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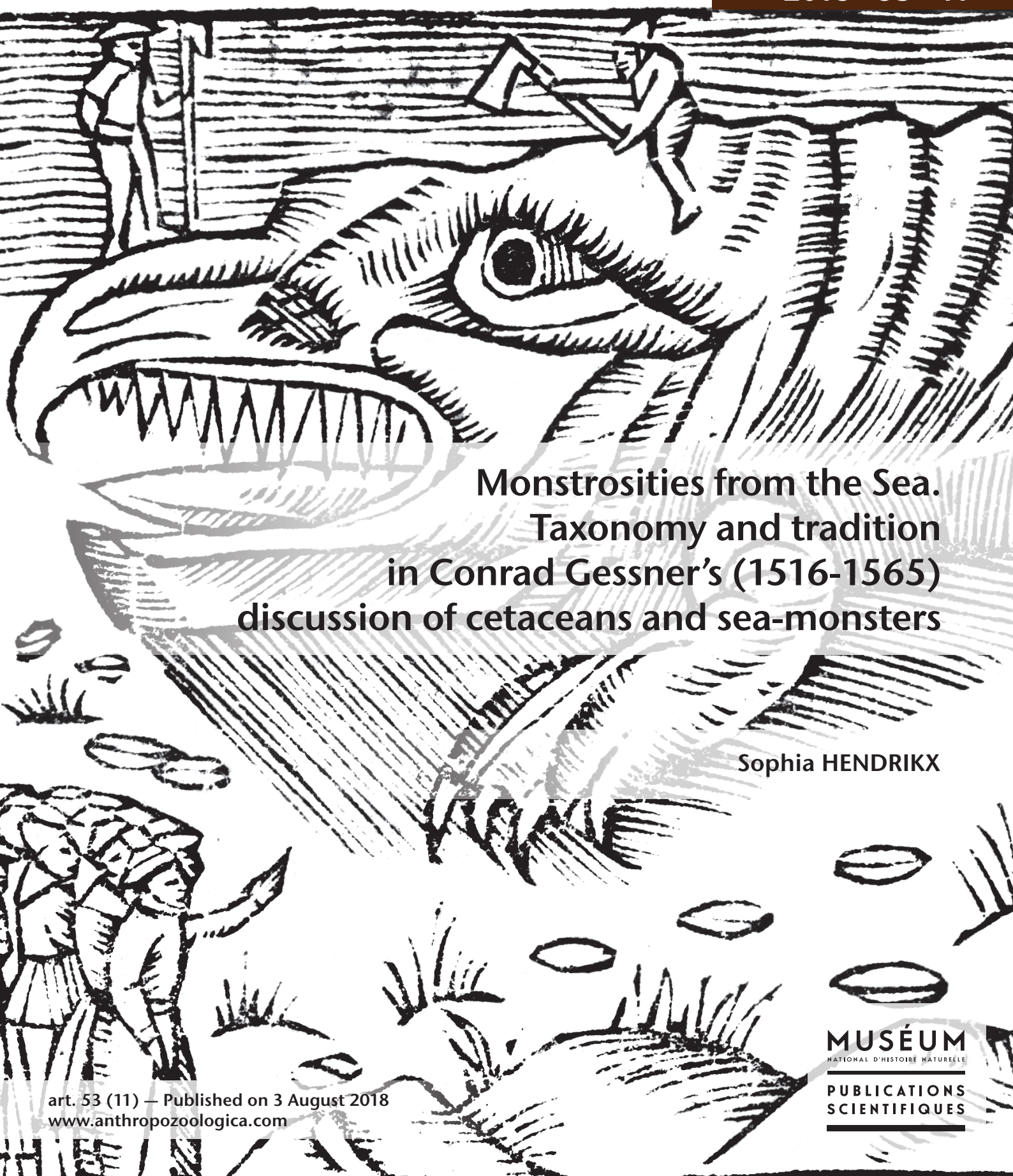

Monstrosities from the Sea. Taxonomy and tradition in Conrad Gessner's (1516-1565) discussion of cetaceans and sea-monsters

Sophia HENDRIKX

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Monstrosities from the Sea. Taxonomy and tradition in Conrad Gessner's (1516-1565) discussion of cetaceans and sea-monsters

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ABSTRACT
Conrad Gessner's (1516-1565) discussion of cetaceans and sea-monsters as part of the same distinct group of animals (*HA* 1558) highlights how in the work of mid-sixteenth century naturalists the taxonomical interacts with cultural, literary, and scholarly tradition. In addition to listing physical characteristics shared by all members of the group, Gessner refers to literary sources which blur the line between whales and monsters, to linguistic causes of such confusion, and to descriptions of cetaceans by various classical, mediaeval, and early modern authors. Alongside anecdotes about real but little-known cetaceans, he presents a range of monster-sightings and draws a connection between classical sirens, aquatic fairies and mermaids. Gessner's encyclopaedic approach means his discussion is embedded in the scholarly dialogue of the mid-sixteenth century and provides insight in the thoughts of several of his contemporaries on cetaceans, the position of monsters in a taxonomy, and the existence of sea-monsters.

KEY WORDS
Cetaceans,
sea-monsters,
monstrous whales,
literary tradition,
taxonomy,
sirens,
mermaids,
aquatic counterparts of terrestrial creatures,
aspidochelone,
teratology.

RESUMÉ
Monstruosités de la mer : taxonomie et tradition dans la dicussion de Conrad Gessner (1516-1565) sur les cétacés et les monstres marins.
La façon dont Conrad Gessner (1516-1565) classe les cétacés et les monstres marins dans le même groupe d'espèces animales (*HA* 1558) met en évidence comment, dans les travaux des naturalistes du milieu du XVIe siècle, la taxonomique interagit avec la tradition culturelle, littéraire et savante. Outre l'énumération des caractéristiques physiques partagées par toutes les créatures de ce groupe, Gessner se réfère à des sources littéraires qui brouillent les limites entre les baleines et les monstres, mais aussi aux causes linguistiques de cette confusion et aux descriptions des cétacés par plusieurs auteurs classiques, médiévaux et prémodernes. Hormis les anecdotes sur les cétacés réels mais peu connus, Gessner présente tout un éventail d'observations de monstres et établit une connexion entre sirènes classiques, fées aquatiques et sirènes prémodernes. L'approche encyclopédique de Gessner montre que sa discussion s'insère dans les discussions savantes du milieu du XVIe siècle ; elle nous fait mieux connaître les pensées de plusieurs de ses contemporains sur les cétacés, la position des monstres dans la classification des espèces et l'existence des monstres marins.

MOTS CLÉS
Cétacés,
monstres marins,
baleines monstrueuses,
tradition littéraire,
classification des espèces,
sirènes,
homologues aquatiques des créatures terrestres,
aspidochelone,
tératologie.

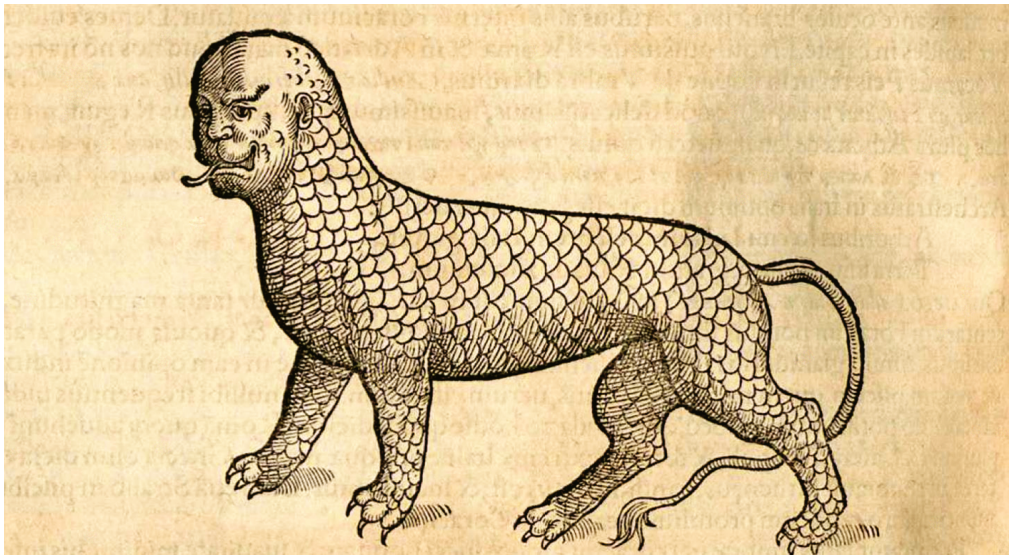

Fig. 1. — *Leo Marinus,* sea lion. Conrad Gessner (1558: 558). Bayerische Staatsbibliothek München, Rar. 2234.

