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The Flood and Global Warming: Who is Responsible?¹

There is no other story, either among folk tales, legends, myths, or epics, which has as long a history as the story of the Flood. The earliest version appears in Sumerian from Mesopotamian, soon followed by Akkadian accounts in a text known as Atrahasis,² and as Tablet 11 of the famous epic of Gilgamesh (George, 2003, p. 700–725), and a late 3rd century BC version preserved in Greek by a Babylonian priest Berossos.³ All of these versions retell more-or-less the same story which is familiar from the Bible: a protagonist known as Ziusudra

¹ My thanks to Strahil Panayotov for technical assistance in scanning the *mappa mundi* figures.

² See Lambert & Millard (1968) with an appendix containing Miguel Civil's edition of the Sumerian Flood Story (p. 138–145). See now: Finkel, 2013.

³ The latest edition of Berossos is that of De Breucker (2012, p. 375–392). The edition of Schnabel (1968, p. 264–266) is still useful. For an opinion that Berossos wrote his account originally in Aramaic, cf. Geller, 2012.

in Sumerian, Atrahasis or Utnapishtim in Akkadian, Noah in the Bible, is warned of an impending Flood and he is told to build an Ark, collecting all the world's animals two-by-two, in order to survive the catastrophe. He does so, and after the Flood subsides he releases birds on several occasions to test if ground has reappeared, and when again on dry land he disembarks somewhere in Armenia. Although each of the versions has somewhat different details, the general structure of the story is so recognisable that we can assume it to be the same story retold, over and over again, throughout the ancient Near East. It is also abundantly clear that the geographical context of the story is the Fertile Crescent of Mesopotamia, where floods were part of the normal pattern of life. This is also an urban landscape in which people live in large cities rather than in rural settlements or tribal communities, which fits the contours of the narrative.

My intention is not to dwell on the individual details in the Flood Story, except for one common feature: who was at fault? For some of our versions, the answer is simple: in the fragmentary Sumerian account, Ziusudra (whose name means 'the long-lived') is simply told about the upcoming destruction, but not why.⁴ In the Gilgamesh Epic, no reason is given for the Flood, but that may be because such details were unnecessary. The objective was to bring Gilgamesh together with the Flood hero, Utnapishtim, who had remained immortal after his famous escapade; Gilgamesh wanted to learn the secret of his immortality, and the Flood story is told as a story within a story. This lack of interest in why the Flood was decreed persists in later accounts as well, since Berossos only reports that the Flood arrived on the 15th day of a certain month (Daisios) (De Breucker, 2012, p. 380; Schnabel, 1968, p. 264).

The Bible, on the other hand, is quite clear in its assessment of the reasons for the Flood: mankind has sinned and God wishes to start all over again with a new race of men descended from Noah rather than from Adam. This is actually the first time we encounter the idea that man is responsible for his fate, since his sins have provoked God. The only other clearly stated reason for the Flood appears in the Greek myth of Deukalion, as reported by Ovid, in which Zeus decides to destroy the Greeks because of their sinning, and Deukalion saves mankind with his floating chest or Ark containing pairs of all known animals. The Greek version is late but obviously descends from these earlier

⁴ This may be because the tablet is not completely preserved, but the laconic style suggests that no justification for the Flood was provided in the original Sumerian account.

versions.⁵ The interesting deviation from this pattern is the story as told in the myth of Atrahasis, which contextualises the Flood in very specific terms. First, mankind was created as a result of a strike among junior gods, who resented having to work on behalf of the more senior gods. The conflict was resolved by deciding to create mankind, a creature to be formed from clay and from the blood of a slain god, and his *raison d'être* on earth would be to serve all the gods. Man would have to build houses for the gods, dig the canals, and provide the meals.⁶ So far so good. The problem arises when man appears to have become too successful and his 'noise' (*rigmu*) and 'din' (*hubūru*) prevent the chief god Enlil from sleeping. It has been suggested that 'noise' and 'din' was a result of over-population, rather than any moral failings (Kilmer, 1972; see also Lambert, 2005, p. 195); there is no specific statement in Atrahasis that the Flood was punishment for mankind's sins.

