Sasha Litvintseva and Beny Wagner

Monster as Medium: Experiments in Perception in Early Modern Science and Film

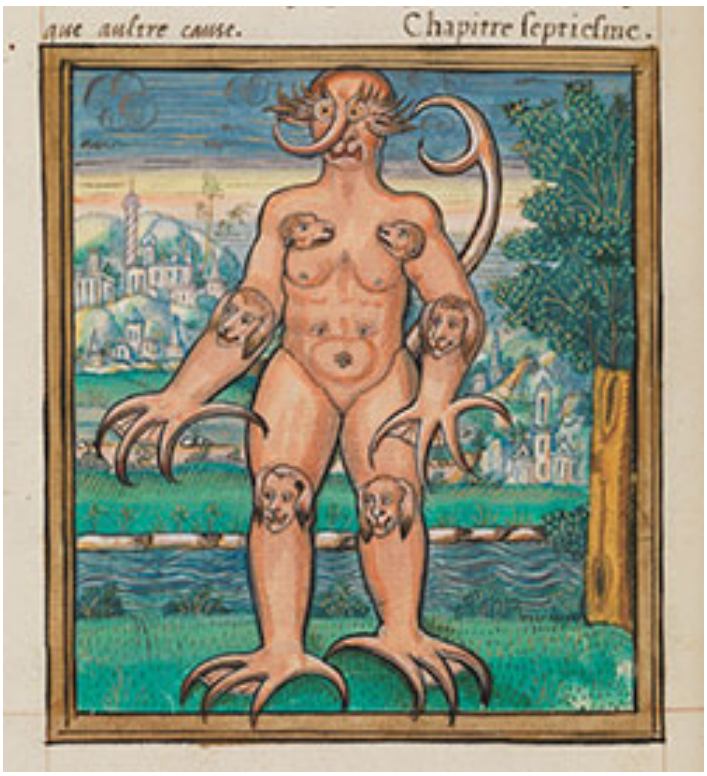
> The monsters and the monstrances in cinema are our own eyes.
> – Ute Holl[1]

A few weeks before we started shooting, one of us asked the other: But what are we actually going to film? Our project had started a couple of months prior, sparked by a brief encounter with one phrase: "taxonomies of monsters." This combination of words was attributed to a name neither of us knew: Ulisse Aldrovandi. Coming across this term, we wondered how monsters could possibly be subjected to taxonomical categorization. Weren't taxonomies those modes of classification that whittle down the excesses of imagination in order to produce quantifiable objects of knowledge? And aren't monsters, conversely, the unruly forms that emerge when imagination spills over the bounds of reason? To insert a living being into a taxonomic logic is to conceptually arrest the fluidity that animates life. Yet monsters would seem to resist this, as they are amorphous, composite beings that somehow evade the restrictions by which the world of ordered appearances must abide. Taxonomies seem to explain the world as it exists, whereas monsters, as we understood them, were supposed to be outside the realm of empirical observation.

If Aldrovandi (1522–1605) is not a household name today, this is not an accident of history. The Early Modern European cosmology whose logic he devoted his life to building – and over which he reigned supreme – was forcefully dismantled by his scientific successors. But during his lifetime, in a period driven by ongoing efforts to produce a catalogue of the world in its entirety, Aldrovandi was perhaps Europe's most influential naturalist. His studio at the University of Bologna, a template for the modern museum, was the largest of its kind and he frequently boasted that it housed eighteen thousand unique specimens of everything from plants and animals to rocks and fossils. Early Modern collectors such as Aldrovandi, Athanasius Kircher, and Ferrante Imperato viewed their own labors as a mirror of God's work. While Eden was God's museum, in the minds of the naturalists Noah's Ark represented the elevated human attempt to collect nature into a comprehensive whole. The Studio Aldrovandi was considered the most exquisite example of such arks and was described by the visiting papal legate as the work of another Noah.[2]

In his later years, Aldrovandi turned to publishing as a means of consolidating his taxonomic systems. Thirteen volumes on natural history, most of which were published posthumously by members of his workshop, are

the result of that labor. The *Monstrorum Historia* (1642) is one of these volumes, rendered in the same style and with the same gravitas as its neighboring taxonomies of insects, birds, and snakes, but consisting entirely of monsters. The volume includes ninety-eight illustrations of figures that range from monstrous births such as two-headed lambs and conjoined twins to mythical beings such as centaurs and composite creatures like the monster of Krakow (a deformed child whose limbs are covered in barking dog heads). The difference that we today perceive between monster and monstrous, between morphological deviation and mythical being, was not present in the Early Modern cosmology from which this taxonomy emerged.