INTRODUCTION

In his encyclopaedic work on animals *Historia Animalium*, the sixteenth century Swiss scholar Conrad Gessner (1516-1565) included a chapter 'On whales and cetaceans and marine beasts in general' (Gessner 1558: 229-256). Gessner's introduction to these creatures in the *Historia Animalium,* as well as in his later work on aquatic animals *Nomenclator Aquatilium Animantium* (Gessner 1560) which is part of Gessner's *Icones* series, lists physical characteristics shared by all creatures included in this group:

[…] *quos Latini beluas marinas etiam vocarunt ab immanitate, opinor, & magna cum terrestribus beluis similitudine; nam eodem modo concipiuntur & gignuntur, & pulmones habent, renes, vesicam, testes, mentulam; foeminae vulvam, testes, mammas* (Gessner 1558: 229).

([…] I believe that the Latin authors spoke of marine beasts because of their wildness and their similarity to terrestrial beasts, because they conceive and give birth in the same manner, and have lungs, kidneys, a bladder, testicles and a penis, and the females a womb, ovaries and teats.)

In this context Gessner describes a wide range of creatures possessing the features listed above, such as whales, porpoises, seals, and dolphins, but also creatures that may not meet the requirements such as turtles, monstrous whales, and sea-monsters resembling people and land-animals.

While the listed characteristics serve as a taxonomical framework which can support the inclusion of such diverse creatures in the same group, it is unclear if this fully explains the fact that fictional sea-monsters are included alongside real animals. Although the question if Gessner believed in the existence of such creatures is at times difficult to answer, further motivations for the inclusion of both cetaceans and sea-monsters are provided in his extensive references to a literary and cultural tradition relating to whales and sea-monsters, beginning with the myths of Andromeda and Hesione and ending with mediaeval bestiary *avant la lettre*, the *Physiologus*. Further motivations still are offered through Gessner's discussion of descriptions of cetaceans from the classical era, and the equation of cetaceans and monsters in the writings of various classical authors. In this context, he also pays attention to the ambiguity of the Greek word κῆτος (ketos) and the Latin *cetus*, which not only refer to whales but can also refer to monsters, rays, turtles and seals (Papadopoulos & Ruscillo 2002: 207, 208). What role did these various elements play in his presentation of this group? Gessner's discussion illustrates how the taxonomical, the literary, the cultural and the linguistic interplay in a description of nature by a sixteenth century author.

In addition, Gessner's descriptions of animals tend to reflect observations made by other naturalists, and the chapter on cetaceans and sea-monsters is firmly embedded in the scholarly dialogue of the mid-sixteenth century. Particularly, Gessner refers to the work of two leading contemporary naturalists, Guillaume Rondelet's *Libri de piscibus marinis* (Rondelet 1554)[1], and Pierre Belon's *De Aquatilibus* (Belon 1553) and *La nature et diversité des poissons* (Belon 1555). In addition, Gessner refers to the only sources which provided an extensive, if at times highly unrealistic, account of Scandinavia and the cetaceans that could be found here, Olaus Magnus's *Carta Marina* (Olaus Magnus 1539) and *Historia de gentibus septentrionalibus* (Olaus Magnus 1555). As throughout the *Historia Animalium* (Blair 2010: 189), Gessner's discussion is a mixture of lengthy quotations from the work of other authors supplemented with personal insights. As a consequence of this encyclopaedic approach, Gessner provides a broad insight into the thoughts of other sixteenth century scholars on cetaceans, the position of sea-monsters in a taxonomy of animals, and the existence of sea-monsters in general.

1. Gessner does not quote Rondelet's 1558 *L'histoire entiere des poissons*, which was published in the same year as his own work on aquatic creatures.



Fig. 2. — *Simia marina*, sea-monkey. Conrad Gessner (1558: 1054). Bayerische Staatsbibliothek München, Rar. 2234.

TAXONOMY AND DISPUTE

In the *Historia Animalium* (Gessner 1558), the taxonomical framework is presented at the beginning of the chapter through a quote from Rondelet's *Libri de piscibus marinis* (Rondelet 1554). In the *Nomenclator* (Gessner 1560), as well as in a German adaptation produced by Conrad Forer in 1563, titled *Fischbuch* (Gessner & Forer 1563), the reference to Rondelet has disappeared but the same physical characteristics are listed as shared across the group (Gessner 1560: 160; Gessner & Forer 1563: 86). Gessner forms groups of animals in this manner throughout his work on aquatic life, by identifying these as physically similar, generally borrowing from Rondelet to greater or lesser extent. This organisation based on physical characteristics is similar to the one Gessner applies in his work on plants, which is often sophisticated (Leu 2016: 253), and pays attention to characteristics such as shape, colouration, taste, smell, scales, fins, and size. While the taxonomical outline presented in the chapter on cetaceans corresponds with this approach, this is far less consistent than in Gessner's description of many other groups of animals. Gessner's taxonomical approach is most visible in the *Nomenclator* and the *Fischbuch*, which are organised into orders, while it can be difficult to discern this in the alphabetically organised *Historia Animalium*. Many animals which Gessner places with the cetaceans are here not listed in the chapter *De cetis*, but under the first letter of their name, such as B for *balaena*, or D for *delphinus*. Gessner applied this alphabetical organisation to enable his readers to easily look up information about the animal in which they were interested, since an encyclopaedic work this size was not intended to be read cover to cover (Gessner 1551: β1v-2r; Blair 2010: 117). However another layer of organisation is applied, and either the name *cetus* (whale or cetacean) or *belua* (beast or monster) is added to each of the animals connected with this group. Those animals called *cetus* or *belua* in the *Historia Animalium*, can in the *Nomenclator* be found in a chapter on cetaceans, order twelve of the marine fishes.

While Gessner and Rondelet include a similar range of aquatic creatures in this group, their approach was not undisputed. Gessner's second main source of information Pierre Belon includes most of the same animals but excludes turtles and marine monsters (Belon 1555: 32, 33), which he discusses in separate chapters. In addition, he adds several animals which Rondelet and Gessner omit. This includes the beaver and the otter, which, he points out, are live-bearing, and in this resemble terrestrial animals (Belon 1555: 3). While Belon's approach seems to more closely match the provided taxonomical outline, Gessner's and Rondelet's approach follows a scholarly and cultural tradition, in terms of the exclusion of Belon's amphibious mammals, as well as the inclusion of sea-monsters and turtles. While the latter is not live-bearing, both authors point out it has many of the same organs as terrestrial animals, including lungs and reproductive organs.

De Testudine […] *Rondeletius*. […] *Linguam imperfectam habet, sed asperam arteriam, pulmones, cor, diaphragma, iecur, lienem, intestina, testes et mentulam mas, uterum foemina* (Gessner 1558: 1131).

(On the turtle […] described by Rondelet. […] It has a crudely formed tongue and windpipe, lungs, heart, midriff, liver, spleen, intestines, the males testicles and a penis, and the females a uterus.)

