

3 ENFOLDED VISION

Refracting *The Love Life of the Octopus*

The microscope offers neither empirical nor interior view for comparison. The minute object viewed through it is not available to sight by eye; likewise, the magnified image ... is unresolved and therefore not empirically visible. The spectator incorporated within this apparatus would be implicated uncomfortably in the resolution of a rather startling and unfamiliar scene, a scene that must be made sense of, or resolved, without a profilmic, or a promicroscopic, referent.

– Lisa Cartwright¹

Importantly, apparatuses are themselves phenomena.

– Karen Barad²

Eva S. Hayward

I.

The aims of this article are twofold: first, and in the main, to bring into focus how Jean Painlevé and Geneviève Hamon's surreal science film, *The Love Life of the Octopus* [*Les Amours de la pieuvre*] (1965), produces a refracted spectatorship that bends the spectator away from self-reflection and self-identification toward a Surrealist disorientation and displacement; second, to consider how a reading of refraction in this film comprises a metaphor for encountering animal—specifically octopus—alterity.³ I argue that the film mobilizes an alternate economy of visceral *seeings* that enfold the spectator into an “intra-acting”⁴ relationship of “empathic non-understanding”⁵ and/or “significant otherness.”⁶ The film's refracted modality, through its convergence and torquing of science, cinema, and surrealist practices, posits an ethics of

¹ Cartwright, "Science in the Cinema," *The Visual Culture Reader*, ed. Nicholas Mirzoeff (New York: Routledge, 1998), 205.

² Barad, "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter" *Signs: Journal of Women in Culture and Society* 28, no. 3 (2003): 816.

Figure 1.

³ The experimental electronic composer Pierre Henry scored the film. Although a more detailed consideration of Henry's score is beyond the scope of this essay, the mesh of noise and music suggests an aural refraction that intensifies the film's ocular displacements.

⁴ Barad, "Posthumanist Performativity," 815.

⁵ Laura Marks, *Touch: Sensuous Theory and Multisensory Media* (Minneapolis: University of Minnesota Press, 2002) 39.

interspecies relations that disrupt anthropocentric hierarchies. This line of thought does not deny the reflectivity⁷ of the film—this is not an either/or endeavor—but proposes how refraction, the subtending structure of reflection, puts a critical pressure upon familiar theories of spectatorship. That is to ask: How



might we understand not only how spectatorship is constituted through psychical processes, but how the very materiality of spectatorship comes to matter?

II.

The film opens with an extreme close-up of a portion of a black and white photograph. The camera's framing of the photograph is motionless, arbitrary, and abstract. The lines of the image appear almost organic, curved into living form. The title of the film, *The Love Life of the Octopus*, is our only guide for reading the image. It promises an intriguing look into the sex lives of octopuses, but, as guidance, the title offers no direct reference for the image. The camera is too close to the photograph to establish a standard of critical distance. The enlargement distorts the edges of the image, blurring the resolution of the photograph into a grisaille. The doubled and distorted image troubles the positivist, indexical nature of the photograph as an unmediated copy of the real object, the referent. And yet, the magnified image is marked by an investigative look—a look that is as inquisitive as it is fractured and incomplete. From this vantage, analytical distance is abandoned in favor of a deeply situated view. It is a look that extends the eye's ability to have deeper and deeper viewings. It plunges the eye into an altogether unfamiliar scale.



Figure 2.

⁶ Donna Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003), 3.

⁷ As outlined in Teresa de Lauretis "Imagining," *Alice Doesn't: Feminism, Semiotics, Cinema* (Bloomington: Indiana University Press, 1984).

⁸ Hamon and Painlevé have used the common misnomer "les tentacules" (tentacles) rather than "les bras" (arms). Octopuses, unlike their other cephalopod kin—squid and cuttlefish—do not have "tentacles"; the octopus's eight appendages are "arms." However, in many early accounts of octopuses there is some interchange between the names. For a history of octopoda nomenclature see Frank W. Lane, *Kingdom of the Octopus: Life History of the Cephalopoda* (New York: Sheridan House, 1960).

The first sound, a voiceover (with subtitles), reorients the viewer: "Eight tentacles [sic] ... two thousand suckers."⁸ The direct address in French is coarse, masculine, and precise—it names and defines the indistinctness. Flooding the image with taxonomic precision, the camera pulls back from its tight focus on its ambiguous visual field, reestablishing a familiar scale by showing the whole image of a man holding a large *Octopus vulgaris*. The narrative seems established: this is an expository documentary about the natural history and biology of the genus *Octopus*, and about human encounters with octopuses. The motion picture camera, the photographic image, and the voiceover appear evidentiary, converging on the octopus to produce a rhetorical argument that promises immediate experience and knowledge. Yet as the intriguingly abstract, magnified opening shots put forward, the film undermines and expands the expository form and demands a reconsideration of modes of perception.

III.