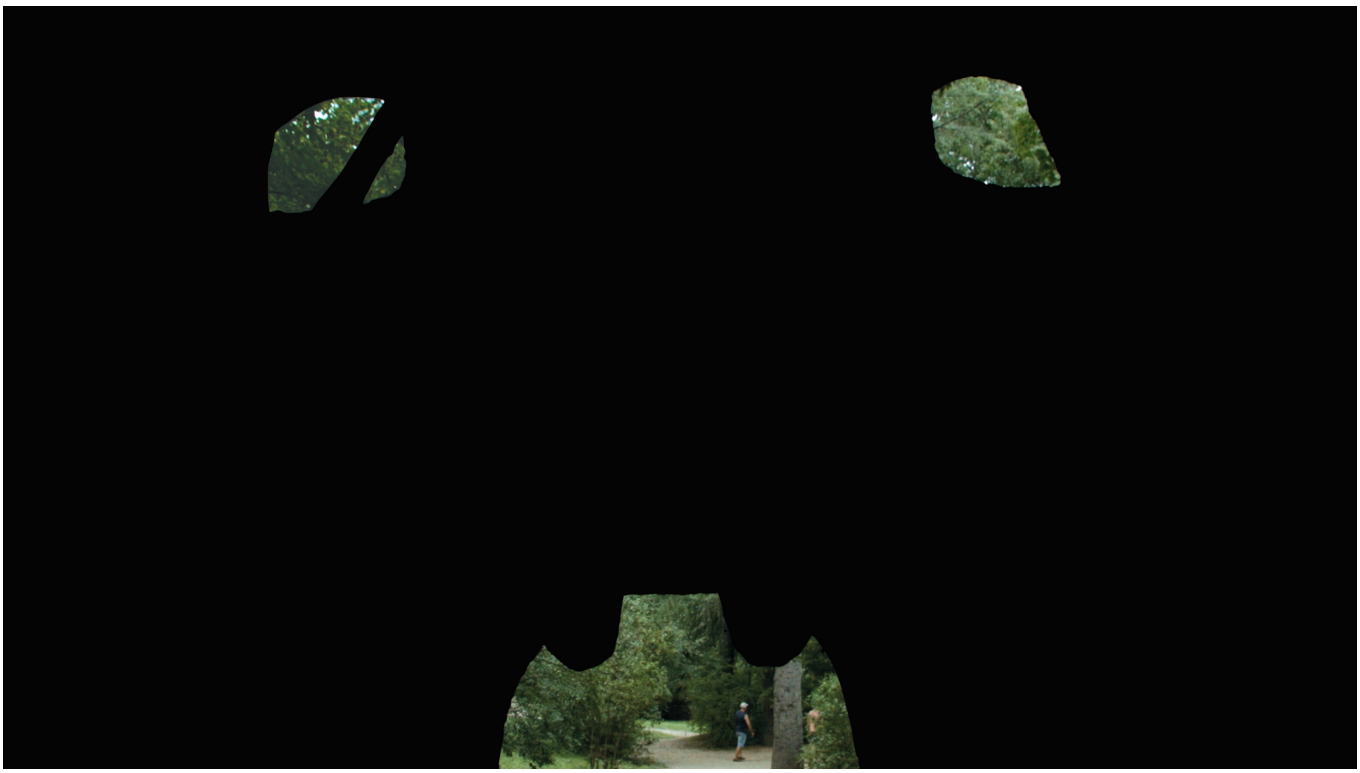
Illumination from Pierre Boaistuau's book *Histoires Prodigieuses; the Monster of Cracow* (1559). The so-called "Monster of Cracow" is portrayed on this page. Medical Photographic Library, Wellcome Collection. Photo: CC BY 4.0, via Wikimedia Commons/Wellcome Collection.