UNDERLYING CONCEPTS FROM ANTIQUITY

The concept that a certain category of aquatic creatures strongly resembles terrestrial animals can be traced back to classical sources and in particular Pliny's *Natural History*. This states that the liquid and nutrient-rich environment of the sea generates many monstrosities, including counterparts of everything we find on land (Rackham 1983: 165; Céard 1996: 297). This concept remained a common thought throughout mediaeval times (Leclercq-Marx 2006), which we see reflected

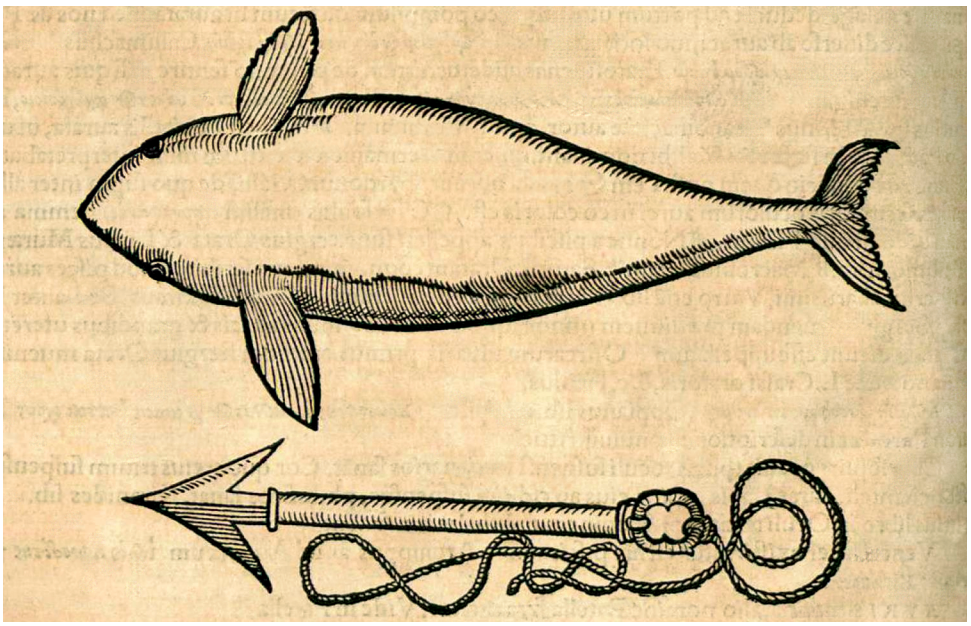

Fig. 3. — *Balaena vulgo*, bowhead whale. Conrad Gessner (1558: 132). Bayerische Staatsbibliothek München, Rar. 2234.

for example in Isidore of Seville's *Etymologies*, where the names of various sea-creatures are explained from their similarity to terrestrial ones (Barney *et al.* 2014: 261). In the early modern period, such thinking resonated in the works of naturalists. In 1555 Belon writes:

[…] *toutes choses animees qu'on trouve avoir nom sur la terre, ont aussi pareilles denominations dedens l'eau*. (Belon 1555: 2)

([…] every living being that bears a name on land, carries a similar denomination in water.)

More specific on the ability of the marine environment to generate monsters, in his 1555 *Historia de gentibus septentrionalibus* Olaus Magnus states:

In […] *Oceano* […] *fertili accremento* […] *semperque pariente natura, pleraque esse monstrifica reperiuntur* (Olaus Magnus 1555: 729).

(Due to increased fertility and the ever-fruitful nature, multitudes of monstrosities are found in the sea.)

Likewise, in his 1558 *L'histoire entiere des poissons*, Guillaume Rondelet remarks that nature more easily forms in water than on land (Rondelet 1558: 83). Such thinking served as a justification to include both animals which resemble land-animals, such as marine mammals and turtles, and sea-monsters that resemble terrestrial creatures in a single group. Gessner includes several of the latter in his chapter on cetaceans, such as the sea-lion, *leo marinus* (Fig. 1), the sea-horse, *equus Neptuni*, and the sea-monkey, *simia marina* (Fig. 2). In the *Fischbuch* (Gessner & Forer 1563: 186 v.), these are described as *Meerthier* (sea-animal).

Also in other ways, classical assumptions about aquatic life resonate in early modern descriptions of the creatures related to this group. Pliny describes water as "*principium vitae*", an environment that produces unformed and crudely formed creatures (Rackham 1983: 164). Similarly, Seneca states that all that is primitive and incomplete in nature has retreated to the sea (Winterbottom 1974: 489, 490). In relation to such assumptions, while these aquatic creatures resemble terrestrial counterparts, due to the influence of the marine environment their features were thought to be underdeveloped. Consequently, the *Fischbuch* describes the seal as:

[…] *ein verletzt, unvollkommen ungestaltet, halbgeschaffen vierfüssig Thier* (Gessner & Forer 1563: 102).

[…] (an injured, unfinished and unformed, imperfectly created four-footed animal.)

In relation to the provided taxonomical outline, Gessner refers to various classical descriptions of aquatic life in his introduction to the group, listing the characteristics of cetaceans presented by a wide range of classical authors including Pliny, Aristotle, Pausanias, Oppian and Horace. In addition, he discusses the use of the words κῆτος (ketos) and *cetus* as referring to whales as well as monsters, rays, turtles, and seals, and refers to the linguistic equation of whales and sea-monsters in the works of Greek and Roman authors (Gessner 1558: 230-237).

SCARCITY OF INFORMATION

The equation of cetaceans and monsters was also strengthened by a lack of knowledge on the former. The classical authors whose work continued to be the foundation of early modern knowledge, while very familiar with species such as dolphins and porpoises, knew little about North Sea cetaceans, which were barely described in Antiquity. Most whales in particular, inhabit Scandinavian waters, and are not found in the Mediterranean (Del Mar Otero & Conigliaro 2012)[2]. The

2. With the exception of a range of dolphins (*Stenella coeruleoalba* (Meyen, 1833), *Tursiops truncatus* (Montagu, 1821), *Delphinus delphis* Linnaeus, 1758, *Grampus griseus* (G. Cuvier, 1812), and *Globicephala melas* (Traill, 1809), and occasionally fin whales (*Balaenoptera physalus* (Linnaeus, 1758)), sperm whales

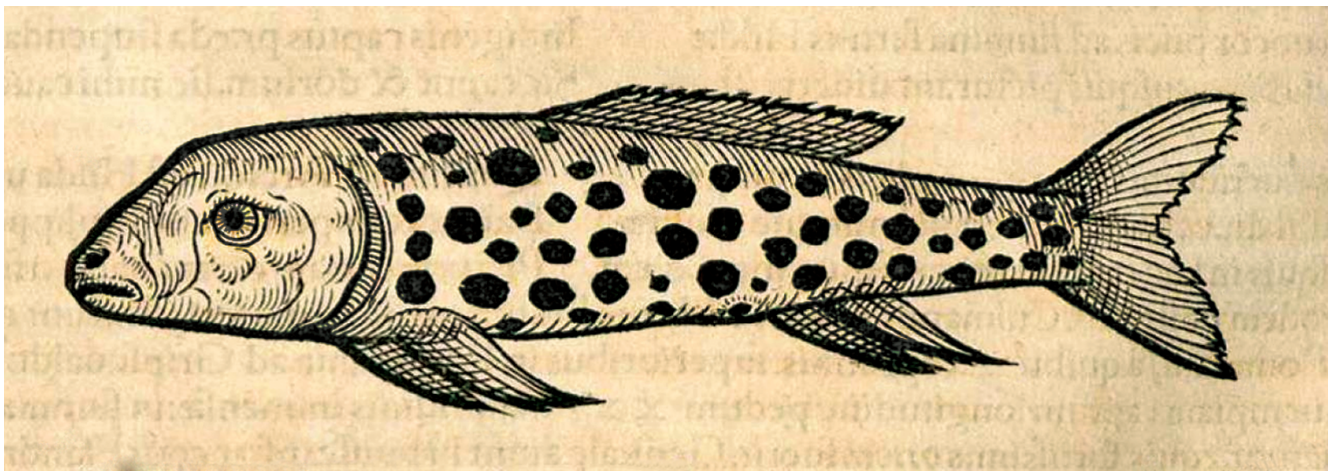

FIG. 4. — *Anglicus cetus*, Atlantic spotted dolphin.Conrad Gessner (1558: 256). Bayerische Staatsbibliothek München, Rar. 2234.

effects of this are reflected for example in Pliny's description of the orca as throwing up waves higher than those caused by whirlwinds, and attacking with the strength of a warship (Rackham 1983: 166), which crosses from realistic into overstatement. The same effect is visible in Gessner's descriptions. Since information on many North Sea cetaceans was reported with little frequency this was hard to verify, and naturalists rarely had a chance to study a specimen, resulting in texts which provide little in terms of factual information and are at times spectacular. During the Middle Ages, knowledge on these species had remained severely limited (Szabo 2008); while whales were hunted, this was not done intensively. In terms of mediaeval sources, Gessner refers extensively to book twenty-four of Albertus Magnus's *Libri de Animalibus* (Stadler 1916-1921), which describes both monsters and whales. Most of this account is based on Pliny, except for the discussion of whaling and the practical uses of whales, such as the production of oil. As whaling increased during the second half of the sixteenth century, literature on whales grew more extensive (Mulder-Bosgoed 1873) and more specimens were seen, but Gessner did not yet benefit from this.