What is 'noise' and is this really mankind's fault? There are two aspects of 'noise' which might help us decide what is happening here. First, we have a somewhat parallel story in the Tower of Babel account, which is obviously a Mesopotamia narrative but for which we have no Babylonian original version.⁷ In this account, the success of mankind in building cities disturbs God and he takes measures to counteract mankind's success by confusing all languages. Of course, this type of etiological Just So Story serves to explain how languages multiplied early on in human history, and Mesopotamia epics recognised a mixture of languages as a characteristic of society.⁸ Nevertheless, the real issue behind the story is that the Tower was being built with baked bricks rather than sun-dried bricks, which was the norm for Mesopotamia.⁹ It would be too

⁵ Lambert & Millard (1968, p. 24) comment on the Deukalion flood story as not certain to be related to the Babylonian account, but this view is too conservative; many of the elements of the Flood story are to be found in the Deukalion myth.

⁶ See the discussion in: Lambert & Millard (1968, p. 15–21).

⁷ This scenario is not entirely unfamiliar, since we have the Proverbs of Ahikar preserved in Aramaic, presumably going back to an Akkadian *Vorlage* which is not preserved. Cf. Lindenberg, 1983.

⁸ Reflected in the Akkadian expression *lishani mithurti*, lit. 'clash of tongues', which may be a calque on a similar Sumerian expression *eme.ha.mun*. Cf. Chicago Assyrian Dictionary M/2, 137f.

⁹ Gen. 11: 3, 'Each man said to his neighbor, "let us fashion bricks and let us bake (them) through (*nsrph lsrph*)", and they used (baked bricks) for stone (*hlbnnh l'bn*) and bitumen was used by them for clay'. This is an unusual description of building practices, since normally baked or oven-fired bricks were reserved for those parts of the building which came into contact

expensive to build an actual tower of baked bricks, but this mythologised tower was too much for God to bear. Note that God does not destroy the Tower but merely stops it from reaching into heaven. So what became of this permanent Tower?¹⁰ We will come back to this problem shortly, but in the meantime, we can see here an example of how mankind's success causes a problem for God: in essence, he is making too much 'noise'.

There is another way in which 'noise' disturbs the gods. We have a number of so-called 'baby Incantations', which blame the crying baby for making too much noise and keeping the gods from sleeping; the crying baby, in fact, is compared to a demon and incantations treat him as such (Farber, 1989, p. 46). Is this the baby's fault? Certainly not. Nevertheless, gods can be irascible and unpredictable and mankind can upset them unintentionally, and even babies are not exempt from disturbing the gods.

What emerges from this combined picture is that mankind is ultimately responsible for the Flood, either because of immorality (as in the Bible) or simply because of human activity, which upsets the balance of nature (as in Atrahasis); a third possibility – that disasters such as Floods just happen – is not an option, because even when no reason is given, it is a god who decides to bring the Flood, even if no reason is stated. The gods, of course, may eventually regret their decision; the Mesopotamian gods soon realise that without man, none of the work gets done, and the biblical rainbow can also be seen as an admission of God's regret. Nevertheless, to some extent mankind is responsible for the disaster, whether intentionally or not.

The Flood represented a massive historical trauma which is continually alluded to in literary and historical contexts. Life before the Flood was characterised by longevity and great worldly wisdom (Annus, 2010), and life clearly changed afterwards. The Flood even made an impression on Babylonian cosmology, since it

with water (e.g. the foundations and gutters), since this was an expensive process. The large majority of bricks were sun-dried. The Genesis descriptions of bricks being used for stone is an idealized version of a permanent building which never existed in Mesopotamia; temples normally had to be restored by each successive ruler.

¹⁰ Cf. George (2011, p. 153–169), in which George edits the so-called 'Tower of Babel Stele' of Nebuchadnezzar II; George refers to the fact that some regard the E-temen-anki ziggurat of Marduk at Babylon as the inspiration for the Tower of Babel narrative. Nevertheless, there is no evidence to corroborate such a supposition, particularly since the E-temen-anki was probably in ruins by the Persian period and its permanence would hardly have been recognisable. It is most likely that the Tower of Babel remained a mythical structure, unrelated to any known building.

also features on a famous mappa mundi on a unique tablet in the British Museum (BM 92687). It is worth having a closer look at this fascinating text.¹¹



