of Humans and Nature” at Mainz University.

## BIBLIOGRAPHY

### Abbreviations

- ADFU** Ausgrabungen der Deutschen Forschungsgemeinschaft in Uruk-Warka (Berlin etc., 1936–).
- AUWE** Ausgrabungen in Uruk-Warka. Endberichte, DAI Baghdad/1936–1996, Orientabteilung (Mainz 1987– in Uruk: Kleinfunde).
- BabMed** Babylonische Medezin Corpora Online Project: <https://www.geschkult.fu-berlin.de/e/babmed/Corpora/index.html>.
- BAM** F. Köcher et al., *Die babylonisch-assyrische Medizin in Texten und Untersuchungen* (Berlin, 1963–):
- 1–3 *Keilschrifttexte aus Assur* 1–3 (1963/1964)
  - 4 *Keilschrifttexte aus Assur* 4 (1971)
  - 5–6 *Keilschrifttexte aus Ninive* 1–2 (1980)
  - 7 M. J. Geller, *Renal and Rectal Disease Texts* (2005).
- BRM** A. T. Clay ed. *Babylonian Records in the Library of J. Pierpont Morgan*, 1–4 (New York/New Haven etc., 1912–1923):
- 1 *Babylonian Business Transactions of the First Millennium B.C.* (New York, 1912);
  - 2 *Legal Documents from Erech Dated in the Seleucid Era (312–65 B.C.)* (New York, 1913);
  - 3 C. E. Keiser, *Cuneiform Bullae of the Third Millennium B.C.* (New Haven/New York, 1920);
  - 4 *Epics, Hymns, Omens and Other Texts* (New Haven, 1923).

- CAD** Gelb, I. J.; T. Jacobsen; B. Landsberger; A. L. Oppenheim; E. Reiner. 1956–2010. *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*. Chicago.
- CT** Cuneiform Texts from Babylonian Tablets in the British Museum (London 1896–).
- NABU** *Nouvelles assyriologiques brèves et utilitaires*.
- RAVA** Ebeling, E.; B. Meissner; E. Weidner; W. von Soden; D. O. Edzard; and M. P. Streck edd. 1922–. *Reallexikon der Assyriologie und Vorderasiatischen Archäologie*. Berlin.
- SpTU** Spätbabylonische Texte aus Uruk (Bd. 4–5 unter dem Titel: Uruk. Spätbabylonische Texte aus dem Planquadrat Q 18) 1–5 (Berlin/Mainz 1976–1998; vols 1–3 [1976/1983/1983] = **ADFU** 9– 10, 12; vols 4–5 [1993/1998] = **AUWE** 12–13).
- UET** Ur Excavations. Publications of the Joint Expedition of the British Museum and of the University Museum of the University of Pennsylvania to Mesopotamia. Texts 1– 9 (London 1928–1976).
- VAT** Museum siglum of the Vorderasiatisches Museum, Berlin (Vorderasiatische Abteilung. Tontafeln).

### Secondary Sources

- Abusch, T. 2016. *The Magical Ceremony Maqlû*. Leiden.
- Abusch, T. and D. Schwemer. 2011. *Corpus of Mesopotamian Anti-Witchcraft Literature*. vol. 1. Leiden.
- Abusch, T. and D. Schwemer. 2016. *Corpus of Mesopotamian Anti-Witchcraft Literature*. vol. 2. Leiden.
- Adams, F. M. and C. E. Osgood. 1973. “A Cross-Cultural Study of Affective Meanings of Color”. *Journal of Cross-Cultural Psychology* 4: 135–156.
- Allan, K. 2007. “The Connotations of English Color Terms: Color-Based X-phemisms”. *Journal of Pragmatics* 41: 626–637.
- Ambos, C. 2005a. “Mit Ritualen Emotionen steuern”. Pp. 9–14 in **Ambos 2005c**.
- Ambos, C. 2005b. “Weinen aus Demut: Der babylonische König beim Neujahrsfest”. Pp. 38–40 in **Ambos 2005c**.
- Ambos, C. 2005c. *Die Welt der Rituale*. Darmstadt.
- Arbøll, T. P. 2021. *Medicine in Ancient Assur*. Leiden.
- Attia, A. 2018. “The *libbu* Our Second Brain (Part 1)”. *Journal des Médecines Cunéiformes* 31: 67–88.