Aldrovandi's life's work could be seen as the crescendo of a cosmology that would lose its stakes in reality shortly after his death, that is, four years before Galileo made his first telescope (1609) and fifteen years before the publication of Francis Bacon's treatise on logic, *Novum Organon* (1620). In the following century, Aldrovandi's work was deliberately written out of the story of natural history by Enlightenment scientists and philosophers eager to concretize the scientific method as absolute. In Georges Canguilhem's words, "Back in the age of fables, monstrosity exposed the monstrous power of the imagination. In the age of experiments, the monster is taken to be a symptom of puerility or mental malady; it indicates debility or a breakdown of reason."[3] From the eighteenth century onwards, Aldrovandi's name could just as well have been shorthand for the preposterously naive minds capable of producing such things as taxonomies of monsters.[4]

We set out to make a film that would unfold through our own process of learning about the presence of monsters at the very center of Early Modern European science, translating what we learned into our own idiosyncratic cinematic forms. From the beginning, this project was as much about *how to observe* as it was about the actual objects of observation. The histories we consulted situated our subject matter in physical objects and spaces in Italy: the volumes kept in the Biblioteca Universitaria di Bologna, the first anatomical theater in the Archiginnasio, the botanical garden designed by Aldrovandi that was eventually reconstructed in the Orto Botanico in Bologna. These spaces, many open to the public, were our material links to the figures, processes, and relics that first sparked our imagination. But our initial question – what are we actually going to film? – revealed that we were trying to describe something ineffable beyond observable objects.

We wanted to make a film that expressed the interwoven existence of monstrosity and taxonomy inscribed in the deep subconscious of European science – but would we manage to register any of this by placing a camera in the kinds of spaces that have been preserved as historical relics? What kind of narrative could evoke the complexity of European science's monstrous shadow, deeply felt but somewhere beyond articulation? The last thing we wanted was to treat our subjects through the lens of historical distance, or gaze with bemusement at the primitive characters who confused curiosity with hard science. Instead, we wanted our film to capture a persistent phantom-like presence of monstrosity that haunts every attempt to define and to standardize. Reappearing in new guises from within each new knowledge regime, the monstrous exists just outside the bounds of perception and articulation.

We contacted one institution after the other and, to our surprise, almost everyone responded, saying they'd gladly allow us to film in their libraries, museums, gardens, and parks. The original first print of the *Monstrorum Historia* is kept in a special vault in the Biblioteca Universitaria di Bologna. When Giacomo, the director of the library, told us we'd be allowed to film the original edition in the flesh, we could barely believe our luck and the apparent ease with which we were granted access to this prized historical object. The shoot was planned for nine



Sasha Litvintseva and Beny Wagner, *A Demonstration,* 2020. Courtesy of the artists.

o'clock on our first morning in Bologna. Giacomo picked us up in the foyer and took us up to the library where we met the three librarians: Giovanna, Martina, and Stefania. Everything had been prepared for our visit; several books were set up on the table, ready for us to film. Looking more closely, we saw that the three books were Aldrovandi's taxonomies of birds. Slightly embarrassed, we asked Giacomo if there might have been some mistake. No, he responded, they would never take out the original *Monstrorum Historia*. Surely we understood that one of their most valuable artifacts couldn't be moved around too much. Despite our disappointment, it seemed rude to remind him of the earlier correspondence that had so clearly implied otherwise. We began setting up shots of the librarians with the books. The taxonomies of birds were also original, and even older, from around 1594, and also very beautiful objects.

As we were setting up, one of the librarians asked: You probably want us to wear white gloves when you film, right? Everyone laughed. They were used to handling these objects with their bare hands, but they understood that we had come for the value of authenticity and that the camera demanded the symbolic ritual of sterilized care. Yes, if you don't mind, we responded. Having overheard our conversation with Giacomo, they were aware of the misunderstanding and realized that the birds represented a compromise, given that we had come for the monsters. As we filmed them flipping through the pages of the books, one of the librarians, Giovanna, took particular care to highlight any examples of birds that had been classified because of their abnormalities. There were many to be found, since Aldrovandi's fixation on physical abnormalities deemed monstrous exceeded the *Monstrorum Historia* and applied throughout his taxonomies.