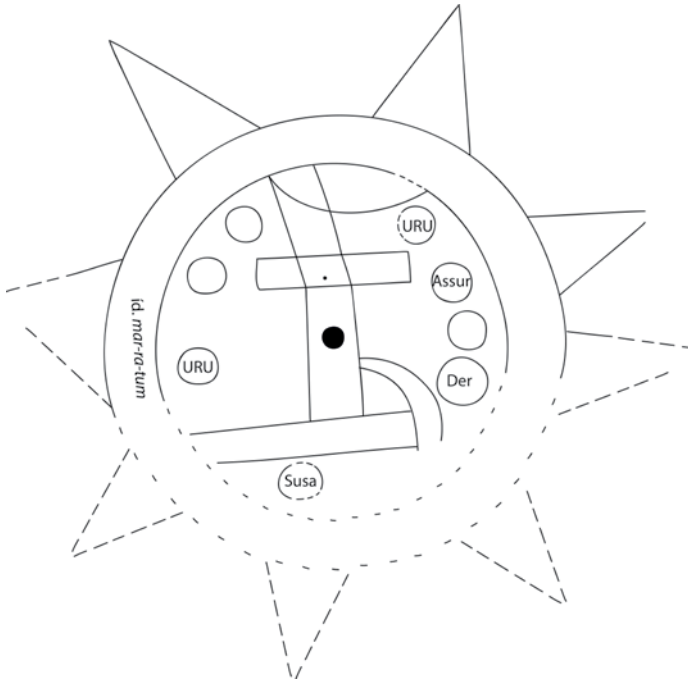
The map features a highly stylised view of the world consisting of Mesopotamia surrounded by a circular 'bitter' sea (*marratu*); actually, the *marratu* is labelled as a 'river',¹² which is usually disregarded, but as we will see below, turns out to be highly relevant. In fact, the map is labelled throughout and is accompanied by explanatory texts, but the tablet is damaged and no duplicate has ever been found to help fill in the lacunae. The labels tell us that Babylon features prominently in a large box within the circles, just above the centre of the drawing, and two vertical lines are presumed to be the Euphrates and Tigris rivers. Two horizontal lines below the centre are labelled as 'canal' and 'marsh', while an area at the top of the design is given as 'mountain' (Horowitz, 1998, p. 21–22). No attempt at accuracy or scale has been made.

One interesting feature of the mappa mundi tablet are the small circles along the perimeter of the design (but inside the *marratu*) designating cities such as Assur,

¹¹ The most complete modern treatment is by Horowitz (1998, p. 20–42), see now: Finkel, 2013.

¹² With a determinative id 'river'; see: Horowitz (1998, p. 29–30).

Der, and Susa, as well as other less-known places. Not all of the cities could be identified by the ancient cartographer, since some circled areas are simply labelled as ‘city’ (URU), while three others have no labels at all (see the illustration below). It is clear that the scribe of this tablet (BM 92687) was working from a pre-existing design of a map and was not able to identify all the places on the map. Furthermore, there is no intrinsic reason why a large square should be assigned to the city of Babylon while other major cities only merit a circle; Susa and Der were important sites along the eastern frontier with Elam, while Assur was a former capital and remained a significant cultural centre throughout the history of the region. The impression is that the names of cities identified in the legend of the mappa mundi (BM 92687) were either arbitrary or schematic, as are the designation of regions, such as ‘Urartu’ or simply ‘mountains’ (Horowitz, 1998, p. 21–22). Nevertheless, the fact that Assur appears on the map will be relevant to our discussion below.



On the outside of the perimeter of the design, following the outer ruling of the *marratu*, we also find eight labelled triangles containing information not usually associated with a map. These triangles, which are probably stylised mountain peaks, are called *nagû* or ‘regions’, and this term may allude to the Flood story in Gilgamesh when Utnapishtim first opened the Ark after the

Flood and noticed eight *nagû* or mountains poking through the water like islands (Horowitz, 1998, p. 30–32). The idea is that the flat alluvial plain of Mesopotamia is surrounded on three sides by mountains, which also serve as conduits between the flat earth and heavens. Ziggurats and temple towers were essentially artificial towers extending up to heaven and temple names often reveal this cosmic function of being bonds between heaven and earth.¹³ The mountains were fearful places harbouring demons and ghosts, since mountains served in Sumerian thought as the place of afterlife, rather than an underworld.