- Attia, A. 2019. "The *libbu* Our Second Brain? Appendix Part Two". *Journal des Médecines Cunéiformes* 33: 50–92.
- Barsade, S. G. 2002. "The Ripple Effect: Emotional Contagion and Its Influence on Group Behaviour". *Administrative Science Quarterly* 47: 644–675.
- Barth, F. 1975. *Ritual and Knowledge among the Baktaman of New Guinea*. New Haven.
- Bennett, J. 2001. "Stigmata and Sense Memory: St. Francis and the Affective Image". *Art History* 24: 1–16.
- Bennett, J. 2005. *Empathic Vision*. Stanford.
- Bennett, J. 2012. *Practical Aesthetics*. London.
- Betz, H. D. 1986. *The Greek Magical Papyri in Translation Including the Demotic Spells*. Chicago.
- Biggs, R. D. 1967. *ŠÀ.ZI.GA: Ancient Mesopotamian Potency Incantations*. Locust Valley.
- Black, J. A.; G. Cunningham; J. Ebeling; E. Flückiger-Hawker; E. Robson; J. Taylor; and G. Zólyomi. 1998–2006. *The Electronic Text Corpus of Sumerian Literature*. Oxford. Online: <http://etcsl.orinst.ox.ac.uk/>.
- Böck, B. 2010. "Epilepsie, Schlaganfall und Lähmung". Pp. 90–98 in B. Janowski and D. Schwemer edd. *Texte zur Heilkunde. Texte aus der Umwelt des Alten Testaments, Neue Folge* 5. Gütersloh.
- Böck, B. 2013. "Medicinal Plants and Medicaments Used for Conception, Abortion, and Fertility Control in Ancient Babylonia". *Journal Asiatique* 301: 27–52.
- Boivin, N. 2009. "Grasping the Elusive and Unknowable: Material Culture in Ritual Practice". *Material Religion* 5: 266–287.
- Bons, E. and K. Finsterbusch. 2016–2017. *Konstruktionen individueller und kollektiver Identität (I)–(II)*. Neukirchen-Vluyn.
- Boschung, D. and J. N. Bremmer. 2015. *The Materiality of Magic*. Paderborn.
- Boyer, P. 2001. *Religion Explained*. New York.
- Brakke, D. 2005. *Demons and the Making of the Monk: Spiritual Combat in Early Christianity*. Cambridge, MA.
- Braun-Holzinger, E. A. and W. Sallaberger. 2016–2018. "Weihgabe A. In Mesopotamien". *RAVA* 15: 25–32.