As a result, his descriptions of aquatic animals in the Mediterranean are considerably more extensive and based on more diverse and reliable information than those of North Sea species. For the Mediterranean dolphin, turtle and seal, Gessner includes lengthy descriptions of thirty, twelve, and eleven pages respectively (Gessner 1558: 380-410, 826-837, 1130-1142). Each description is illustrated with several depictions. Much of the text is based on descriptions by Pliny, Oppian, Aristotle, Aelian, and Pausanias. On the dolphin, the *Fischbuch* reveals the author had seen no fewer than three specimens, the first a female, which he witnessed being brought to shore, the others male specimens which he saw at the Montpellier fish market (Gessner & Forer 1563: 93). In contrast, Gessner's description of the Atlantic *balaena vulgo* (Fig. 3; Gessner 1558: 132-135) and *anglicus cetus* (Fig. 4; Gessner 1558: 256) are, at three pages and thirteen sentences long respectively, considerably shorter, and are illustrated with one depiction each. In many cases the descriptions of cetaceans from the North Sea and Atlantic refer to vague sources and spectacular catches, rather than to literature and multiple studied specimens. Gessner writes on the *anglicus cetus* that this has a pattern of spots, and that he copied the depiction from a map. The spotted skin, clearly visible in the depiction, suggests this is likely to be the Atlantic spotted dolphin, *Stenella frontalis* (G. Cuvier, 1829). The *Fischbuch* (Gessner & Forer 1563: 92) reveals the author had only ever heard about one specimen, which was caught in England, at the fringes of the territory of this species between the west coast of Africa and Central America, and was shown throughout the whole country, most likely as part of a travelling exhibition.

EFFECTS OF A LACK OF INFORMATION

It cannot be claimed that the discussion and identification of Mediterranean species described in Antiquity was always straightforward. For example, Gessner brings to our attention (Gessner 1558: 851-858) that Ziegler, Albertus Magnus, Belon, and he himself, assumed that the *physeter* mentioned in classical works is the sperm whale, while Rondelet claimed the *physeter* must be the saw fish. Such dispute notwithstanding, the description of aquatic animals from the North Sea and Atlantic tended to present more extensive complications. We see this illustrated for example, in Gessner's description of a *cetus britannicus* (Fig. 5) and a *balaena vulgo* (Fig. 3), which declares these to be the same animal, although different names are in use and rather different depictions are included:

De Balaena Vulgo […] *cetum in C. ubi de Cetis diversis agitur, Britannicum cognominabimus* (Gessner 1558: 132).

(*Physeter macrocephalus* Linnaeus, 1758), Cuvier's beaked whales (*Ziphius cavirostris* Cuvier, 1823), and, according to some, orcas (*Orcinus orca* (Linnaeus, 1758)).

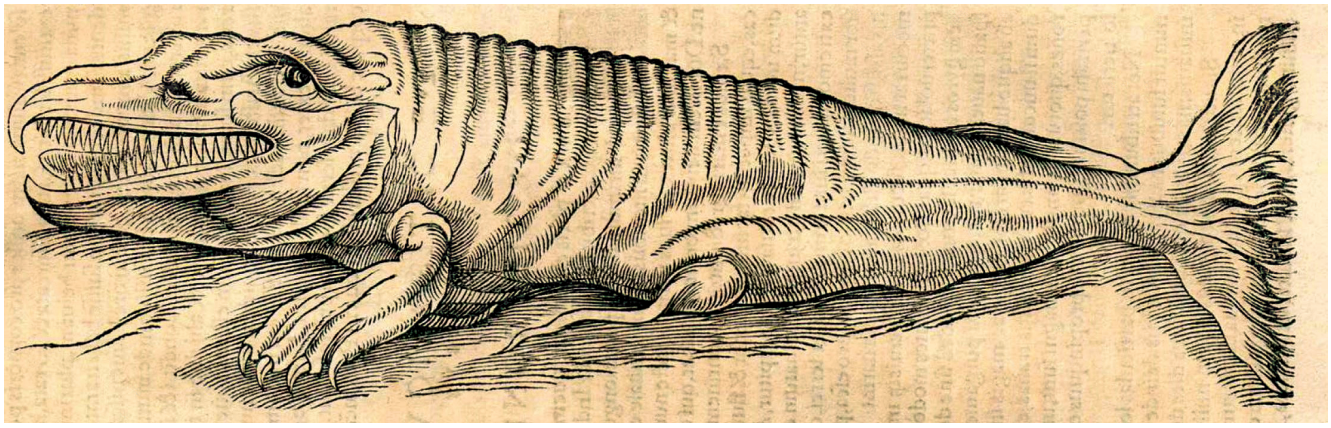

Fig. 5. — *Cetus britannicus*, English whale. Conrad Gessner (1558: 251). Bayerische Staatsbibliothek München, Rar. 2234.

(On the *Balaena Vulgo* […] the whale which is also described under C. in "*On various whales*", which we shall call Britannicus.)

In addition to nomenclature, there was often confusion about the habitat of these animals. The *balaena vulgo* appears to be a bowhead whale (*Balaena mysticetus* Linnaeus, 1758; Cuvier 1816: 433), a species which can be found in arctic and sub-arctic waters and mid-sixteenth century was hunted off the coast of Newfoundland. This notwithstanding, according to Gessner specimens, were found at the coast of Aquitaine.

Similarly, little was known about the physical appearance of many of the described animals. It is for example hard to identify Gessner's *cetus oceani Germanici* (Gessner 1558: 255, 256; Fig. 6), which is depicted with a low, triangular, dorsal fin, corresponding more with the appearance of a porpoise than that of a whale. Gessner received the depiction from Valentinus Gravius, who sent three very similar ones, only one of which appeared in print. According to Gravius, the depicted specimens were 36, 34, and 27 feet long (Gessner 1558: 255, 256). On average, this is about ten meters[3]. If these are porpoises, that is a spectacular size; the maximum length for a porpoise is about 1,80 m. However, if the depicted specimens are whales, the size is not unrealistic. The porpoise-like depiction may be due to the fact that porpoises were more familiar, in particular since Gessner suggests the body of the animal was not depicted after nature:

Non satis accurate quidem expressas (*ad sceletos forte* […] *duntaxat factas*) (Gessner 1558: 255, 256).

(The accuracy of these depictions is insufficient [perhaps they were only made after a skeleton]).

Yet another effect of the lack of information was overreporting. Although twelve species of whales can be found in the North Sea (Reid *et al.* 2003), Gessner provides a list of no fewer than twenty cetaceans from this region that he had heard or read about (Gessner 1558: 254, 255), many of which do not exist or are duplicate entries.

3. A Schuch, or foot was in Zürich approximately 301 mm. (Niemann 1830: 286).

MONSTROUS WHALES

As in Pliny's description of the orca, their relative obscurity contributed to the attribution of monstrous qualities to many little-known cetaceans. For information on whales, to which he refers as *balaena* (Gessner 1558: 132-141), Gessner turned primarily to Olaus Magnus's *Carta Marina* (Olaus Magnus 1539) and *Historia de gentibus septentrionalibu*s, book twenty-one: *Monstrous fishes* (Olaus Magnus 1555). In particular the *Carta marina*, which inspired the monsters depicted on Sebastian Münster's *Cosmographia Universalis* (Münster 1572), bears depictions of an incredible range of monstrous whales and other creatures identified as monsters[4]. Several of the depictions portray cetaceans with clawed feet and pipes instead of blowholes. Others resemble land animals such as a rhinoceros and a sea cow. Unable to verify the information provided by Olaus Magnus, but nonetheless sceptical, in this context Gessner points us towards a longstanding literary and cultural tradition which similarly blurs the lines between whale and monster. His chapter on cetaceans contains a chronological account of famous tales of large and menacing sea-creatures (Fig. 7). Beginning with the classical myths of Andromeda and Hesione, this takes us via the Leviathan to mediaeval accounts (Gessner 1558: 238-241), and finally to Olaus Magnus's work (Gessner 1558: 245-249).