Two of these *nagû* are relevant to the Flood. One claims to house Utnapishtim, the Flood hero of the Gilgamesh epic, who resides somewhere between earth and heaven as an immortal human. What is he doing on this map? One clue comes from the legends on the map itself, noting each *nagû* as being 6 or 7 ‘leagues’ (about 19–22 km) ‘between’. The usual understanding is that each *nagû* is 6 or 7 leagues from the next one¹⁴ – not terribly far – but the alternative possibility is that each *nagû* is 6 or 7 leagues ‘between’ heaven and earth, which is a great distance if reckoned vertically rather than horizontally. So Utnapishtim, the Noah of the Gilgamesh Epic, spends his immortality on his *nagû*. Equally intriguing is the adjacent *nagû*, which was only discovered and joined to the map a few years ago. This *nagû* houses a ‘great wall’ which is so high that it blocks out all sunlight.¹⁵ No such wall can as yet be identified within Mesopotamian mythology, but can this be the same as our Tower of Babel? The survival of this mythological tower reaching up to heaven may not be part of the normal Babylonian landscape, but a wall reaching to heaven made of durable baked bricks could have survived in mythology and on a mythological *nagû*, as did Utnapishtim.

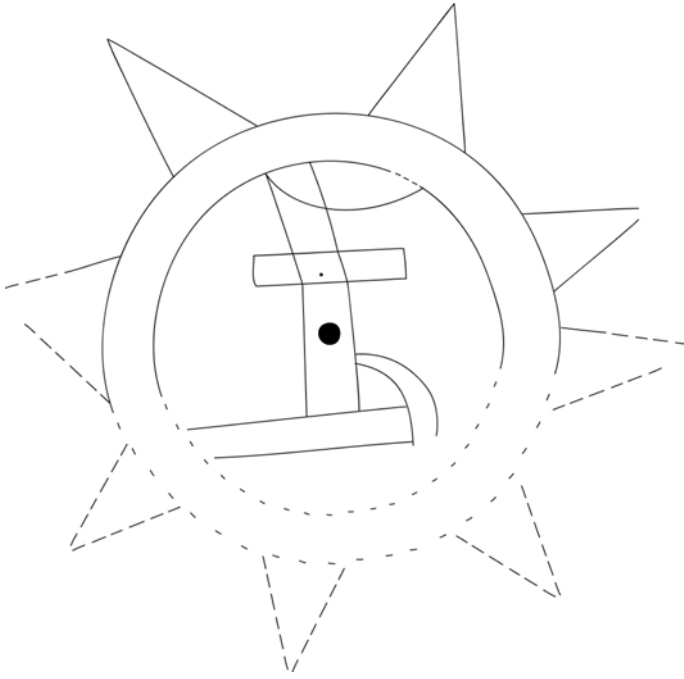
This thought brings us back to the *mappa mundi*, which we already saw as a very simple design of a ring of water surrounding a region with vertical and horizontal lines. A large rectangular area is identified on the tablet as Babylon, but this is much larger than any other city of designated region, and the north-

¹³ See George (1993) for a useful listing of Mesopotamian temples with their typically cosmographic names.

¹⁴ Cf. Horowitz (1998, p. 22), in which the legends on the *nagû* read, *6 bēru ina birīt*, ‘six (or eight) leagues in between’, while the reverse of the tablet mentions going 7 leagues to each *nagû* (Horowitz, 1998, p. 24–25, 37), suggesting a horizontal distance between each *nagû*. These are hardly great distances for separating cosmic regions, which is why these distances probably refer to the height of each *nagû* rather than distance from each other.

¹⁵ Cf. Horowitz (1998, p. 22). The legend reads, *BĀD.GU.LA 6 danna ina bi-rit a-šar* ‘utu nu igi.lá, ‘a great wall (or tower), 6 leagues in between, where the sun is not seen’.

south orientation of the map is also not quite right. But let us assume that the map existed independently as a drawing and that the cuneiform notations were added later, interpreting the design. Might another interpretation of the same drawing being possible? In other words, the scheme of the mappa mundi may have already existed long before it was labelled with the present legends on the British Museum tablet (BM 92687), and was thus open to other interpretations. The unlabelled mappa mundi could have been known as a general pattern as a way of describing the ancient world and as such could have looked as follows:

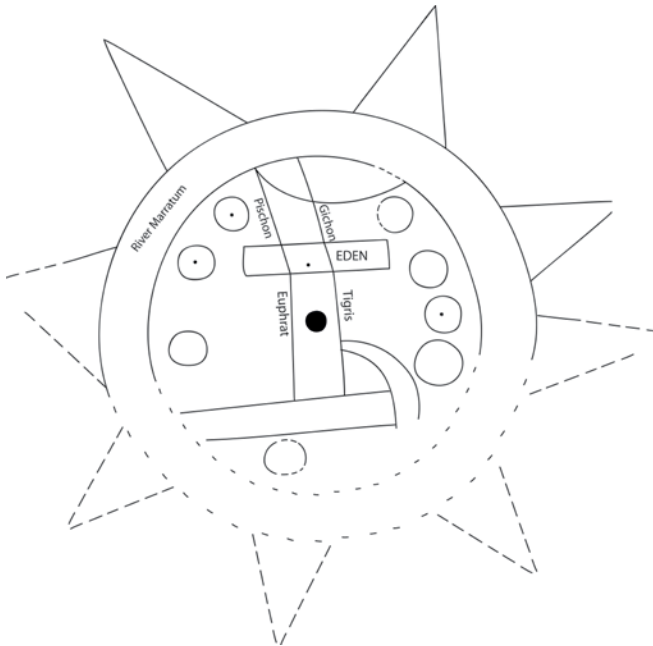


With this sketch in mind, we turn to Gen. 2: 10–14 and the following description of the Garden of Eden:

‘A river came out of Eden to water the Garden, and from there it was divided and it became four heads. The name of the first is Pishon, it surrounds all the land of Havilah where there is gold, and the gold of that land is pure; there is *bdolah* and *shoham*-stone. The name of the second river is Gihon; it surrounds all the land of Kush. The name of the third river is Tigris; it goes east of Assur. The fourth river is the Euphrates.’ (author’s translation)

When taking a fresh look at the unlabelled mappa mundi, one finds a large square area just above the centre of the map; assume for the sake of argument

that this could be identified as a walled garden, corresponding to biblical Eden. What is intriguing is that what at first looks like two vertical lines could also be interpreted as four lines, all emanating from this square, and these could be seen as four different rivers. Two of the biblical rivers, the Pishon and Gihon, surround exotic and distant lands of Havilah and Kush, and this might be indicated by the double lines encircling the map, which was later interpreted as the 'bitter sea' (*marratu*). Actually, as mentioned above, the legend on the mappa mundi (BM 92687) refers to the circular perimeter as the 'bitter river' (^d*marratu*), not 'sea', and there is no reason why a very different interpretation of this same design could not see these as rivers circling the region. The Genesis references to both the Tigris and Euphrates, as well as Assur,¹⁶ bring us firmly back to Mesopotamia, so we are not so far removed from the cuneiform interpretations of this map. There is one additional detail to be considered. The unlabelled mappa mundi would now, according to Genesis, have been interpreted in the following way:



¹⁶ The biblical reference to the Tigris being to the east of Assur is quite correct since Assur is located on the west bank of the Tigris. It may however only be coincidental that Assur is mentioned in the legends of the mappa mundi and also features in the description of Mesopotamia in Gen. 2: 14.

As explained above, the original Late Babylonian tablet of the mappa mundi (BM 92687) identifies the Flood hero Utnapishtim in one of the triangular regions beyond the circular perimeter of the map (a *nagû*), while the adjacent *nagû* identifies a 'great wall' or fortress blocking the sun. A new interpretation of the unlabelled mappa mundi could have equally posited the triangular areas to be 'extra-terrestrial' mythological locations, both belonging to the map and yet off the map. Assuming that the biblical Noah could have inhabited one of these *nagû*-regions, as Utnapishtim in cuneiform tradition, we might consider that the 'fortress blocking the sun' in an adjacent *nagû* could also have survived a new interpretation of the schematic map design, and this could allude to the mythological Tower of Babel, which was never dismantled in the biblical account. Furthermore, no other known mythological wall in Mesopotamia was high enough to block the sun, apart from the one mentioned in the *nagû* of BM 92687.¹⁷ The point is that the stories of the Flood and Tower of Babel may have been linked in some thematic way.