Giovanna delighted in finding examples of birds that deviated from the norm, emphatically pointing at them in what felt like a compassionate gesture of compensation for our loss: we couldn't film the prized object, but there was no shortage of monsters. *Here's a monster!* she exclaimed after flipping a page to reveal a chicken with five legs. *Questo: uno, due, tre, quattro, cinque*, touching each one of the legs on the page with her gloved hand as the twenty or so bracelets adorned with heart amulets clinked with each movement of her forearm. Her determination to help us find the monsters that so animated the imaginations of Early Modern naturalists took on this dynamic rhythm. Here, *questo, uno, due, tre, mostro*. As this unprompted performance unfolded on camera, we sensed the sudden appearance of what we had come to film but could have never foreseen. We were watching the internalized persistence of the relentless drive to define standards inscribed over centuries and generations. It's always right there in the cadences of our speech, inscribed in the movements of our eyes, frantically scanning the world in search of any deviation from the norm.

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> Mediation is the primal connectivity shared by human and nonhuman worlds. Only in some limited and extraordinary cases does mediation become communication.
> – Sean Cubitt[5]

The word "monster" comes from the Latin *monstrare*, which translates as "to reveal," "to show," or "to demonstrate." What did monsters show Early Modern naturalists? Historians of science dealing with medieval and Early Modern monsters often focus on the function of monsters as portents. For many Europeans of this period, monstrosity was most directly experienced through the uncertainties of reproduction, and the arrival of a deformed newborn was generally taken as a bad omen for the family, if not the whole village. Omens are inextricably linked to language and signs; it is only through interpretation that they are made meaningful.

Many of the monsters included in Aldrovandi's taxonomies are such omens, catalogued together with their interpretation. The Ravenna monster, made famous through its many iterations throughout Renaissance Europe, is reproduced in the *Monstrorum Historia* with a description by a 1512 Florentine apothecary:

> It had a horn on its head, straight up like a sword, and instead of arms it had two wings like a bat's, and at the height of the breasts it had a *fio* on one side and a cross on the other, and lower down at the waist, two serpents, and it was hermaphrodite, and on the right knee it had an eye, and its left foot was like an eagle's.[6]

Alongside this text there is a note by another contemporary chronicler, which interprets the meaning of the monster's deformities as particular moral failings:

> The horn [indicates] pride; the wings, mental frivolity and inconstancy; the lack of arms, the lack of good works; the raptor's foot, rapaciousness, usury and every sort of avarice; the eye on the knee, a mental orientation solely toward earthly things; the double sex, sodomy.[7]