To depict the "love life" of the octopus, the film settles on two octopuses: one tentatively approaches; the other is bright orange and alert. Noise-music tells the viewing ear that it is immersed; the spectator hears bubbling that sounds shallow and all surrounding. The narrator says, "The male must put his special arm [hectocotylus, or reproductive appendage] into the female's respiratory opening." Two octopuses fill the screen. Suddenly, they are also sexed, but illegally sexed.

Their skins surge color: red, blue, green, brown, black, and



Figure 3.

white. The narration: “The male turns white with fright as the female approaches.” While *Octopus vulgaris* is gonochoric (having two sexes), there is little sexual dimorphism, making it difficult to distinguish sexes. However, the narrative produces numerous tensions between sex differentiation through reversals: the male is “tentative and fearful”; the female is “engaged and imposing.” Furthermore, this species is cannibalistic. The small size of this male makes him vulnerable to the larger female—she may choose to eat him rather than reproduce. Numerous differences of this coupling alter anthropocentric expectations, even if those differences still rely on anthropocentric standards. But more importantly, these octopuses suggest difference between human sexuality and cephalopod sex and reproduction. In reference to this “love scene,” Painlevé and Hamon quip: “There is no officially recommended position for achieving this.”

Even as the narrative, through this kind of tease, holds these behaviors up as mirrors for the spectator, the film compels the spectator to consider the inability of superimposing sameness over difference. The narrative refutes anthropocentric cross-species identification—the spectator is advised against seeing themselves in the octopus. A friction is produced between the paradoxical tendencies of seeing octopuses (and animals in general) as pure alterity and mirrors of ourselves. The filmed octopuses are pressed into a human sexual imaginary—predicated on sexual difference and primal scenes—that fails to be completely human. In other words, the spectator is asked to attend to the extreme differences between themselves and octopuses; the octopuses are allotted a space of differentiation.

A second focus supercedes the first narrative—structured

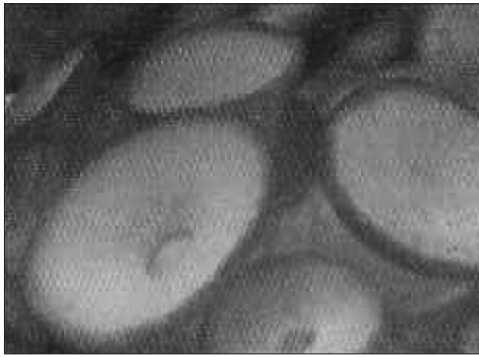
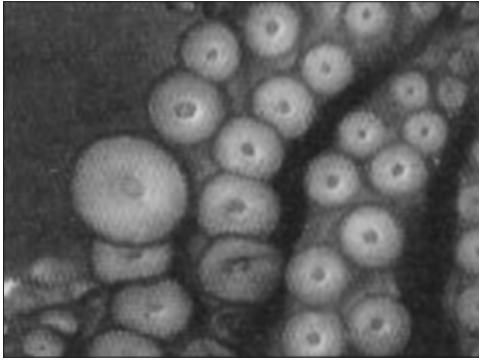


Figure 4.
Figure 5.

around tropes of the natural history documentary—guiding the spectator into a world of magnification, a central concern of this film. Things are too close, then too distant, hardly ever “just right.” The film continues to move through various scales. The view is interpretable, but always pulling and pushing the spectator. Throughout this aquatic film the spectator is confronted with magnification as a trans-medium movement that produces a dialectic of situatedness/distantiatedness that parallels the movements between the familiar and strange. The film’s constant use of magnification brings into focus the optical apparatuses that produce these perceptions: the enlarged image of arms and suckers, the extreme-close-up of the octopus’s beak-mouth, and the abstraction of the first shot of the film. Not central, not familiar: while our eyes might wish to stretch into those eight arms, into those dazzling colors, the spectator is made profoundly aware of the apparatuses and species differences that define the image.

IV.

The film’s recurring deployment of magnified images relies on

⁹ It is important to note that these interfaces are not merely ‘lenses’ that mediate between the light, the camera, and the spectatorial eye. Thickness and density alternate—there is no ‘line.’ The interfaces that help produce magnification are as “enfolded” as the sea/air interface that is always in a dynamic relationship through evaporation and precipitation. Interface, then, is not only about the inseparability of the observer and observed, but is also about the ongoing relationship that produces the interface’s conditions of possibility. Moreover, interfaces are always in process, always setting up boundaries knotted in specific spatial-temporal configurations. This configuration of interface as process is derived from Don Ihde’s ideas in *Bodies in Technology* (Minneapolis: University of Minnesota Press, 2002).



¹⁰ Haraway, "The Persistence of Vision," in *The Visual Culture Reader*, ed. Nicholas Mirzoeff (New York: Routledge, 1998), 193.

¹¹ Haraway, *Simians, Cyborgs, and Women: Reinvention of Nature* (New York: Routledge, 1991), 188.