- Buisson, G. 2016. "À la recherche de la mélancholie en Mésopotamie ancienne". *Journal des Médecines Cunéiformes* 28: 1–54.
- Clark, A. 2008. *Supersizing the Mind*. Oxford.
- Colombetti, G. 2016. "Affective Incorporation". Pp. 231–248 in J. A. Simmons and J. E. Hackett edd. *Phenomenology for the Twenty-First Century*. London.
- Colombetti, G. and J. Krueger 2015. "Scaffoldings of the Affective Mind". *Philosophical Psychology* 28: 1154–1176.
- Colombetti, G. and T. Roberts. 2015. "Extending the Extended Mind: The Case for Extended Affectivity". *Philosophical Studies* 172: 1243–1263.
- Delnero, P. 2010. *How to Do Things with Tears*. Boston.
- Delnero, P. 2021. "Beyond Representation: The Role of Affect in Sumerian Ritual Lamenting". Pp. 83–114 in K. Sonik ed. *Artifacts and Art Works in the Ancient World*. Philadelphia.
- Démare-Lafont, S. 2006–2008. "Prozeß (Procès). A. Mesopotamien". *RAVA* 11: 72–91.
- Dodds, E. R. 1951. *The Greeks and the Irrational*. Berkeley.
- Eidinow, E. 2007. *Oracles, Curses, and Risk among the Ancient Greeks*. Oxford.
- Elliot, A. J.; M. A. Maier; A. C. Moller; R. Friedman; and J. Meinhardt. 2007. "Color and Psychological Functioning: The Effect of Red on Performance Attainment". *Journal of Experimental Psychology, General* 136: 154–168.
- Faraone, C. A. 1991. "The Antagonistic Context of Early Greek Binding Spells". Pp. 5–32 in C. A. Faraone and D. Obbink edd. *Magika Hiera*. New York.
- Faraone, C. A. 1999. *Ancient Greek Love Magic*. Cambridge, UK.
- Farber, W. 2010. "Ištar und die Ehekrise. Bemerkungen zu STT 257, RA 18, 21ff. ("Tisserant 17"), und STT 249". Pp. 73–85 in D. Shehata, F. Weiershäuser, and K. V. Zand edd. *Von Göttern und Menschen*. Leiden.
- Finkel, I. L. 2000. "On Late Babylonian Medical Training". Pp. 137–223 in A. R. George and I. L. Finkel edd. *Wisdom, Gods and Literature*. Winona Lake.
- Finkel, I. L. 2018. "Amulets against Fever". Pp. 232–271 in S. V. Panayotov and L. Vacin edd. *Mesopotamian Medicine and Magic*. Leiden.
- Fleisher, J. and N. Norman. 2016. *The Archaeology of Anxiety*. New York.

- Foster, B. R. 2005. *Before the Muses*. 3rd edn. Bethesda.
- Freedberg, D. and V. Gallese. 2006. "Motion, Emotion and Empathy in Esthetic Experiences". *Trends in Cognitive Science* 11: 197–203.
- Fugate, J. M. B. and C. L. Franco. 2019. "What Color Is Your Anger? Assessing Color-Emotion Pairings in English Speakers". *Frontiers in Psychology* 10 (26 Feb. 2019): art. no. 206. Online: <https://doi.org/10.3389/fpsyg.2019.00206>.
- Gabriel, G. 2023. "Emotions and Ritual Laments: The Affective Function of Beer in Mesopotamia". Pp. 413–424 in [Sonik and Steinert 2023](#).
- Gallese, V. 2011. "Mirror Neurons and Art". Pp. 441–449 in D. P. Melcher and F. Bacci edd. *Art and the Senses*. Oxford.
- Gelb, I. J.; T. Jacobsen; B. Landsberger; A.L. Oppenheim; and E. Reiner. 1956–2010. *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*. Chicago.
- Geller, M. J. 2014. *Melothesia in Babylonia*. Berlin.
- Geller, M. J. 2016. *Healing Magic and Evil Demons*. Berlin.
- Geller, M. J. 2018. "The Exorcist's Manual". Pp. 293–312 in U. Steinert ed. *Assyrian and Babylonian Scholarly Text Catalogues: Medicine, Magic and Divination*. Berlin.
- Gosden, C. 2004. "Aesthetics, Intelligence and Emotions: Implications for Archaeology". Pp. 33–42 in E. De Marrais, C. Gosden, and C. Renfrew edd. *Rethinking Materiality*. Cambridge, UK.
- Gross, J. J. 2014. "Emotion Regulation: Conceptual and Empirical Foundations". Pp. 3–20 in J. J. Gross ed. *Handbook of Emotion Regulation*. 2nd edn. New York.
- Hamilakis, Y. 2014. *Archaeology and the Senses*. Cambridge, UK.
- Harris, O. J. T. and T. Flohr Sørensen. 2010. "Rethinking Emotion and Material Culture". *Archaeological Dialogues* 17: 145–163.
- Hawthorn, A. and A.-C. Rendu Loisel. 2019. *Distant Impressions*. University Park.
- Heelas, P. 1986. "Emotion Talk across Cultures". Pp. 234–266 in R. Harré ed. *The Social Construction of Emotions*. Oxford.
- Heeßel, N. P. 2000. *Babylonisch-assyrische Diagnostik*. Münster.
- Heeßel, N. P. 2005. "Stein, Pflanze und Holz: Ein neuer Text zur medizinischen Astrologie". *Orientalia Nova Series* 74: 1–22.