While Gessner frequently expresses criticism towards illustrations, this tends to be limited to brief remarks about features which have been badly depicted or suspicions that an animal was not depicted after nature. Towards the depictions he took from Olaus Magnus's work, Gessner is however uncharacteristically critical. In the preface to volume four of the *Historia Animalium* Gessner points out to his readers that, while very few included illustrations are incorrect, those taken from the *Carta marina* and *Historia de gentibus septentrionalibus* are unreliable (Gessner 1558: b3). In the chapter *De cetis*, he writes:

Iconum fides penes authorem esto; nos enim eas omnes ex tabula ipsius Septentrionali pingendas curavimus. Apparet autem eum ex narratione nautarum, non ad vivum, pleraque depinxisse (Gessner 1558: 245).

4. The legend reads: '*monstrum visum*'.

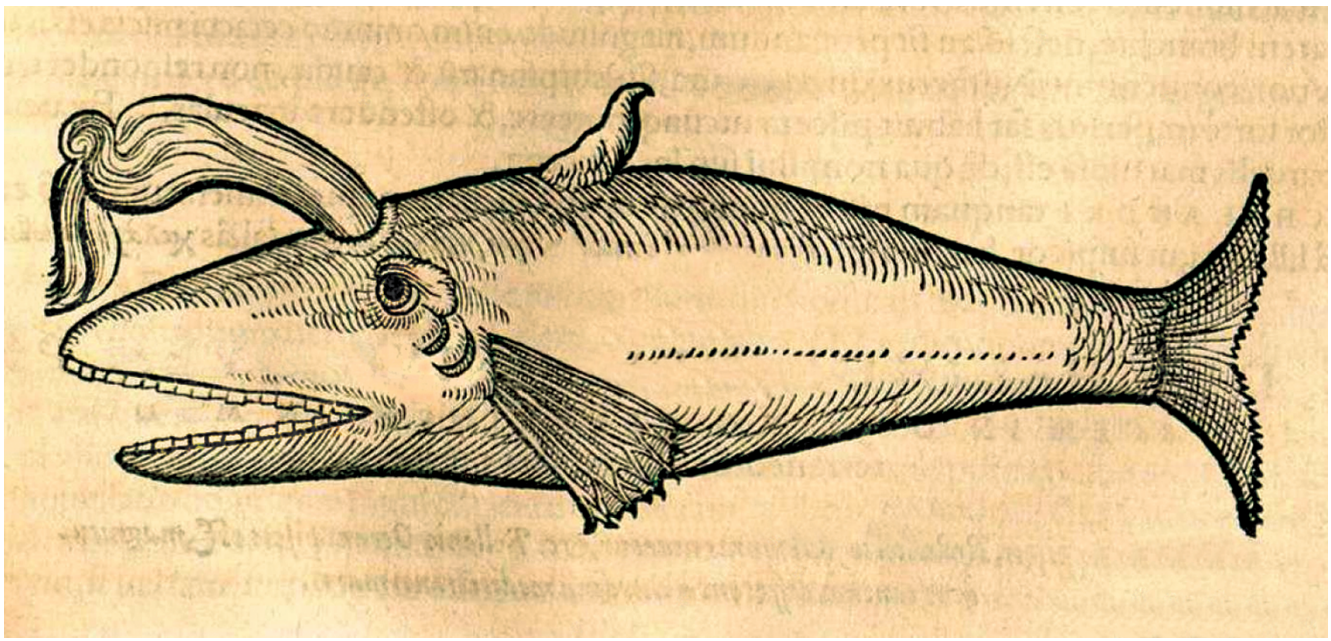

FIG. 6. — *Cetus oceani Germanici*, North Sea whale. Conrad Gessner (1558: 255). Bayerische Staatsbibliothek München, Rar. 2234.

(For proof of these images, please address the author; I collected all of them from his descriptions of the North. But it appears that most of them were depicted, not *ad vivum*, but after the statements of sailors).

In addition, he explains why he finds the depictions unrealistic:

Etsi picturis eius fidem non admodum habeam, cum fistulas capitum nimis eminentes pingat, et pinnas quorundam divisas et unguibus munitas pedum instar (Gessner 1558: 137).

(I do not have faith in his depictions, because the pipes depicted on the heads are too high, and fins are depicted with divisions and claws resembling feet).

Interestingly, Gessner did not include such criticism on other, highly unrealistic, sea-monsters discussed in the context of this group. Religious motives may well have influenced Gessner's lack of confidence in Olaus Magnus's whales, or his willingness to express it. In his *Historia de gentibus septentrionalibus*, Olaus Magnus, the last archbishop of Uppsala, refers to the error of the Reformation which was taking over Scandinavia. Keeping this in mind, the depicted monstrous creatures might be interpreted as symbols for the 'monstrosity' of such thinking (Knauer 1981; Lestringant 2004; Williams 2011: 55). Since Gessner was fiercely protestant, this may be why he passed up no opportunity to express his scepticism towards these depictions and, more importantly, their author. However, since other than Jacob Ziegler's work on Scandinavia little information on this region was available, this did not stop him from including seventeen of Olaus Magnus's 'cetaceans' (Gessner 1558: 137-139, 246-249).

Gessner interprets the creations of Olaus Magnus in a literary context, rather than as realistic creatures. In fact, in the *Historia de gentibus septentrionalibus* we find both factual information collected by the author and much local folklore and mythology. To his description of the use of whale bones to build houses for example, Olaus Magnus adds that these make their inhabitants dream of shipwrecks:

Dormientes inter has costas non alia insomnia vident, quam si continue in fluctibus marinis laborarent, aut in tempestatibus ad naufragium usque periclitarentur (Olaus Magnus 1555: 754).

(Those who sleep between those ribs are always dreaming that they are continuously at work on the waves of the ocean, or are forever in danger of shipwreck due to storms).

The mixing of fact, folklore and hearsay again contributes to an equation of whales and monsters. Olaus Magnus does not always distinguish between these, often using the terms interchangeably (Szabo 2008: 209), and describes whales as having monstrous proportions, most being over sixty meters long. While symbolism can partially explain such descriptions, this may also at times simply reflect what the author was told by informants. While in many cases the descriptions reflect the available literature, it appears Olaus Magnus also spoke extensively with fishermen, on real animals as well as on creatures we would consider fictional. He refers to such expert witnesses, for example on the topic of mermaids, which Gessner includes with the cetaceans (Olaus Magnus 1555: 729). Such fishermen's tales reflect a literary and cultural tradition, which resonated in tales of monstrous fishes, to which Gessner also refers.

DEMONIC AND DIVINE

The use of whales as symbols for sinister developments also stands in the context of this literary tradition. Among the depictions Gessner took from Olaus Magnus is one of a monstrous whale with sailors setting up camp and gathering around