¹² Marks, *Touch*, xxi.

light passing through multiple interfaces.⁹ The magnified image requires a look that makes constant reference to the instrumentation of the image, binding the image to the apparatus, just as the image binds the object into the grain of the photograph. And all this binds to the spectator's eye. Donna Haraway, in her essay "The Persistence of Vision," teaches us the importance of attending to this kind of binding—what she calls "webbing." She writes, "The 'eyes' made available in modern technological sciences shatter any idea of passive vision; these prosthetic devices show us that all eyes, including our own organic ones, are active perceptual systems, building in translations and specific ways of seeing, that is, ways of life."¹⁰ This attention to the production of visibility foregrounds specificity and difference. The spectator sees the imprint of light—luminosity reflecting off the object and refracted into the chemistry of the photograph then further refracted into the emulsion of the film stock—through visible strata. The magnified view is exposed as impure and a composite of interpretations, technologies, and actions; it necessarily brings into question the relationships between subject and object, and knower and known.

However, the magnified image is not without visible kinds of boundaries. It is, as Haraway writes, a "situated knowledge."¹¹ That is to say, magnification literally materializes the workings of light, marking the presence of transparencies, exposing the connective tissue of the image's production. But magnification is also always partial. Magnification brings into focus the entwinement of apparatuses and the failure of the possibility of direct vision, the failure to provide the unmediated, distant, and whole story. Magnification troubles the fantasy of *true* visual access, but it does not hide the object—veiling is not the operative definition of this trope. Magnified views are more akin to interferences or interactions than immediacies—the referent and representation are not distinct, static entities unto themselves; they are materially and semiotically bound in active process. The spectator sees: what is seen is not simply inaccessible-to-the-naked-eye objects and scenes mediated by a lens, but rather folds of enacted light and matter. As Marks describes, perception is "mutually enfolded in material processes."¹²

As I have suggested, these resolutions and shifts in scale, angling micro-structures into view, are investigative. Because of the denaturalizing process of magnification, which achieves an effect contrary to that of representation—the instrument of resolution emphasizes spatial practices between the spectator and the octopus. These configurations of space reorient the spectator

to experience the octopus through proximity and/or contiguous interfaces (this would, of course, include spaces such as projection in a theater that could be understood as layers of light interference). Proximity unlinks the spectator from an easy position of domination through separation and abstraction. The closeness folds the spectator into the production of the image, and part of that production is the specificity of the octopus. The subtle characteristics of the octopus are confronted; spectators come into contact with the materiality of the octopus.

Magnification, however, is not an innocent practice. Lisa Cartwright rightly suggests that magnification carries a history of surveillance. She is concerned that the microscope fragments, abstracts, and spectacularizes bodily images.¹³ The microscopic image promises a tantalizing peak into an inaccessible world, and colonization of the infinitesimal looms large. I do not disagree with Cartwright. I believe, however, that magnification may accomplish something in excess of the invasion and surveillance of scientific inquiry. Extreme close-ups as well as macro- and microscopic magnifications produce a discourse on space and experience: defamiliarization and then re-meeting on other terms. It is true that the magnified image field and spectator are prosthetically fused, but, the question remains: is “perception ... unhinged from the sensory body ...”?¹⁴ Perception, through magnification, is part of a relay of viewing that engages mediation. To view the image is to use ocular nerves, retinas, corneas, light receptors, and the neurobiology of the brain (and all those inorganic apparatuses such as lenses, projectors, film stocks, etc.). This kind of perception is always (and already) bound to the body. Magnification is not necessarily used to police the body, or bind it to an abstract set of data. A surveillance of the body through magnification can never be totalizing, nor free from the apparatus (and the ideology of that apparatus) of its construction. It is not a view from nowhere.¹⁵ The perspective is always enfolded by the focal power of the lens. The viewing eye is submerged into another scale, and yet we are clearly on the other side; we are both inside and outside, within and nearby. This indeterminacy articulates the ongoing nature of enfolding.

Compositional cues of the narrative tell untrained spectators what they are looking at: octopus arm, mouth, or eye. But the space and the technologies that determine these scales are what come into focus. Magnification literally makes apparent cinematic space, extending the spectator into the space by yoking the apparatus to the extension. That is, the spectator is compounded with the apparatus; the apparatus via magnification extends the optical reach of the spectator. The apparatus is

¹³ Cartwright, *Screening the Body: Tracing Medicine's Visual Culture* (Minneapolis: University of Minnesota Press, 1995), 82-83.

¹⁴ *Ibid.*, 82.

¹⁵ Haraway, “The Persistence of Vision,” 188.



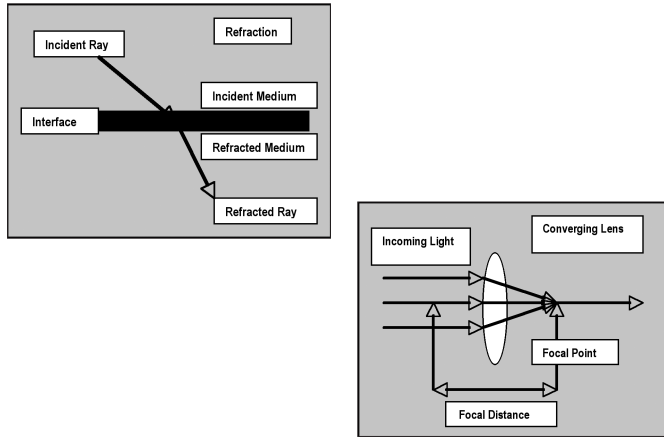


Diagram 1.
Diagram 2.