- Heeßel, N. P. 2008. "Astrological Medicine in Babylonia". Pp. 1–16 in A. Akasoy, C. Burnett, and R. Yoeli-Tlalim edd. *Astro-Medicine*. Florence.
- Heeßel, N. P. 2010. "Gebinde mit Amulettsteinen und anderen therapeutischen Substanzen". Pp. 157–163 in B. Janowski and D. Schwemer edd. *Texte zur Heilkunde. Texte aus der Umwelt des Alten Testaments, Neue Folge* 5. Gütersloh.
- Hodder, I. 2012. *Entangled*. Chichester.
- Horowitz, W. 1998. *Mesopotamian Cosmic Geography*. Winona Lake.
- Hrouda, B. 1991. *Der alte Orient*. München.
- Hsu, S.-W. and J. Llop Raduà. 2021. *The Expression of Emotions in Ancient Egypt and Mesopotamia*. Leiden.
- Hupka, R. B.; Z. Zaleski; J. Otto; L. Reidl; and N. V. Tarabrina. 1997. "The Colors of Anger, Envy, Fear, and Jealousy: A Cross-Cultural Study". *Journal of Cross-Cultural Psychology* 28: 156–171.
- Janowski, B. 2012. *Der ganze Mensch*. Berlin.
- Jonauskaitė, D.; C. A. Parraga; M. Quiblier; and C. Mohr. 2020. "Feeling Blue or Seeing Red? Similar Patterns of Emotion Associations with Color Patches and Color Terms". *i-Perception* 11: 1–24.
- Kipfer, S. 2017. *Visualizing Emotions in the Ancient Near East*. Göttingen.
- Kipfer, S. and E. Wagner-Durand. 2021. "Coping with and Preventing Collective Fear in the Ancient Near East: Introduction". Pp. 2–9 in S. Kipfer and E. Wagner-Durand edd. *Coping with and Preventing Collective Fear in the Ancient Near East*. Göttingen.
- Klan, M. 2007. *Als das Wünschen noch geholfen hat oder: wie man in Mesopotamien Karriere machte*. Hamburg.
- Köcher, F. 1953. "Der babylonische Göttertypentext". *Mitteilungen des Instituts für Orientforschung* 1: 57–107.
- Köcher, F. 1971. *Die babylonisch-assyrische Medizin in Texten und Untersuchungen*. vol. 4. Berlin.
- Koole, S. L. and L. Veenstra. 2015. "Does Emotion Regulation Occur Only Inside People's Heads? Toward a Situated Cognition Analysis of Emotion-Regulatory Dynamics". *Psychological Inquiry* 26: 61–68.
- Kövecses, Z. 2000. *Metaphor and Emotion*. Cambridge, UK.
- Lakoff, G. and Z. Kövecses. 1987. "The Cognitive Model of Anger Inherent in American English". Pp. 195–221 in D. Holland and D. Quinn edd. *Cultural Models in Language and Thought*. New York.