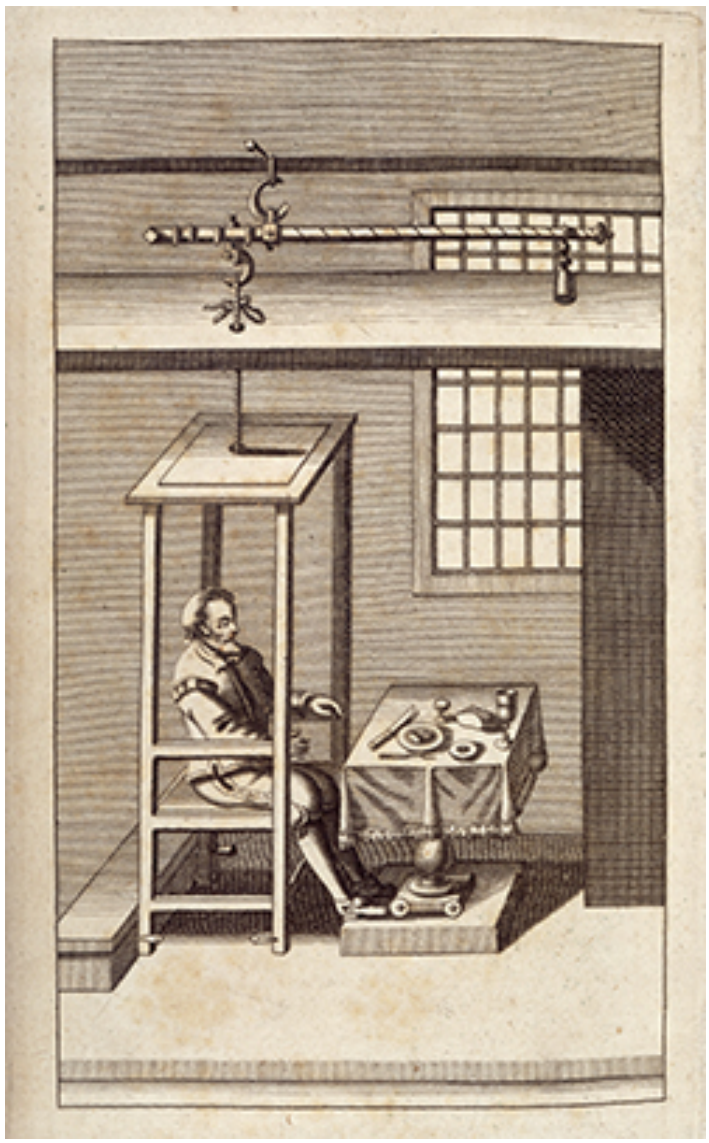
In this case the monster reveals a moral

imperative to change one's behavior in order to prevent bad things from happening.

To the two of us, the Ravenna monster is clearly fictional. For Aldrovandi and his contemporaries, the question of whether or not it was physically real was secondary to its reality as a *sign*: something *was* insofar as it *meant*. And vice versa – *if something meant, it was*. The Ravenna monster *was* a materialization of meaning and therefore has its place within a catalogue of other meanings. The inclusion of monsters in Aldrovandi's set of taxonomies was neither a slip of irrationality nor naive; it was an attempt to create a total system of life understood as a world of signs.

The relationship of monsters to revelation is not only indicative of some cosmology of signs adhered to by superstitious people who have not yet learned the causes behind appearances. Monsters *demonstrate* sets of relations that are otherwise nonvisual. What if we took these revelatory forms to be fundamentally ingrained in the historical dynamics of perception and communication? The proliferation of depictions of monsters in Early Modern Europe has often been attributed to the development of printing technologies, which allowed images to be mass-produced and more easily disseminated. In the fifteenth and sixteenth centuries, the printing press gradually allowed for monsters to infiltrate people's everyday lives. A monstrous birth had once been a relatively localized event contained within individual experiences and word of mouth. Stories of faraway monsters may have already proliferated, but a mechanically reproduced print, with symbolically rich, exaggerated features, was able to reach many distant villages and towns in a new way. The increased presence of images of monsters made people feel that they were living in particularly apocalyptic times ridden with increasingly urgent, divine warnings.[8] Rather than associate the images with the printing press itself, the presence of monsters in the everyday seems to have been interpreted as omens from a higher power. A fear-driven media environment produced the appetite for more, creating a thriving market for these images that traveled throughout Europe on the backs of broadsheets, turning the singularities they had once revealed into mass products of entertainment. Historians of science have argued that it was the gradual oversaturation of this market, more than the proclaimed triumph of Enlightenment principles, which eventually made it distasteful to mention monsters in the educated discourse of the upper classes.[9]

These monsters only ever existed as images, and the images were part of a decentralized network of visual codes, media technologies, and scientific knowledge. More than representations of specific beings or things, the monsters themselves were manifestations of the systems of perception and communication through which they emerged. In a sense, monsters are not just rendered by certain media, they are forms of media in themselves. The concrete image of a monster is the attempt to hold onto a stable signal from within the endless noise of uncertainty. Monsters may provoke fear, but the solidification of their specific form also serves to contain a much greater fear of the unknown. The delimited form of a monster, however frightening, can be communicated, mediated, and perceived, whereas the noise of mystery surrounding an unseen monster is forever ungraspable and therefore threatening.