¹⁶ Although this essay only investigates refraction by way of magnification, the implications of refracted vision are far reaching. If we recognize that clear vision is always predicated on distorted, bent, and otherwise refracted (and diffracted) light, how might we reconsider theoretical investigations (filmic, philosophical, etc.) that rely exclusively on untroubled reflectivity. Yes, “clear” vision is secured by corrective measures in the eye (and elsewhere), but conversely sight is always multiply altered and re-altered by the trans-medium movement of light. For further consideration of these issues see Cathryn Vasseleu’s, *Texture of Light: Vision and Touch in Irigaray, Levinas and*

doubly yoked to the extension that it initially produces. I posit magnification enables a mode of ‘cohabitation,’ allowing an experience to take place between octopus and spectator in the populated space of the techno-scientific cinematic apparatus.

V.

My usage of magnification draws upon the optical theory of refraction.¹⁶ The *Oxford English Dictionary* defines refraction as:

The fact or phenomenon of a ray of light, heat, (the sight), etc., being diverted or deflected from its previous course in passing obliquely out of one medium into another of different density, or in traversing a medium not of uniform density. More widely, change in direction of propagation of any wave as a result of its traveling at different speeds at different points along the wave front.

In microscopy, the incident wave and the refracted wave make an angle of incidence and an angle of refraction.

Take for example, a double-sided plano-convex lens positioned in front of an object: light passes through the lens—made of a pellucid medium with the measurement of a transparent medium’s ability to bend light—and bends according to the curvature, distance, and thickness of the lens. The bending of the light by the lens alters its direction. The location of the light reflected off the object is shifted by the degree of medium’s index (the ability of light to move through a particular medium). The form of the lens—material and thickness—determines how the redirected light will converge on smaller and smaller portions of the object. This convergence is called a focal point, referring to the points on the axis of a lens to which incident light rays are united or from which they appear to be diverged.

From the movement of light through the eye to solar light

passing through the earth's atmosphere, refraction enables both the deformation of light (atmosphere) and the clarity of sight (eye). There is an embedded conceptual tension in refraction between lucidity and degradation. Refraction acts as a condition of possibility for focused visions, but reflected light is always bent or broken. The implication of this enfolding is that the object envisioned is never seen *as it is*; the object is always troubled by obscurity.¹⁷ The refracted image of an object throws into question the *seen* object's status as knowable by itself. Does magnification accurately represent its referent? What we learn from the partial possibility (to bring into focus and therefore distort) of magnification is that things do not have fully determinate boundaries or properties. Things happen *in* and *by* encounter—refraction is one critical mode of encounter.

What is seen is no longer simply a “true” reflection of the observed object; refraction does not “displace the same elsewhere” as mirror images are theorized to do.¹⁸ Through refraction, the object is altered by scale and encounter. The extension of the object (produced by changes in focal length in the apparatus) distorts—even as it makes visible the minute; the object exceeds a seen-by-naked-eye perspective, what has been called an “empirical perspective.” The altered scale also allows the object to reveal its specificity, its particularity; boundaries are rendered indeterminate and exist only to the extent that they are continually enacted. Magnification brings to light the surprising diversity of the object. The perspective of the tiny brings the look in closer to the materiality of the object, a radical proximity. Looking at a cell under a microscope foregrounds its otherness—its environment, its make-up, its health—from the observer's scale of reference.¹⁹ Resolving the specificity of vision is the condition in which some kind of scientific objectivity is achievable.

This objectivity does not exorcize the specter of loss; it provides the possibility for “situated knowledge.” In other words, the magnified object's being seen-ness is enfolded into the contiguity that compose the refractive apparatus. Magnification, through refraction, is a constitutive perspective—observation and the modalities of observation are actively enmeshed. Karen Barad, extending Haraway's “situated knowledges,” calls this process “agential intracting”: “... [P]henomena do not merely mark the epistemological inseparability of ‘observer’ and ‘observed’; rather, *phenomena are the ontological inseparability of agentially intra-acting ‘components.’* That is, phenomena are ontologically primitive relations—relations without preexisting relata.”²⁰ Visual representation is completely embedded in the mode of its production. The image is folded, and the enfoldings

Merleau-Ponty (New York: Routledge Press, 1998) and Donna Haraway's discussion of diffraction in *Modest_Witness@Second_Millennium.FemaleMan © Meets_OncoMouse™: Feminism and TechnoScience* (New York: Routledge Press, 1997), 274.

17 I thank James Leo Cahill and Rachel Leah Thompson, editors for *Octopus*, for this important insight..

18 Haraway, *Modest-Witness*, 16.

19 However, of course, the cell's specificity is not free from the discursive field of particular science epistemologies and practices.