- Landsberger, B.; E. Reiner; and M. Civil. 1970. *The Series HAR-ra = ḫubullu Tablets XVI, XVII, XIX and Related Texts*. Rome.
- Lassen, A. W.; K. Wagensonner; and E. Frahm. 2019. *Ancient Mesopotamia Speaks: Highlights of the Yale Babylonian Collection*. Peabody Museum of Natural History, Yale University, 210, cat. no. 15. New Haven.
- Leick, G. 1994. *Sex and Eroticism in Mesopotamian Literature*. London.
- Levenson, R. W. 2003. "Blood, Sweat and Fears: The Autonomic Architecture of Emotion". *Annals of the New York Academy of Sciences* 1000: 348–366.
- Livingstone, A. 1986. *Mystical and Mythological Explanatory Works of Assyrian and Babylonian Scholars*. Oxford.
- Maiese, M. 2016. "Affective Scaffolds, Expressive Arts, and Cognition". *Frontiers in Psychology* 7: article no. 359.
- Malafouris, L. 2013. *How Things Shape the Mind*. Cambridge, MA.
- Malafouris, L. and C. Renfrew. 2010. *The Cognitive Life of Things*. Cambridge, MA.
- Maul, S. M. 2005. "Weinen aus Trauer: Der Tod des Enkidu". Pp. 22–23 in [Ambos 2005c](#).
- Maul, S. M. 2010. "Die Tontafelbibliothek aus dem sogenannten 'Haus des Beschwörungspriesters'". Pp. 189–228 in S. M. Maul and N. P. Heeßel edd. *Assur-Forschungen*. Wiesbaden.
- McMahon, A. 2013. "Space, Sound, and Light: Toward a Sensory Experience of Ancient Monumental Architecture". *American Journal of Archaeology* 117: 163–179.
- Mehta, R. and R. Zhu. 2009. "Blue or Red? Exploring the Effect of Color on Cognitive Task Performances". *Science* 323.5918: 1226–1229.
- Meinhold, W. 2017. *Ritualbeschreibungen und Gebete II*. Wiesbaden.
- Menary, R. 2010. *The Extended Mind*. Cambridge, MA.
- Nadali, D. and F. Pinnock. 2020. *Sensing the Past*. Wiesbaden.
- Neumann, H. 2006–2008. "Richter. A. Mesopotamien". [RAVA](#) 11: 346–351.
- Neumann, K. and A. Thomason. 2022. *The Routledge Handbook of the Senses in the Ancient Near East*. London.
- Newen, A.; L. D. Bruin; and S. Gallagher. 2018. *The Oxford Handbook of 4E Cognition*. Oxford.
- Norman, D. A. 2004. *Why We Love (or Hate) Everyday Things*. New York.

- Novellino, D. 2009. "From 'Impregnation' to 'Attunement': A Sensory View of How Magic Works". *Journal of the Royal Anthropological Institute* 15: 755–776.
- O'Sullivan, S. 2001. "The Aesthetics of Affect: Thinking Art beyond Representation". *Angelaki* 6: 125–135.
- Oshima, T. 2014. *Babylonian Poems of Pious Sufferers*. Tübingen.
- Padel, R. 1992. *In and Out of the Mind*. Princeton.
- Pedersén, O. 1986. *Archives and Libraries in the City of Assur. Part II*. Uppsala.
- Perdibon, A. 2019. *Mountains and Trees, Rivers and Springs*. Wiesbaden.
- Pientka-Hinz, R. 2009–2011. "Skorpion". *RAVA* 12: 576–580.
- Piredda, G. 2020. "What Is an Affective Artifact? A Further Development in Situated Affectivity". *Phenomenology and the Cognitive Sciences* 19: 549–567.
- Plamper, J. 2015. *The History of Emotions*. Oxford.
- Postgate, J. N. 2009. "Schmuck (Jewellery). A. In Mesopotamien". *RAVA* 12: 234–237.
- Reiner, E. 1995. *Astral Magic in Babylonia*. Philadelphia.
- Reiner, E. 1959–1960. "ME.UGU = *mēlu*". *Archiv für Orientforschung* 19: 150–151.
- Rendu Loisel, A.-C. 2021. "From Landscape to Ritual Performances: Emotions in Sumerian Literature". Pp. 283–305 in [Hsu and Llop Raduà 2021](#).
- Robbins, P. and M. Aydede. 2009. *The Cambridge Handbook of Situated Cognition*. New York.
- Robinson, S. and J. Pallasmaa. 2015. *Mind in Architecture*. Cambridge, MA.
- Rowlands, M. 2010. *The New Science of the Mind*. Cambridge, MA.
- Saarinen, J. 2020. "What the Concept of Affective Scaffolding Can Do for Us". *Philosophical Psychology* 33: 820–839.
- Salje, B. 1997. "Siegelverwendung im privaten Bereich: „Schmuck“—Amulett—Grabbeigabe". Pp. 124–137 in E. Klengel-Brandt ed. *Mit sieben Siegeln versehen*. Mainz am Rhein.
- Scarantino, A. 2016. "The Philosophy of Emotions and Its Impact on Affective Science". Pp. 3–48 in M. Lewis, J. M. Haviland-Jones, and L. F. Barrett edd. *The Handbook of Emotions*. 4th edn. New York.