We return to the question of whether mankind was responsible for his fate, both for the Flood and for the Tower of Babel fiasco. Although sinfulness could always be used as a convenient reason for disaster, it is interesting that this does not apply to the Tower of Babel narrative; there it is the success of mankind which is seen in a negative light, much like mankind's 'noise' and population growth disturbing the gods in Atrahasis. In fact, an important aspect of Atrahasis is often overlooked: the Flood was not the first catastrophe to be visited on humans. First the god Enlil sent plagues, which weakened humans but were eventually survived as their force diminished. Enlil then sent drought and famine, and here the reaction is much different. For one thing, the fields become covered with salt and turn white, while human behaviour deteriorates dramatically, in that mothers do not open their houses to daughters, both mothers and daughters are sold off, and children are devoured in cannibalistic fashion.¹⁸ With mankind still surviving in this sorry state, Enlil decides to bring the Flood as a comprehensive catastrophe.

¹⁷ The Sumerogram *bàd.gal* (literally 'great wall') can also stand for Akkadian *dūru*, 'fortress', which would be a reasonable approximation to Gen. 11: 4, in which the people (presumably Babylonians) were building a 'city and tower' (*cyr wmgdl*).

¹⁸ The fullest version of people's reactions to catastrophic famine is to be found in the Neo-Assyrian recension of Atrahasis:

When the fifth year arrived,
Daughter watched the mother's going in,

Was mankind responsible? Actually, in some ways yes, judging by the way mankind responded to adversity. We know from ancient agricultural records that Mesopotamians over irrigated their fields over a very long period, with the result that the soil became too salty in Southern Mesopotamia (ancient Sumer) to support agriculture, and the land was abandoned. Technology had gone wrong. Family relationships breaking down in the face of hunger and hardship point to serious failure in society's ability to cope with environmental changes. So ancient myths were able to remark that in some respects mankind shares the blame for natural catastrophes.

There is a debate raging in our own day whether human activity is responsible for global warming and resulting rise in sea levels and climate change. Who is to blame? It turns out that this is a much older question than we imagined.

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But the daughter would not open her door to the daughter.
 The daughter watched the scales (at the sale) of the mother,
 [the mother] watched the scales (at the sale) of the daughter.
 When the sixth year arrived
 They served up [the daughter] for dinner,
 They served up the son for food.
 (Lambert & Millard, 1968, p. 112–115).

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Potop i globalne ocieplenie: gdzie leży odpowiedzialność?

Zasadnicze różnice między różnymi starożytnymi wersjami mitu o Potopie (w tym biblijnej historii Noego) dotyczą pytania, czy to ludzkość ściągnęła na siebie kataklizm niemoralnym życiem. W innej opowieści o katastrofie – micie Wieży Babel – przyczyną runięcia Wieży jest złe wykorzystanie technologii. Obie narracje da się umieścić na unikatowej babilońskiej mappie mundi, która może również przedstawiać topografię ogrodu Eden.

Słowa kluczowe: Arka Noego; Mit o Potopie; Wieża Babel; babilońska *mappa mundi*

The Flood and Global Warming: Who is Responsible?

The essential difference between ancient versions of the Flood (including the biblical Noah account) is whether mankind brought the cataclysm on itself through immoral behaviour. In a second disaster story of the Tower of Babel, misuse of technology was responsible for the Tower's failure. Both of these narratives may be represented on a unique Babylonian *mappa mundi*, which might also show the topography of biblical Eden.

Keywords: Noah's Ark; Flood Story; Tower of Babel; Babylonian *mappa mundi*

Notka o autorze

Mark Geller – profesor studiów judaistycznych na University College London w Katedrze Hebraistyki i Judaistyki, gdzie pracuje od 1976 roku; obecnie oddelegowany na stanowisko profesora wizytującego w zakresie historii wiedzy na Wolnym Uniwersytecie Berlina. Prowadził badania nad tekstami akadyjskimi i aramejskimi oraz ich powiązaniem z magią i medycyną. Zrealizował wiele grantów w ośrodkach naukowych o światowej renomie, m.in.: w Chicago, Filadelfii, w Holenderskim Instytucie Studiów Zaawansowanych w Wassenaar, gdzie współtworzył zespół badawczy „Magia i religia na starożytnym Bliskim Wschodzie”. Prace naukowe realizował m.in. w Max Planck Institut für Wissenschaftsgeschichte w Berlinie, był stypendystą Alexander von Humboldt-Stiftung. Efektem wieloletnich studiów są liczne artykuły naukowe, tomy zbiorowe, np.: *Productive Errors: Scientific Concepts in Antiquity* (2012) oraz monografie, m.in.: *Ancient Babylonian Medicine: Theory and Practice* (2010), *Fallacies in Cicero's thoughts about divination* (2012).