20 Barad, “Posthumanist Performativity,” 815.



²¹ Although Tom Gunning speaks specifically about early cinema, his notion of the “aesthetic of attraction” deeply informs my investigations—even if a bit ahistorically—of a non-psychological but deeply engaged refracted spectatorship. He writes: “These early films [cinema of attractions] explicitly acknowledge their spectator, seeming to reach outwards and confront. Contemplative absorption is impossible here. The viewer’s curiosity is aroused and fulfilled through a marked encounter, a direct stimulus, a succession of shocks” (124). See Tom Gunning, “An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator,” in *Viewing Positions: Ways of Seeing Film*, ed. Linda Williams (New Jersey: Rutgers University Press, 1995).

²² Christian Metz, “Imaginary Signifier,” in *Narrative, Apparatus, Ideology: A Film Theory Reader*, ed. Philip Rosen (New York: Columbia University Press, 1986).

²³ Kaja Silverman, *The Subject of Semiotics* (Oxford: Oxford University Press, 1983); Stephen Heath, *Questions of Cinema* (Bloomington: Indiana University Press, 1981).

are as much the object as the object is itself. Incomplete and material enfoldings are, therefore, key modes grounding the knowledge organized around refraction. Enfolding implies partiality and materialization—the magnified image is an image of resolved distortion: never complete, never whole, but deep in composition—materially and semiotically—of conjoined forces that matter.

VI.

The privileging of magnification in the *Love Life of the Octopus* transforms the reflective tendency of spectators to project and identify with an image that is not them, but confirms their existence and reflects back on them.²¹ Generally, cinematic reflectivity engages the screen as a mirror that reflects spectators’ selves (though seldom their own body).²² A relay of looks suture spectators into the formal and thematic space of the moving images.²³ The reflective cinematic image engages psychical processes of representation that invokes identification with the characters or events of the image, or the cinematic apparatus itself. In contrast to reflectivity, refraction records the vulnerability of light, the overt and sometimes subtle bending and disarticulation of light that does not necessarily duplicate the image, but changes it. As in *The Love Life of the Octopus*, refraction literally bends the spectator away from the reverie of reflectivity, making the spectator aware of materiality and the false lure of unmediated vision that promises direct access and “truth.” Contrary to reflectivity, refraction made explicit transforms the tendency of the image to orient representation, foregrounding the threaded visual space between the image and the spectator. A refracted spectatorship emphasizes the in-process relationship between spectator and apparatus. The magnified view is not some certain configuration “in the world.” Rather, drawing upon Barad’s description of apparatuses, magnifications are “*dynamic (re)configurings of the world, specific agential practices/intra-actions/performances through which specific exclusionary boundaries are enacted*” (emphasis in the original).²⁴

Through refraction, *The Love Life of the Octopus* provides a conduit into morphic enfoldings: defined as an intervention in the ontological distinction between spectatorships, representations, and referents. A magnification of perception emerges from the film, conjoining cephalopod bodies, visual technologies, and human viewing. Furthermore, the material work of refraction in this film resonates with the visual experience between the octopus and the spectator. The octopus is under the refracting gaze of the camera, the panoptic frame of

the aquarium, and the magnified look given to the spectator. If, as I argue, the viewing experience is not anthropomorphic—spectator identifying with the octopus—a different conceptual framework is necessary to more fully account for the relationship between the octopus, the film, and the spectator.

VII.

In *The Love Life of the Octopus*, Jean Painlevé and Geneviève Hamon bring together stories, sounds, and metaphors of biology with the luminous medium of film.²⁵ Through the condensation of scientific inquiry and poetic aesthetics, Painlevé and Hamon are at the edge of genre making, at the edge of classification. In fact, we might call this idiosyncratic interplay between science and surrealism a science fiction narrative in that it considers the many ways that biological sciences produce meaning through the life/love pathways/lines of organisms. Painlevé and Hamon obfuscate the narratives of science by blurring fiction and non-fiction, documentary with fantasy.

Though they were never strictly devoted to the Surrealist movement with its emphasis on automatism, the unconscious, and dreamwork, their film engages a surrealist aesthetic that in James Clifford's words "values fragments, curious collections, unexpected juxtapositions that work to provoke the manifestation of extraordinary realities."²⁶ According to Robert Short, cinema was "hailed as the elective surrealist means of expression on account of its power to disturb by betraying the expectations of the 'everyday eye' and its power to inspire by imposing original visions."²⁷ The Surrealist film movement—small and short-lived—was interested in how cinema might function as a "threat to the eye, and more radically, to the two eyes of the spectator: one eye being the organ of sight, and the second 'I,' the spectator's personal identity."²⁸ These threats were never meant to be "terminal blindings," but were deployed to create fissures in the familiar, to dislodge commonsense.²⁹ Surrealists called for a dynamic image, one that made everyday objects, as Andre Breton suggested, into the 'marvelous real.' "It was a matter of discovering it, not inventing it."³⁰ A tension—evident in Hamon and Painlevé's work—was produced between familiarizing oneself with materiality while disrupting a comfortable regularity. Arguably, the practice is about resolution, about bringing into focus at varied scales what was naturalized and imagined to be commonplace. Surrealist film practices encouraged spectator involvement, not through representation (what Antonin Artaud called the "abyss") but rather through an appeal to a direct transplantation of the image "into the film