- Scheil, V. 1921. "Catalogue de la Collection Eugène Tisserant". *Revue d'assyriologie et d'archéologie orientale* 18: 1–33.
- Schellenberg, A. and T. Krüger. 2019. *Sounding Sensory Profiles in the Ancient Near East*. Atlanta.
- Scherer, K. R. 2009. "The Dynamic Architecture of Emotion: Evidence for the Component Process Model". *Cognition and Emotion* 23: 1307–1351.
- Scherer, K. R.; A. Schorr; and T. Johnstone. 2001. *Appraisal Processes in Emotion*. Oxford.
- Schuster-Brandis, A. 2008. *Steine als Schutz- und Heilmittel*. Münster.
- Schwemer, D. 2007. *Abwehrzauber und Behexung*. Wiesbaden.
- Schwemer, D. 2019. "Mesopotamia". Pp. 36–64 in D. Frankfurter ed. *Guide to the Study of Ancient Magic*. Leiden.
- Scott, R. A. 2006. "Making Relics Work". Pp. 211–224 in M. Turner ed. *The Artful Mind*. Oxford.
- Seidl, U. 2014–2016. "Vulva. B. Archäologisch". *RAVA* 15: 600–601.
- Sibbing-Plantholt, I. 2021. "Visible Death and Audible Distress: The Personification of Death (*Mūtu*) and Associated Emotions as Inherent Conditions of Life in Akkadian Sources". Pp. 335–389 in [Hsu and Llop Raduà 2021](#).
- Simkó, K. 2017. "Sm. 1042: A New Manuscript of the 'Kette Hammurapi'"? *NABU* 105: 185–188.
- Solso, R. L. 2003. *The Psychology of Art and the Evolution of the Conscious Brain*. Cambridge, MA.
- Sonik, K. 2017. "Emotion and the Ancient Arts: Visualizing, Materializing, and Producing States of Being". Pp. 219–261 in S. Kipfer ed. *Visualizing Emotions in the Ancient Near East*. Göttingen.
- Sonik, K. 2023. "Emotions and Body Language: The Expression of Emotions in Visual Art". Pp. 269–325 in [Sonik and Steinert 2023](#).
- Sonik, K. and U. Steinert. 2023. *The Routledge Handbook of Emotions in the Ancient Near East*. London.
- Sørensen, J. 2020. "Ritual". Pp. 73–84 in A. Koch and K. Wilkens edd. *The Bloomsbury Handbook of the Cultural and Cognitive Aesthetics of Religion*. London.
- Soriano, C. and J. Valenzuela. 2009. "Emotion and Color across Languages: Implicit Associations in Spanish Color Terms". *Social Science Information* 48: 421–445.