Sanctorio sitting in the balance that he made to calculate his net weight change over time after the intake and excretion of food stuffs and fluids. Photo: CC BY 4.0, via Wikimedia Commons/Wellcome Collection.

There is a media history of monsters to be written, one that methodically charts the

specific types of monsters every new media technology has conjured into being. This history may include *Frankenstein* as a product of the nineteenth-century novel, itself a Promethean machine. *King Kong* and *Godzilla* are monsters born of the realization of cinema's capacity to alter the scale of space and time. The serial array of monsters in *The Twilight Zone* stemmed from the new relations of domestic spectatorship. Video games such as *Resident Evil* teem with the particular kinds of monsters birthed by interactive media, while internet-born beings such as Slender Man or Momo are products of the anxiety of false identity specific to social media. Such a history would show that monsters grow organically from the media technologies themselves. Monsters demonstrate what media are made of in each historically specific moment: they materialize the liminal space between sender and receiver, between the body and the world, between what is and what we know.

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> But why radical fear? Because we are living beings, real effects of the laws of life, and ourselves possible sources of life in our turn. A failure of life is of double concern to us, for such a failure could touch us or could come from us. It is only because we humans are living beings that a morphological failure is, to our living eyes, a monster … By revealing the precariousness of the stability to which life has habituated us – yes, merely habituated, even though we have turned this habit into a law – the monster bestows upon the repetition of species, upon morphological regularity, and upon successful structuration a value all the more eminent in that we can now grasp their contingency … Monstrosity is the accidental and conditional threat of incompleteness or distortion in the formation of the form; it is the limitation from within, the negation of the living by the nonviable.
> – Georges Canguilhem[10]

Late Renaissance and Early Modern classification of the natural world was first geared towards improving knowledge of the human body. Most of the naturalists like Aldrovandi who collected and classified specimens had first been trained as surgeons and physicians. The very first taxonomies were of medicinal plants, because classifying their appearances and uses was essential for determining their potential benefits (or dangers) for the body. One of the first botanical gardens in Europe, started by Aldrovandi in the University of Bologna, was arranged according to the parts of the human body. Plants thought to have healing properties for the head, heart, or liver, for example, were grown in corresponding sections of the garden. Botanical gardens became sites where the thresholds between the human body and the environment were negotiated. The drive to classify the natural world was inseparable from the exploration and explanation of the human body, and the first extensive taxonomies were contemporaneous with the first meticulous anatomical models, produced in response to the spectacle of autopsies in anatomical theaters. Specimens from the natural world were anatomized in direct reciprocity with the body: "Dissecting yielded the meaning of an object through dismemberment. At the end of an anatomical demonstration, a living creature became a series of observations, illustrations, and disembodied parts that bore little resemblance to the whole it once had been."[11] Taxonomies of monsters emerge at this delicate moment. They were materializations of a new way of looking – observation as dismemberment of both body and world.

Monsters occupy the threshold between the self and the world in a way that makes both concepts precarious, destabilizing the boundary between interior and exterior, familiar and foreign. Aldrovandi's monsters are the monsters that attest to people's own fleshy fragility and fallibility, that lurk within the unknown inside the human body. They are the monsters you could give birth to, or the monsters erupting from the puncture of your skin. Aldrovandi and his contemporaries did preserve a firm distinction between individual monsters, such as a conjoined twin or the monster of Ravenna, that "erupted in the Christian center, brought on by its corruption and sin," and marvelous species, such as Cyclops and Cynocephali, which were seen as a "phenomenon of the margins."[12] Marvelous species could not be considered monsters, since they were "not created to show anything in particular," and therefore were not included in the taxonomy of monsters.[13] Aldrovandi's project to catalogue the natural world in its entirety was limited to the Christian center. His notion that the world *could* be catalogued in its entirety made him willfully neglect everything beyond the limits of the microcosm he had helped shape, and which had shaped him. But ruptures to his worldview (that everything that was worth cataloging was within the bounds of Christendom) were everywhere. Increasingly frequent journeys to the Americas and the Indies imported objects and artifacts that couldn't be explained within the systems of natural history that Aldrovandi and his peers had constructed so meticulously. For Aldrovandi and his contemporaries, the taxonomies they created of