24 Barad, "Posthumanist Performativity," 816.

25 Little to nothing has been written on Hamon herself. Unfortunately, but not surprisingly, more is remembered of Jean Painlevé than Geneviève Hamon. The daughter of political radicals and an activist herself, Hamon and her contributions have almost disappeared from the history of film scholarship, even though Catherine Tchernigovtzeff, a friend and research colleague of Painlevé's, asked, "Would a single film have existed without Ginette's devotion?" Brigitte Berg, "Contradictory Forces: Jean Painlevé, 1902-1989," in *Science is Fiction: The Films of Jean Painlevé*, ed. Andy Masaki Bellows and Marina McDougall with Bridgette Berg (Cambridge: The MIT Press, 2000), 11. She is part of that growing list of women artists and scientists erased from history. In many of her collaborative film projects, her trace is left only in the final credits, while her ambition and work shaped the piece throughout. For example, she was instrumental in "operating equipment, designing sets,



and caring for the animals" for many of the films that are singly accredited to Jean Painlevé. *Ibid.*, 10.

²⁶ James Clifford, *Predicament of Culture: Twentieth-Century Ethnography, Literature, and Art* (Cambridge: Harvard University Press, 1988), 118.

²⁷ Short, "An Introduction: Ocular Alchemy: Surrealism's Expectations of Cinema," in *The Age of Gold: Surrealist Cinema*, ed. Robert Short (New York: Creation Books, 2003), 6.

²⁸ *Ibid.*, 6.

²⁹ *Ibid.*, 6.

³⁰ *Ibid.*, 14.

³¹ Stephen Barber, "Extremities of the Mind: Antonin Artaud and Cinema," in *The Age of Gold: Surrealist Cinema*, ed. Robert Short (New York: Creation Books, 2003), 46-47.

³² Barnouw, *Documentary: A History of the Non-Fiction Film* (New York: Oxford U P, 1993), 73.

³³ Berg, "Contradictory Forces," 23.

³⁴ *Ibid.*, 29.

spectator's ocular nerves and sensations."³¹ A *dépaysement*: Surrealists saw the cinematic image as a dense object that physically engaged the spectator's body—a material collision of spectator and image. This collision was not just a fantasy—though certainly fantasy is at work here. The cinematic image was imagined as an apparatus of psychical and bodily production. Transformation of the literal matter of the body was more important than visual narrative or representation.

Through visual and laboratory practices, Hamon and Painlevé captured the attention of the Surrealist movement. Many of Hamon and Painlevé's films were experiments with underwater cinematography that were, in the words of Erik Barnouw, "sometimes in speeded, sometimes in slowed motion, often hugely magnified, and always artfully lighted, producing astonishing studies in the surrealism of natural phenomena, with their bizarre shapes and movements."³² While their films deploy surrealist techniques, their focus was not on art *per se* but on "documenting" natural history. They constructed underwater cameras and aquarium staging that allowed them to look into the unfamiliar worlds of common but strange marine organisms. For underwater filming, Painlevé enclosed a Sept camera in a waterproof box fitted with a glass plate for the camera's lens.³³ The invention of an underwater breathing apparatus composed of a demand valve with a high-pressure air tank (a modification of the then existing Rouquayoi-Denayrouse pump tank system, which allowed only a few minutes of unteathered breathing) permitted them greater freedom without the restrictions of external air pumps. "For Painlevé, [Yves] Le Prieur's new diving apparatus seemed to offer an entrance into a kind of utopia of underwater living. Indeed, he dreamed of one day creating a studio—complete with film equipment, scientific apparatus, and technicians—entirely underwater."³⁴ The underwater camera enabled the presentation of a surreal technoscientific look, allowing wondrous but material visual extensions into the watery domain.

Hamon and Painlevé looked toward animal worlds for alternative ways to think about anthropocentrism. Extravagant sexual displays of animals offered opportunities to examine plays of similarity and difference, the well-known and the strange. Excessive, erotic, and exotic stories of hermaphroditism, asexual cloning, sexual dimorphisms, and courtships provided the material for these filmmakers to imagine potent and astonishing worlds that supplied alternatives to anthropocentrism. It is possible to suggest from their films that Painlevé and Hamon imagined that animals might offer stories that could shape and

reshape the spectators' understanding of themselves. Through their use of alternative imaging technologies, Painlevé and Hamon produced films where animals act upon spectators, reconfiguring spectatorship, producing a breach in the old stories of human domination and animal victimization. Their films are not simply documents of these organisms, but rather accounts of human, animal, and apparatus encounters—not just as mediums and instruments, but as active presences.