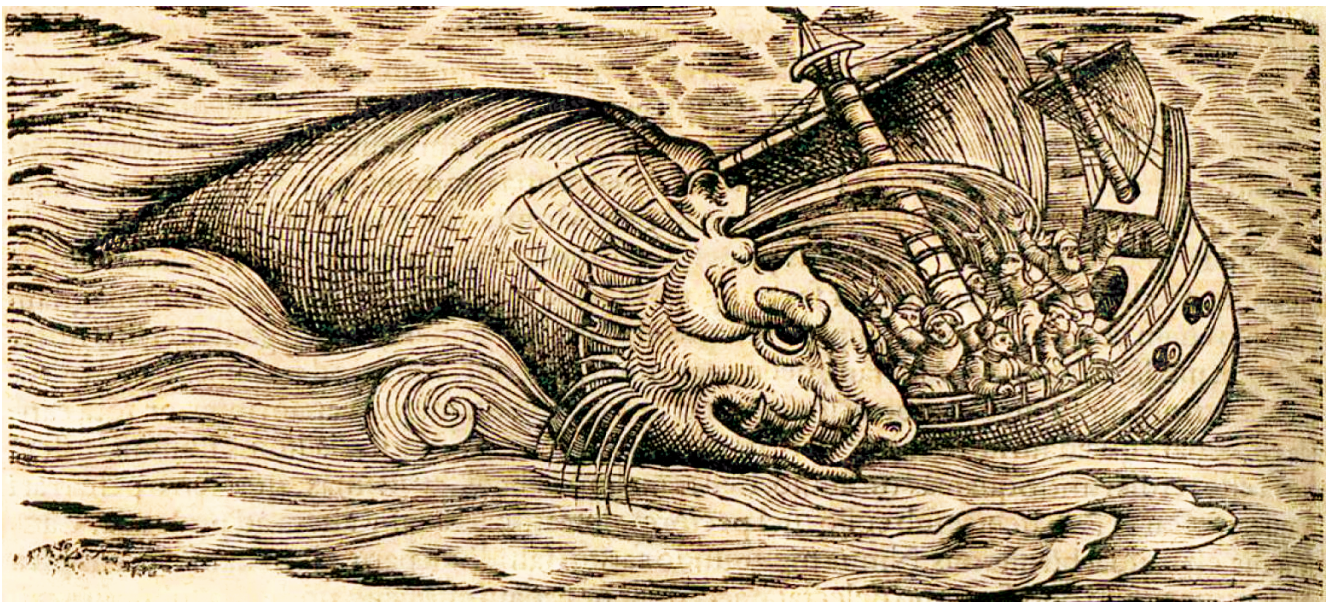

Fig. 7. — Monstrous whale attacking a ship. Conrad Gessner (1558: 138). Bayerische Staatsbibliothek München, Rar. 2234.

a cooking fire on its back (Gessner 1558: 138; Fig. 8). This scene, based on the *aspidochelone* described in the *Physiologus*, to which Gessner extensively refers (Gessner 1558: 240, 241), was instantly recognisable to a sixteenth century audience. Originating in the second century, immensely popular throughout the Middle Ages and translated into a wide range of vernacular languages, this didactic work presented among its animal descriptions with moral content the *aspidochelone* as an ambiguous monstrous sea-creature, alternately described as a whale and a turtle[5]. This background therefore presents another justification for including the turtle with the cetaceans, but more importantly in this context, the *aspidochelone* attached demonic connotations to monstrous whales. It was said to disguise itself as an island in order to drown sailors, and lure fish into its mouth by emitting a sweet smell, and was consequently associated with the devil and his trickery to deceive people (Szabo 2008: 47). The *Physiologus* in turn drew upon various biblical references to monstrous and demonic sea-creatures. In the context of monstrous whales, Gessner refers to the Leviathan described in the book of Job[6], which he points out also had demonic connotations:

Loquens enim in spiritu de diabolo, sub Leviathan typo, ita dicit propheta (Gessner 1558: 240).

(Speaking in spirit of the devil, in the form of the Leviathan, the prophet says the following).

A range of humanoid marine monsters which Gessner describes in the context of the cetaceans, the sea-monk *monachus marinus* (Fig. 9), a sea-bishop *episcopus marinus* (Fig. 10), a sea-monster *monstrum marinum* (Fig. 11), and a *satyrus marinus* or sea-satyr (Fig. 12) carried similar connotations. The first three of these Gessner describes as 'sea-people' under the header *De hominibus marinis* (Gessner 1558: 519-522), the *satyrus marinus* or sea-satyr is described in a text on tritons (Gessner 1558: 519-522). Gessner describes such humanoid aquatic creatures as numerous and lists several reported sightings (Gessner 1558: 1055). He discusses these early modern monstrosities in relation to classical descriptions of sirens, tritons, and nereids, pointing out that sirens were initially birdlike creatures, but more recently were thought to be half fish (Gessner 1558: 1055). In relation to the fish-like siren, he refers to a local belief in mermaids and aquatic fairies:

Olim a Selando quodam accepi, in patria sua ad oram Germaniae, monstrum marinum quoddam vernacula voce nominari ein Füne, facie virginea, inferiore corpore piscis, magnitudine ovis (Gessner 1558: 1056).

(Once I heard from a certain person from Sealand, that in his fatherland at the fringes of Germany, a certain sea-monster is in the vernacular called a fairy, with the face of a girl, the lower body of a fish, and the size of a sheep).

The siren's occupation with causing shipwrecks connected them with the realm of the dead, and gave them a sinister reputation. While aquatic fairies were traditionally believed to be benevolent, the concept of the seductive and treacherous siren, which tricks men with her singing and leads them to their demise, was connected with the aquatic creatures, resulting in the sensual mermaid. As Bernd Roling (2010: 36) points out, mistranslations of the *Book of Isaiah* led to an interpretation of the creatures inhabiting Babylon after the divine punishment as birdlike, which led to an association with the siren and by association the mermaid. The mermaid took on demonic qualities. Medieval interpretations, such as a comparison by Isidore of Seville of the siren with harbourside prostitutes (Barney *et al.* 2014: 245), strengthened the image of the mermaid as a seductive female who brings men to their doom. Like the *aspidochelone* therefore, mermaids, and

5 The Greek ἀσπίς (aspis) means shield and χελώνα (chelona) means turtle.
6. Job 41

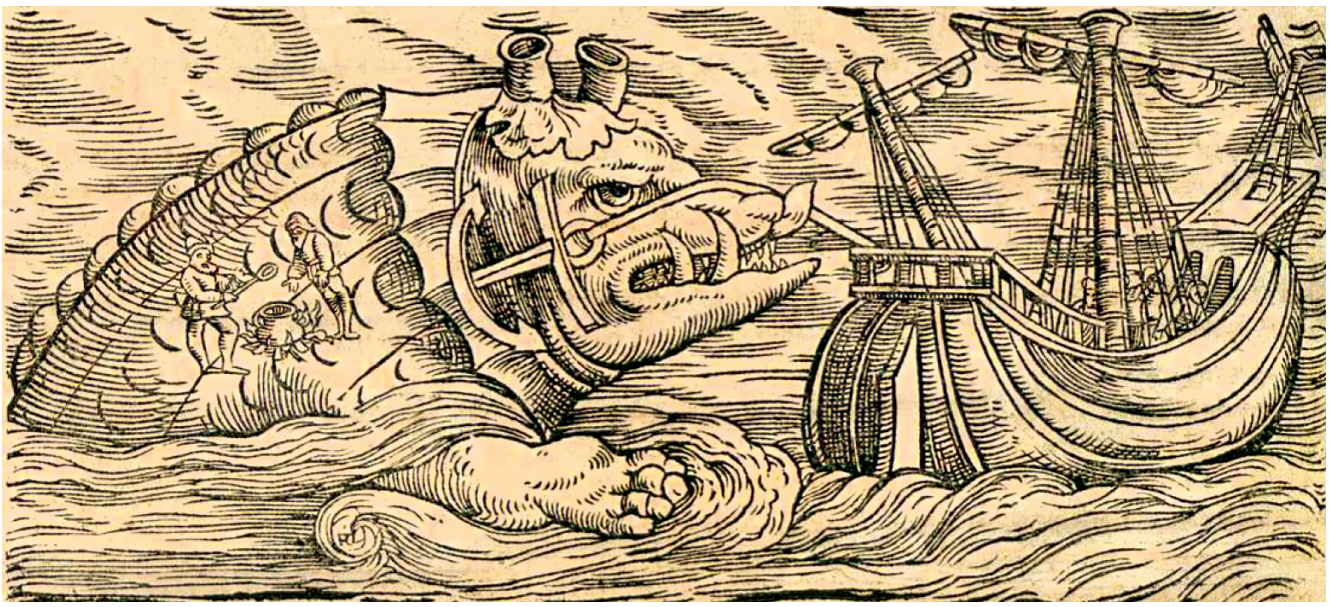

Fig. 8. — Monstrous whale mistaken for an island. Conrad Gessner (1558: 138). Bayerische Staatsbibliothek München, Rar. 2234.

by extension other humanoid sea-monsters, were destructive tricksters. The well-known sea-monster *monachus marinus*, also included by Gessner, was said to display the same behaviour as the *aspidochelone*, dragging people down into the depth (Roling 2010: 46).