the natural world weren't simply models used to describe or sort things; they were formulations of the self. To question the logic of their creation was less about the objects they catalogued, than it was a threat to the naturalists' own identity. From this perspective, it isn't surprising that Aldrovandi and many others in his position made conscious decisions to reject the specimens from the new world, refusing to admit them into their own taxonomies. These foreign objects were initially untranslatable within their system of signs. They couldn't exist because they had no assigned meaning: in a cosmology built almost entirely on signification, there was no room for outliers.

Over the century following Aldrovandi's death, the human body gradually became displaced and decentralized as an abstraction to be measured and quantified. The new externalized body was also exorcised of the monsters that it had previously known so well. For man to become the measure of all things, man also had to become external to himself. Objectivity required a disembodied omnipresent perspective based on mathematical abstraction. The physician and so-called "father of metabolic studies" Santorio Sanctorius (1561–1636) comes to mind in regards to this shift in perceptions of the human body. Sanctorius is often credited with introducing quantitative methods into medicine and is perhaps best known by a 1728 engraving that depicts him sitting before his evening meal beneath a large custom-built scale. The purpose of this device was to measure the fluctuations of his weight. To this end, he meticulously weighed everything he ate in relation to his stool and urine.[14] Sanctorius's experiments promised to describe the mysterious recesses of the body, long subject to fantastical speculation, through a series of measurable calculations. Such quantitative experimental models gradually eradicated the need for monsters, which were part of a semantic logic of signification around the unknown causes of bodily fallibility. Driven out of the increasingly mathematical European body, the monster became externalized. In the centuries that followed, both the idea of the monstrous and the taxonomization of the human body grew into ever more aggressive colonial tools for othering. The externalization of the monster was also a rejection of a confrontation with the monstrosity within. In other words, what the externalization of the monster aimed to mask was the void at the heart of the European understanding of the self.

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> And what good is it to know a multitude of things? Suppose you have learned all the circuits of the heavens and the earth, and the spaces of the sea, the courses of the stars, the virtues of herbs and stones, the secrets of nature, and then be ignorant of yourself?
> – Petrarch[15]

> In the vast syntax of the world, the different beings adjust themselves to one another; the plant communicates with the animal, the earth with the sea, man with everything around him ... The relation of emulation enables things to imitate one another from one end of the universe to the other without connection or proximity: by duplicating itself in a mirror the world abolishes the distance proper to it ... To search for a meaning is to bring to light a resemblance. To search for the law governing signs is to discover the things that are alike.
> – Michel Foucault[16]

A rose is a rose is a rock is a chicken is a child. Through visual analogy, the boundaries between categories such as human, animal, plant, and mineral were made ambivalent and fluid in Early Modern science. A tree was thought to be like the body of a man, its bark like skin. Visual analogy was even present in the act of defining the medicinal properties of plants. Aldrovandi's contemporary, Oswald Crollius, considered a walnut to be particularly useful in healing "wounds of the pericranium" due to its being "exactly like the brain in appearance."[17] The perceptual framework that saw the organic and inorganic, sentient and non-sentient, human and nonhuman in a state of constant shapeshifting gave birth to taxonomies of monsters: the monster is where the shapeshifting or superposition was caught in the act, where aspects of multiple beings congealed into a stable, archivable form.

Montage, the primary tool of moving image, is also guided by the power of visual analogy. Many of the most beautiful aspects of filmmaking as an art form derive from the underlying impulse, for both makers and viewers, to find meaning in the likeness between different forms. Many of the most dubious applications of filmmaking as a tool of ideological manipulation similarly arise from the persuasive power of visual analogy. For the two of us, the cinema is an arena where visual analogy can be used to simultaneously reinforce and destabilize the search for meaning. Through the ways in which the camera eye frames elements in space, and images of disparate entities and spaces are edited together, film is able to produce experiences that turn the analogous into an

expression of truth, for better or worse. Film can produce material reverberations where boundaries between meaning and experience are constantly being negotiated, dissolved, and reconstructed in unexpected ways.