It would be inappropriate to describe the treatment of the organisms in their films as ideal. The octopuses in *The Love Life of the Octopus* were dissected, enclosed in aquariums, subjected to experiments, and otherwise under the constant fascinated gaze of their human captors. As remarkable as their film practices may be, Painlevé and Hamon participated in the persistent surveillance of animal physiology and behavior; their *oeuvre* is predicated on the dying, reproducing, and living bodies of animals.³⁵ It is not apparent from these films that Painlevé and Hamon had any hope of rewriting some of the more conventional instrument/human/animal relations—these animals were clearly *used*. Throughout most of the film human presence is erased. This absence reinforces some of the old habits of the nature documentary (the effacement of human presence in the frame but its assertion through editing). However, a question immanent within Painlevé and Hamon's film is whether or not a used/user interaction can have ethical dimensions.

Painlevé and Hamon's images about cross-species difference, biological epistemologies, and play are not commensurable with the ascription of radical misuse and suffering to the practice of all animal experimentation. Attention to species-specific lifeways has significant consequences for both humans and non-humans—this is an exacting practice. Humans attend to the particularities of species, recognizing not ourselves but those *with whom* we cohabit environments. For the organisms, this human knowledge of self from other is a matter of life or death. It is my contention that Painlevé and Hamon's films offer an alternative power arrangement between human and non-human animals that is predicated on what Haraway has recently called "significant otherness."³⁶

In this film, the octopus is asymmetrically bound, but the octopus presses back. Consider the moment early in the film when an octopus traverses the interacting interfaces of air and water, slithering through changing densities. The camera follows, but not through water. It looks through aquarium glass. This layer of glass further refracts (though not precisely magnifying) the image. However, the camera's framing of the aquarium obscures the enclosure. The off-screen space masks the glass boundaries of

³⁵ Painlevé's own perverse curiosity (and betrayal) is seen in his following statement. "In 1925, during an internship at Roscoff, I would bring an egg to this octopus at 11:00 every morning. She soon began to recognize me by my shirt. Whenever she saw me, she turned black; the three layers of her skin—blue, red, and green—would swell with pleasure. Then she went off to eat her egg. We got along very well. But then one day, out of perversity, I brought her a rotten egg. She turned totally white. In extreme fury, an octopus's cells contract and the white of the underlying dermis appears. With one of her tentacles, she threw the egg back at me over the aquarium's glass window. She never greeted me again. Instead, she'd retreat to the back of the aquarium and turn white. I realized then that she had memory. This mollusk was as intelligent as a human." Hélène Hazéra and Dominique Leglu, "Jean Painlevé Reveals The Invisible," in *Science is Fiction: The Films of Jean Painlevé*, ed. Andy Masaki Bellows and Marina McDougall with Brigitte Berg (Cambridge: MIT Press, 2000), 174–175.



³⁶ Haraway, *The Companion Species Manifesto*, 3.

the aquarium, giving the illusion of greater space, but the octopus clings to the aquarium glass, literally pressing its suckers to the screen. (Of course the inclusion of this image was finally decided by the editor, not the octopus.) By clinging to the glass wall, the octopus exposes its staging, its enclosure (as does the editor). The spectator is not seeing an unmediated image of “wild” octopus behavior—like most natural history documentaries inform their spectators that they are privy. At every level of the film contiguity grounds all the apparatuses and actors. In this film, the octopus is not some abstract representation but rather an actor in “intra-acting” with the apparatuses: lens, aquarium, spectator, camera, film, and screen.

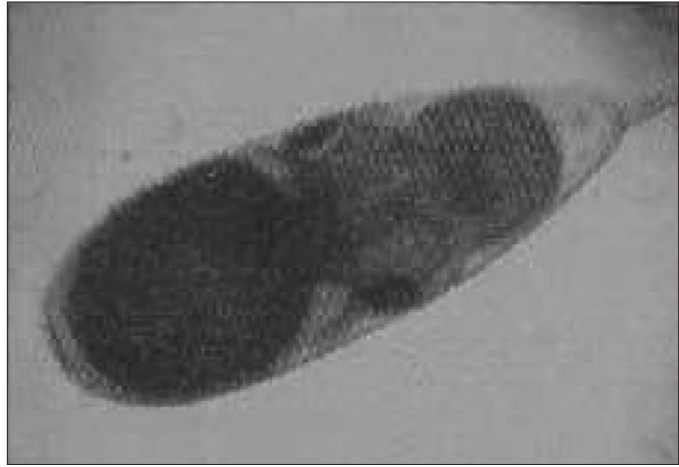


Figure 6.

VIII.