As the previously mentioned *leo marinus*, *equus Neptuni*, and *simia marina*, these creatures have roots in the concept that the sea generates animals and monstrosities which have terrestrial counterparts (Leclercq-Marx 2017). Since they were consequently seen as natural, the origins of these sea-monsters were a topic of speculation. Gessner's acquaintance Jacob Ruf describes how half-human creatures could be the result of sexual interaction between a man and an aquatic animal, or the semen of a drowned man (Ruf 1580: 51r). Paracelsus attributed the creation of the *monachus marinus* to the latter (Paracelsus 1558: 323). The belief that such creatures were the result of an inherent plasticity of nature was, as the work of the creator, also seen to carry meaning. In many works on midwifery and deformities in humans of the sixteenth century, such as for example Jacob Ruf's *Trostbüchle* (Ruf 1554), we see that monsters could be interpreted not only as natural phenomena but also as divine signs (Céard 1971: xxxv; 1996: 294). In relation to the latter, they could carry connotations in the same way Olaus Magnus's whales did, as symbols for religious error. This overlap in symbolism of monstrous whales and humanoid sea-monsters strengthened the position of the latter as members of the same distinct group of animals as the cetaceans.

Against the backdrop of the Reformation, it requires little imagination to explain the popularity of monsters such as the *monachus marinus* and *episcopus marinus*. Both resemble Roman Catholic clerics, the former with what appears to be a bishop's mitre on its head, the latter with a tonsured head (Gessner 1558: 519, 520). We need look no further for a similar symbol sprouting both from protestant anti-Catholicism or catholic anti-Protestantism than the well-known 'monk-calf' which was allegedly born in Freiberg in 1522. Initially presented as symbolising the religious errors of Luther, the monstrosity was by Luther himself described to stand for the catholic church in a pamphlet which appeared together with a tract by Philip Melanchthon discussing a 'Pope-ass' caught in the Tiber in 1496. Both tales were republished in 1557 by Jean Crespin in Geneva with new commentary by Calvin (Smith 1914: 355-361; Po-Chia Hsia 2006: 67-92; Szabari 2006: 122-136; Williams 2011: 10). Against this background, it is perhaps not surprising that while Gessner protested loudly about Olaus Magnus's monstrous whales, he did not openly question the existence of the *monachus marinus* and *episcopus marinus*.

COMMERCIALISM

Most likely there were further reasons still to include these fictional creatures alongside cetaceans, and to present them as natural. As we see reflected in the histories of prodigies from the mid – and later sixteenth century, such as Ambroise Paré's *Des monstres et des prodiges* (Paré 1573) and Ulysse Aldrovandi's *Monstrorum Historia* (Aldrovandi 1642-1658), in intellectual circles interest in monsters and unusual phenomena was unbridled. This resulted in a surge in sightings of a diverse range of sea-monsters which provided naturalists with an abundance of eye witness accounts. Whether or not Gessner believed such accounts would not necessarily have had any influence on his decision to include such animals in his inventory of nature, where they might be included simply for the sake of completeness (Gmelig-Nijboer 1977: 101). In addition, while opinion may be divided on the

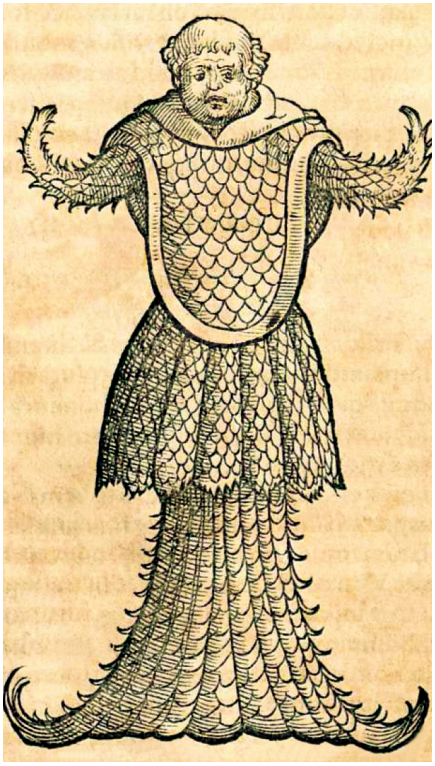

Fig. 9. — *Monachus marinus*, sea-monk. Conrad Gessner (1558: 519). Bayerische Staatsbibliothek München, Rar. 2234.



Fig. 10. — *Episcopus marinus*, sea-bishop. Conrad Gessner (1558: 520). Bayerische Staatsbibliothek München, Rar. 2234.



Fig. 11. — *Monstrum marinus*, sea-monster. Conrad Gessner (1558: 522). Bayerische Staatsbibliothek München, Rar. 2234.

question whether or not commercial interests played a part in authors' and publishers' decisions to include monsters in works of natural history[7], we can assume that the circulation of such eye witness accounts as well as the general interest in such creatures also created certain expectations among readers. Quite possibly in relation to this, naturalists appear to have gone out of their way to assure their audience of the reliability of their descriptions. Neither Gessner, nor Belon or Rondelet straight-out deny the existence of sea-monsters. Belon, quoted by Gessner, remarks on the *monachus marinus* that he can assure his readers of its authenticity based on accounts received from trustworthy people (Belon 1555: 33). Rondelet meanwhile, alludes to illustrious witnesses:

Le pourtrait sur lequel i'ai fait faire le present m'a esté donné par tresillustre dame Marguerite de Valois Roine de Navarre, lequel elle avoit eu d'un gentilhome qui en portoit un semblable à l'Empereur Charles cinquiéme, estant lors en Hespagne (Rondelet 1558: 362).

(The depiction which served as a model for the present illustration was given to me by the very illustrious lady Margaret of Valois, the queen of Navarre, who received it from a gentleman who gave a similar one to emperor Charles the fifth, being in Spain at the time).

In addition, the naturalists treat their readers to spectacular descriptions which refer to sightings. As Gessner informs us, Rondelet wrote on nereids:

Elles ont […] *le corps tout aspre d'ecailles, la face humaine. On en a veu autres fois sur la plage, on en a oui les plaints d'une mourante* (Rondelet 1558: 363).

(They have […] a body that is rough because of the scales, and a human face. They have been seen at times at the beach, a dying specimen was heard moaning).

7. For example, according to Urs Leu (pers. com.), as far as Gessner is concerned this is not the case.

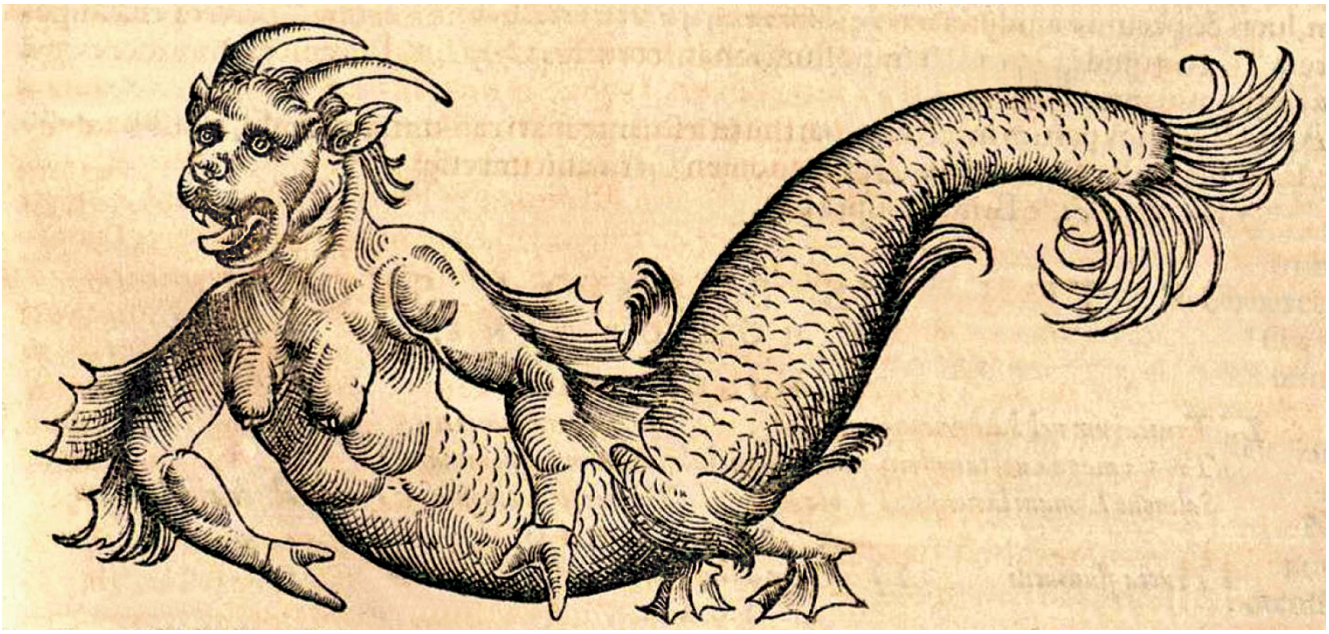

Fig. 12. — *Satyrus marinus*, sea-satyr. Conrad Gessner (1558: 1197). Bayerische Staatsbibliothek München, Rar. 2234.