One, two, three, four – and a plant framed in the middle of the shot is ripped out from the ground with its severed roots dangling in midair. The seeming oxymoron of a "taxonomy of monsters" can also be displaced and reencountered in the monstrousness of taxonomies as such; they sever specimens from the fluid integrity of the environments they inhabit, and which inhabit them, in order to *monstrare*: reveal, show, demonstrate. They cut apart the world, just as surgeons cut into the flesh. And what is more uniquely cinematic than the cut?[18] What aspect of film more monstrous? The act of filming excises entities and durations from the material world and the flow of time. Editing images, in turn, allows for dismembered fragments of times and spaces to be recombined into previously nonexistent spatiotemporal forms. Monsters, such as the Ravenna monster, can be seen as a composite beings made up of the severed limbs of many preexisting beings that had been reconnected into a new whole. If we consider filming as analogous to the naturalist's work of collecting specimens, the resulting edit is the monster itself.

Montage in cinema performs a dual function, at once cutting impressions from their contexts and producing from those fragments the impression of fluidity. This duality is also present at the birth of natural history, where the interconnected processes of cutting up the body, cutting apart the natural world, and severing one from the other coexisted with a perceptual and epistemological openness to the fluid blurring of categories unimaginable to us today. Like all other perceptual frameworks and epistemological paradigms, both cinema and sixteenth-century natural history sprout from the contradicting forces at their core. The seeming oxymoron of "taxonomies of monsters" is not an aberration in the logic of early taxonomic practices, but rather precisely the expression of their logic.

Perhaps the greatest tension between the monster and taxonomy is the tension between the particular and the universal. Each monster is the most singular of things, resembling nothing but itself, while every taxonomy is designed to universalize the individual, where *a* chicken stands in for *every* chicken in the fictitious stability of species. We experience this tension between the particular and the universal in the medium of moving image over and over again, through all of its technological reconfigurations. Moving image is at once monster and taxonomy – a system that allows the world's irregularities to flow through it while subjecting every point of difference to the universalizing logic of its technical relations. The drive to taxonomize the world must produce monsters because any taxonomic logic is always incomplete. Those things that inevitably deviate from its norms will seem monstrous. It is in this sense that moving image is a monstrous medium. Once an impression passes through the medium, it is inscribed with the tension of the particular and the universal. But perhaps because moving image has been so central to shaping many of our prevalent perceptual paradigms, it is equally capable of rupturing and reconfiguring them. It is in this vein that we have sought to apply its particular powers.

A Demonstration (2020), the film we produced, was an attempt to inhabit a way of perceiving and organizing the world that otherwise seems to have receded into the temporal distance that we call history. As we looked for traces, inscriptions, and reverberations in the spaces that have been preserved as relics of those ways of looking, we sought to put them in motion, translating them through the formal constraints of moving image. Our aim was not to document or provide evidence of the divergences between past ways of looking and our own; there are volumes of literature that do that very well. Rather, we wanted to summon the uncertain and unquantifiable specters of previous knowledge regimes and the ways in which they continue to contaminate our own modes of looking. In the same vein, this text has not sought to explain or contextualize the film but rather to translate the intersection of our own experience and historical records into the formal parameters of the page. Here, we draw from the film, just as we draw from the histories it engages with, as a means to perpetuate a process of transformation in each present, singular moment.

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Sasha Litvintseva and Beny Wagner are artists, filmmakers, researchers, and writers working collaboratively since 2017. With a focus on moving images as a tool for the active production of new worlds, their practice is driven by questions about the boundaries between the body and its environment, knowledge regimes and power, and ways of organizing and perceiving the natural world.

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6
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Canguilhem, *Knowledge of Life*, 134–36.

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12
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13
Daston and Park, *Wonders and the Order of Nature*, 51.

14
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Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (1966; Routledge, 2005), 20, 22, 33.

17
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18
Walter Benjamin famously referred to filmmakers as surgeons in *The Work of Art in the Age of Mechanical Reproduction,* trans. J. A. Underwood (1936; Penguin, 2008), 25.