Depth, as a cinematic technique that foregrounds the background, is utterly collapsed in these magnified views. The developing oblong egg that fills the screen in the final third of the film seems two-dimensional, squashed into mere surface. The microscopic image is not deep, although fathoms of potential bio-technic information reside therein. What the image lacks in depth of field, however, it provides in depth of the spectatorial space: the microscopic image foregrounds the space between the image, the organism, and the spectator. These moments point to how relations are mediated by a spectrum of spatial settings and processes. If the film suggests a refractory space, then the film offers an alternative to how *Octopus vulgaris* is represented. The spectator experiences something other than “the impression ... that animals are merely passive surfaces on to which human groups inscribe imaginings and orderings of all kinds.”³⁷ The

³⁷ Chris Philo and Chris Wilbert, “Animal spaces, beastly places: An introduction,” in *Animal Spaces, Beastly Spaces: New geographies of human-animal relations*, ed. Chris Philo and Chris Wilbert (New York: Routledge Press, 2000), 17.

octopus images are determined for the spectator and octopuses; the octopuses have no *say* in how they are represented, and the spectators receive a particular coding of the images. But the refracted space is a particularly slippery site of legibility. Might the refracted image be a metaphor for the familiar/strange quality of the octopus? Perhaps, the mediation and the partiality of magnification parallel the position of the octopus. The spectator is confronted with *focused* difference, a recognition that cannot be easily repressed. The partiality implicit in the refracted image parallels the octopus's situatedness. The magnified image binds with the octopuses' difference, congealing the spectator into partiality, "intra-action," octopus specificity, and "significant otherness."

This kind of morphism can be read in terms of what Laura Marks calls *empathic non-understanding*, a "relationship that gives up the self's need for constant affirmation" and pulls us instead into a "material understanding of our connection with other animals."³⁸ Marks continues: "If the primal scene of *petishism* is the fear of finding that we are not so different from animals, then to overcome this perversion would entail respecting the opacity of other creatures."³⁹ Perhaps refraction can assist in this work, bending the mirrored image of self back into the body in space, re-imaging the intra-active relationship between viewer, technology, and octopus in terms exceeding identification and representation. The lens is focused on making the unfamiliar visible, making the familiar strange. In this shifting focus the play of fungibility begins: interest, cohabitation, discomfort, distortion, magnification of focus from self-location to the cephalopod. *The Love Life of the Octopus* is about shifting humans out of center stage. Consider how the film opens with a human/octopus image, but ends in the presumed world (womb) of the octopus—"man" is literally shifted off-screen through the duration of the film. Refraction is not a framework, but a pathway. The film brings differences together while sustaining that difference as significant. It engages patterns of interference and exchange.

The Love Life of the Octopus holds up to us inarticulate bodies and behaviors as if to ask, "Can you match that?" Painlevé's and Hamon's film rejects conventional modes of identification, as if to say: "Identification isn't enough." Moments of play such as these highlight both difference and familiarity, inviting us to experience—but not to identify with—the strange. The film appeals to refracted boundaries. Adopting a seemingly non-humanist stance, the filmmakers appear to want the spectators to see themselves in relation to the octopus—to see our profound

³⁸ Marks, *Touch*, 39.

³⁹ *Ibid.*, 39. The neologism *petishism* was coined by Anne Friedberg. For a thorough definition see her article "Der vierbeinige Andere und die Projektion im Kino (The four-legged other and cinematic projection)," *Frauen und Film*, no. 47 (September 1989).



⁴⁰ Epstein, "Magnification," in *French Film Theory and Criticism: Volume I: 1907-1929*, ed. Richard Abel (New Jersey: Princeton University Press, 1988), 239.

⁴¹ Marks, *Touch*, xvi.

⁴² All images used in this article are screenshots from *The Love Life of the Octopus* [*Les Amours de la pieuvre*] (1965).

otherness while playing with familiarity. "Empathic non-understanding," as read through this film is not only about shifting humans out of center stage, but about challenging the ontological primacy of centers in general. The refracted image—like the metaphor of the octopus's gaze—invites the spectator into a focused non-understanding. The spectator sees parts of the magnified octopus, but also sees the mediation of the image, the inherent lack of that mediation (this tension is also paralleled in the failure of human cross-species identification), and the ongoing nature of the encounter. The magnified image is invasive and surveilling, but it is also incomplete. "[M]agnification acts on one's feelings more to transform than to confirm them," writes French film theorist Jean Epstein.⁴⁰

The refracted image and the octopuses rework the emulsion, offering a productive alternative to both radical alterity and ultimate knowability. *Love Life of the Octopus* reaches out to the spectator with eight arms, inviting the spectator to take seriously the materiality of the image and the unfamiliarity of octopus biology. The spectator is simultaneously pushed out of the image field and pulled into the instrumentation of the image. There pulses a flow between distance and closeness—they are not produced as incommensurable spatial relations. The refracted image makes apparent the space between the spectator and the representation—the space folds, building toward both the octopus and the spectator. Marks suggests that this "oscillation between near and far is erotic."⁴¹ *The Love Life of the Octopus*, witnessed in title alone, is an erotic narrative that is contiguous. The octopus, the spectator, the camera, the lens, the filmmakers are conjugated in the refracted space—each is wet, and continues to soak, with the encounter of the others.⁴²