In addition to copying the accounts presented by Rondelet and Belon, Gessner refers to a wide range of further reports from various regions (Gessner 1558: 520, 521). On the *monstrum marinum* (Gessner 1558: 522), which is not mentioned by Belon and Rondelet, he writes that it was seen in Rome, on the third of November 1523, and was the size of a five-year-old child (Gessner 1558: 522). However, we should not forget that such extensive lists of independent sightings and detailed accounts, while these on the one hand simply reflect the information available to the author, also cater to an audience with tastes wider than the purely scholarly. In the preface to the reader in the *Historia Animalium*, Gessner writes:

Itaque copiosior saepe sui, ut non sollum rerum cognition prodessem, sed iis etiam qui solute aut numerosa oration Graece Latineue diferre aut scriber vellent, syluam vocabulorum locationumque suppeditarem […] (Gessner 1551: ϐ).

(I have also often gone into great detail by providing not just knowledgeable facts, but a rich supply of words and expressions as well, for those who want to write single or multiple texts in Greek or Latin) […]

Consequently, his work is meant as source material for literature as well as a scholarly work, and as well as serving to provide information it caters to an audience that was appreciative of more than pure facts. The inclusion of monsters with real animals in part serves these purposes.

CRITICISM

The fact that they included such creatures does not necessarily mean that Gessner and his fellow scholars believed in the existence of sea-monsters. While these monsters are in many ways presented as real, naturalists firmly placed responsibility for the provided information with their sources of information rather than themselves. In his description of the *monstrum leoninum* (Fig. 1), which Gessner quotes, Rondelet explains that the reason he does not question its existence is because he heard about it from physician Gijsbert Horst:

Quamobrem quum dubitarem extitisset ne revera aliquando monstrum istud marinum Gilbertus Germanus, […] *affirmavit certo se scire,* […] *captum in medio mari fuisse. Quare ex illius fide quale fuerit hoc monstrum describere non dubitavi*. […] (Rondelet 1554: 491).

(Since I doubted whether it was a sea-monster, Gilbertus Germanus […] has assured me that he knows for certain it was caught at sea […]. It is because of my trust in such a person that I have not hesitated to describe this monster).

Similarly, Gessner refers to his informants, including among others Theodore Beza, Johannes Kentmann and Girolamo Cardano, by name, often stating he would not have believed the account had it come from a less reputable source. In the absence of such a source Gessner is more explicitly critical. The *equus Neptuni*, or sea horse (Gessner 1558: 433), is the only sea-monster about which he does not cite contemporary reports, and the only one which is firmly referred to the realm of fiction. Gessner's references to his informants suggest not only a transference of responsibility, but also a veiled criticism, since he makes it clear that the opinions expressed are theirs rather than his. In the introduction to the *Historia Animalium* he informs his readers that when he quotes sources without adding his own commentary, this indicates that he is not convinced the information is correct (Gessner 1551: ß). Rondelet at times more directly expresses his scepticism towards marine monsters. As Gessner points out, he states

on the *monachus marinus* that he does not confirm the existence of such creatures (Rondelet 1554: 493), and writes on the *episcopus marinus*:

[…] *vera ea sit an non, nec affirmo, nec refello* […] (Rondelet 1554: 494).

[…] (whether this is true or not, I neither confirm nor deny) […]

More direct criticism is expressed towards the illustrations. On the image of a *simia marina* which he received from Girolamo Cardano (Fig. 2), Gessner writes:

Sed cauda videtur animalis aquatilis esse; caput, id est simiis cognatum aliquid prae se fert […] *Vix equidem ausus hoc animal proferre fuissem, nisi a tanto viro accepissem* (Gessner 1558: 1054).

(The tail of the animal seems to be that of an aquatic creature, while its head is like that of an ape […] I would not dare to describe this animal, were it not for the account of such a man).

Similarly, Rondelet writes that the reported shape and form of some monsters is hard to believe (Rondelet 1554: 494). While such statements may also reflect a general distrust of painters, the reports of informants, no matter how prominent, are not necessarily taken seriously either. This can be illustrated by Gessner's description of the *simia marina* (Gessner 1558: 1053-1055), which includes the depiction, provided by Cardano. While Gessner reports that according to Cardano the creature is a snake, this does not stop him from including the *simia marina* with the cetaceans, rather than the serpents. A clue as to why may lie in the fact that Gessner points out the animal has a covering like a turtle's (Gessner 1558: 1053), is green, and has broad and continuous teeth:

Non pisceo tegmine reliquum corpus, sed illiusmodi circumvestitur, cuiusmodi testudinis involucrum est. […] *Color ei viridis tot corpore; sed in dorso magis fuscus, ad latera pallidus. Dentes lati et continui* (Gessner 1558: 1053, 1054).

(The rest of the body is not covered in skin like a fish's, but is a covering like a turtle's. […] Its colour is green all over the body, but on the back it is darker, and the sides are pale. Its teeth are broad and continuous).

The suggestion that this might be a turtle is an argument for inclusion of the creature with this group of animals. Cardano's description of the creature as a snake, meanwhile, was brushed aside.

CONCLUSIONS

Gessner's, Belon's and Rondelet's attribution of responsibility to their sources and criticism towards depictions highlight the scepticism of these naturalists towards sea-monsters. Belon's decision to exclude monstrosities from his cetaceans, despite accepting a similar taxonomical definition as Rondelet and Gessner, appears to reflect this attitude. Gessner's and Rondelet's groups of cetaceans and sea-monsters therefore consists both of animals they believed existed, and of animals they believed to be figments of the imagination. As fictitious animals do not have a physical body, this raises questions about their place in a taxonomy of animals, based on a list of shared physical characteristics, in particular since Gessner's taxonomy is at other times sophisticated. As shown by Gessner's and Rondelet's inclusion of turtles, which are not live-bearing, and the disagreement with Belon on the inclusion of otters and beavers, which are live-bearing and have lungs, the inclusion and exclusion of animals does not at all times match the provided taxonomical outline. These inconsistencies make sense in light of underlying assumptions about the nature of the sea, and the literary, cultural and scholarly traditions to which Gessner refers, as does the inclusion of fictional sea-monsters with real cetaceans.

The latter also rests upon the connotations attached to these creatures and on the fact that many cetaceans were little known, which helped blur the line between whale and monster. In addition, it appears likely that the discussion of sea-monsters and monstrous whales alongside real animals served commercial interests. In this context, it is perhaps telling that Rondelet's refusal to either confirm or deny the existence of the *episcopus marinus* or confirm the existence of the *monachus marinus* (Rondelet 1554: 493, 494) have disappeared from the French translation of his work (Rondelet 1558), which was aimed at a less educated audience. In Gessner's case the audience also had cultural and literary interests. Gessner's discussion highlights how the taxonomical interacts with these various factors. The literary and cultural intersect two-fold with the taxonomy of these authors, on the one hand as tradition and symbolism which prescribes an equation of cetaceans and monsters, on the other as an expectation of their readers whose interests meant it was advantageous to discuss monsters alongside real cetaceans.

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