- Stadhouders, H. 2013. "A Time to Rejoice: The Egalkura-Rituals and the Mirth of Iyyar". Pp. 301–323 in L. Feliu, J. Llop, A. Millet Albà, and J. Sanmartín edd. *Time and History in the Ancient Near East*. Winona Lake.
- Stadhouders, H. and S. V. Panayotov. 2018. "From Awe to Audacity. Stratagems for Approaching Authorities Successfully: The Istanbul Egalkura Tablet A 373". Pp. 623–697 in S. V. Panayotov and L. Vacin edd. *Mesopotamian Magic and Medicine*. Leiden.
- Stec, K. and E. Sweetser. 2013. "Borobudur and Chartres: Religious Spaces as Performative Real-Space Blends". Pp. 265–291 in R. Caballero and J. E. Díaz-Vera edd. *Sensuous Cognition*. Berlin.
- Steinert, U. 2012. *Aspekte des Menschseins im Alten Mesopotamien*. Leiden.
- Steinert, U. 2017. "Person, Identität und Individualität im antiken Mesopotamien". Pp. 39–100 in E. Bons and K. Finsterbusch edd. *Konstruktionen individueller und kollektiver Identität (II)*. Göttingen.
- Steinert, U.; S. V. Panayotov; M. J. Geller; J. C. Johnson; and E. Schmidtchen. 2018. "The Assur Medical Catalogue (AMC)". Pp. 203–291 in U. Steinert ed. *Assyrian and Babylonian Scholarly Text Catalogues*. Berlin.
- Steinert, U. 2020a. "Looking for Clients in the Mesopotamian Ritual Texts". Pp. 49–113 in J. C. Johnson ed. *Patients, Patronage and Performative Identity*. University Park.
- Steinert, U. 2020b. "Healing Substances and Therapies in Mesopotamian Women's Health Care Texts: Properties, Effects and Cultural Meanings". *Le Journal des Médecines Cunéiformes* 36: 54–72.
- Steinert, U. 2021. "Pounding Hearts and Burning Livers: The 'Sentimental Body' in Mesopotamian Medicine and Literature". Pp. 410–469 in [Hsu and Llop Raduà 2021](#).
- Steinert, U. 2023. "Emotion and the Body: Embodiment, Conceptual Metaphor, and Linguistic Encoding of Emotions in Akkadian". Pp. 51–87 in [Sonik and Steinert 2023](#).
- Stephan, A. 2017. "Moods in Layers". *Philosophia* 45: 1481–1495.
- Stol, M. 1993. *Epilepsy in Babylonia*. Groningen.
- Takahashi, F. and Y. Kawabata. 2018. "The Association between Colors and Emotions for Emotional Words and Facial Expression". *Color Research and Application* 43: 247–257.

- Tarlow, S. 2000. "Emotion in Archaeology". *Current Anthropology* 41: 713–746.
- Tarlow, S. 2012. "The Archaeology of Emotion and Affect". *Annual Review of Anthropology* 41: 169–185.
- Thavapalan, S. 2018. "Radiant Things for Gods and Men: Lightness and Darkness in Mesopotamian Language and Thought". *Color Turn* 1. Online: <http://dx.doi.org/10.25538/tct.voi1.675>.
- Thavapalan, S. 2020. *The Meaning of Color in Ancient Mesopotamia*. Leiden.
- Turner, V. 1967. *The Forest of Symbols*. Ithaca.
- Turner, V. 1990. "Are There Universals in Performance in Myth, Ritual and Drama?" Pp. 8–18 in R. Schechner and W. Appel edd. *By Means of Performance*. Cambridge, UK.
- Valdez, P. and A. Mehrabian. 1994. "Effects of Color of Emotions". *Journal of Experimental Psychology* 123: 394–409.
- Van Alphen, E. 2005. "Affective Operations of Art and Literature". *RES: Anthropology and Aesthetics* 53/54: 20–30.
- Van Buylaere, G. 2021. "Depression at the Royal Courts of Esarhaddon and Ashurbanipal". Pp. 201–219 in [Hsu and Llop Raduà 2021](#).
- Van Dijk, J. 1983. *Lugal ud me-lám-bi nir-ġál*. 2 vols. Leiden.
- Verderame, L. 2011. *Demoni Mesopotamici*. Rome.
- Verderame, L. 2017. "Demons at Work in Ancient Mesopotamia". Pp. 61–78 in S. Bhayro and C. Rider edd. *Demons and Illness from Antiquity to the Early-Modern Period*. Leiden.
- Vess, M. 2012. "Warm Thoughts: Attachment Anxiety and Sensitivity to Temperature Cues". *Psychological Science* 23: 472–474.
- Vidal, F. and F. Ortega. 2017. *Being Brains*. New York.
- Wasserman, N. 2016. *Akkadian Love Literature of the Third and Second Millennium BC*. Wiesbaden.
- Wee, J. Z. 2014. "Lugalbanda under the Night Sky: Scenes of Celestial Healing in Ancient Mesopotamia". *Journal of Near Eastern Studies* 73: 23–42.
- Wee, J. Z. 2015. "Discovery of the Zodiac Man in Cuneiform". *Journal of Cuneiform Studies* 67: 217–233.
- Weidner, E. 1967. *Gestirn-Darstellungen auf babylonischen Tafeln*. Wien.



- Wiggermann, F. A. M. 1996. "Scenes from the Shadow Side". Pp. 207–230 in M. E. Vogelzang and H. L. J. Vanstiphout edd. *Mesopotamian Poetic Language*. Groningen.
- Wiggermann, F. A. M. 2009–2011. "Sexualität (sexuality). A. In Mesopotamien". *RAVA* 12: 410–426.
- Wilkowski, B.; B. P. Meier; M. D. Robinson; M. S. Carter; and R. Feltman. 2009. "Hot-Headed Is More Than an Expression: The Embodied Representation of Anger in Terms of Heat". *Emotion* 9: 464–477.
- Williams, L. E. and J. A. Bargh. 2008. "Experiencing Physical Warmth Promotes Interpersonal Warmth". *Science* 332.5901: 606–607.
- Winter, I. J. 1995. "Aesthetics in Ancient Mesopotamian Art". Pp. 2569–2582 in J. M. Sasson ed. *Civilizations of the Ancient Near East*. vol. 4. New York.
- Winter, I. J. 2010a. "The Aesthetic Value of Lapis Lazuli in Mesopotamia". Pp. 291–306 in *On Art in the Ancient Near East*. vol. 2. Leiden.
- Winter, I. J. 2010b. "The Affective Properties of Styles: An Inquiry into Analytical Process and the Inscription of Meaning in Art History". Pp. 405–430 in *On Art in the Ancient Near East*. vol. 2. Leiden.
- Winter, I. J. 2010c. "Agency Marked, Agency Ascribed: The Affective Object in Ancient Mesopotamia". Pp. 307–331 in Winter *On Art in the Ancient Near East*. vol. 2. Leiden.
- Zgoll, A. 2012. "Der oikomorphe Mensch. Wesen im Menschen und das Wesen des Menschen in sumerisch-akkadischer Perspektive". Pp. 83–106 in B. Janowski ed. *Der ganze Mensch*. Berlin.
- Zhong, C. and G. J. Leornadelli. 2008. "Cold and Lonely: Does Social Exclusion Literally Feel Cold?" *Psychological Science* 19: 838–842.
- Zisa, G. 2019. "Going, Returning, Rising: The Movement of the Organs in the Mesopotamian Anatomy". *KASKAL—Rivista di storia, ambienti e culture del Vicino Oriente Antico* 16: 453–476.
- Zisa, G. 2021. *The Loss of Male Sexual Desire in Ancient Mesopotamia*. Berlin.
- Zomer, E. 2018. *Corpus of Middle Babylonian and Middle Assyrian Incantations*. Wiesbaden.