



# OctoEyes

Eva Hayward\*

Gender & Women's Studies, University of Arizona, Tucson, AZ, United States

Examining Jean Painlevé's and Geneviève Hamon's film *The Love Life of the Octopus* (Les Amours de la pieuvre) (1965), this essay offers a theory of refracted spectatorship. Refraction, here, describes the sexual nature of the eye/camera, and also how this refractory sight mis/sees animals, particularly octopuses.

**Keywords:** refraction, cinema, surrealism, sexuality, octopus

I think that if you asked any zoologist to select the single most startling feature in the whole animal kingdom, the chances are he would say, not the human eye, which by any account is an organ amazing beyond belief, not the squid-octopus eye, but the fact that these two eyes, man's and squid's, are alike in almost every detail.

Berrill (1983)

The visual life of the octopus, from Hokusai to Jean Painlevé and William Burroughs has been figured by a sense of illicit, perverse, and transgressive sexuality; and an irreducible viscosity of the outside. And just as Oedipus is not one but many (he is the one, singled out, but marked and traversed nonetheless by a potent multiplicity), the octopus may be an exemplary figure for a multiple viscosity, a multiplicity of viscosities signaled by its eyes and legs.

Lippit (2005)

Reality is an active verb, and the nouns all seem to be gerunds with more appendages than an octopus. Through their reaching into each other, through their "prehensions" or graspings, beings constitute each other and themselves. Beings do not preexist their relations. "Prehensions" have consequences. The world is a knot in motion.

Haraway (2003)

"REALITY IS AN ACTIVE VERB, AND THE NOUNS all seem to be gerunds with more appendages than an octopus," writes Donna Haraway. She continues, "Beings constitute each other and themselves through their reaching into each other, through their 'prehensions' or graspings" (Haraway, 2003, p. 6). Working from the process philosophy of Alfred North Whitehead, Haraway sees reality as a transaction between dynamic and continuously changing elements, such that the elements exist only in the dynamism; that is, the processual dynamism *is* existence. Reaching between—the transaction—is the engine of being—that amorous aim, yearning, and desiring that constitutes "reaching into each other" (Haraway, 2003, p. 6). For Haraway, this reaching is infectious, is a transfection: love is a "potent transfection," she writes (Haraway, 2003, p. 1). Unlike Karen Barad's "intra-action" (which follows Haraway's antimera), Haraway's "graspings" include sexuality as central to materializations, mattering, and matter itself (Barad, 1999). Reality is not just bumptious inter- and intra-action between physical components—not just atoms in lively relationship—but also the refracting and refractory forces of longing, loss, and dis/pleasure. It is for this reason that Akira Mizuta Lippit wonders if Haraway's octopus is an "oetopus": "near and far, loved and reviled, loving and perverted, emotional and hysterical; each paradox marked visually by a unique legacy forming on the body an octo-paradoxy" (Lippit, 2005, p. 11). Oetopus, for Lippit, is related to Oedipus. He writes, "Oedipus is also a figure that falls outside the configuration for which he is named, marking him in a species close to but distinctly apart from the human. More or less and more and less human" (Lippit, 2005, p. 11). Like the octopus (Greek from *okto* "eight" + *pous* "foot"), Oedipus is foot-ful, having been left with a limp as an infant, and is asked a footed riddle

## OPEN ACCESS

### Edited by:

Tarla Rai Peterson,  
The University of Texas at El Paso,  
United States

### Reviewed by:

Tema Milstein,  
University of New Mexico,  
United States  
Jen Schneider,  
Boise State University, United States

### \*Correspondence:

Eva Hayward  
evah@email.arizona.edu

### Specialty section:

This article was submitted to  
Science and Environmental  
Communication,  
a section of the journal  
Frontiers in Communication

**Received:** 07 February 2018

**Accepted:** 15 October 2018

**Published:** 19 February 2019

### Citation:

Hayward E (2019) OctoEyes.  
Front. Commun. 3:50.  
doi: 10.3389/fcomm.2018.00050

by the Sphinx: “What goes on four feet in the morning, two feet at noon, and three feet in the evening?” Lippit suggests, “Oedipus is a kind of octopus, an organism defined by its eyes and legs” (Lippit, 2005, p. 12). Remember, Oedipus makes his eyes “dark” by dashing them out; the paradox of the octopus eyes, as is their resemblance to human eyes. “The visual life of the octopus, from Hokusai to Painlevé and William Burroughs has been figured by a sense of illicit, perverse, and transgressive sexuality; and irreducible visuality of the outside” (Lippit, 2005, p. 13).

Haraway is certainly not an obvious figure for thinking psychoanalytic ideas<sup>1</sup>, but Lippit, working with William Burroughs, puts her octopoidal philosophy in conversation with the visuality and expressivity of octopuses, how its emotional life is “revealed on the surface of its skin” (Lippit, 2005, p. 10). Lippit writes, “In Burroughs’s aquarium, the visuality of the octopus is an economy that moves from inside to out, from outside to in, defined by a unique form of exteriority, ecstasy” (Lippit, 2005, p. 10). As much as Haraway’s octopus is its reaching, its prehension, for Burroughs the octopus “opens a field of outside visuality, what Burroughs calls a ‘mutant’ visuality” (Lippit, 2005, p. 10). With Haraway and Burroughs, the arm-y grasping of the octopus is always visual, is always simultaneous with visuality (a reminder of Freud, 1995 own discussion of the eye having a sexual function; Haraway and Burroughs, 1995). Arm-y eyes, “octoeyes” are also octopoidal visions, as Lippit would have it. Which is to say, octoeyes is a visuality that reaches, is mobile, is verb—they do not simply touch as “fingeryeyes” aim to do (Hayward, 2010). But importantly, this visual reaching is sexual, is always refracted by fantasy, longing, desire, and even love. This does not necessarily mean that the reaching gets ahold, even as that hold is aimed for—this is what is meant by refracted. Refractions are intimacies built through loss, through partiality.

To think about octoeyes—refractory visuality—I turn to Jean Painlevé’s (and Geneviève Hamon’s) surrealist documentary film, *The Love Life of the Octopus* [*Les Amours de la pieuvre*] (Painlevé, 1965). This film, I argue in the following, offers a refractive zoom or magnified nearness with filmed octopuses that does not produce immediacy (the promise of natural history films), but rather a sexual visuality or octoeyes—a look that reaches

but never touches—through imaging and imagining octopuses<sup>2</sup>. More importantly, and a point I can only begin to hint at here—and informed by Jean Laplanche’s thoughts on animals (Laplanche, 2015)—the animal—or more specifically here, the octopus—is a function for the administration of sexuality; in the effort to name, define, describe, classify the octopus, we aim to slough off our own sexuality onto the organism. The octopus, then, confronts us with our sexuality displaced with all the exciting and unsettling responses that that entails. With this insight, and somewhat paradoxically, I propose that because the octopus is displaced sexuality and sexuality remains the unbound open of subjectivity, then perhaps the organism called octopus is most present, most at work. We can now see the full implications of the Oedipal in Lippit’s octopus. This is to say, the organism called octopus is absent—the organism is hidden by the sexual function it is made to serve (i.e., Haraway, Burroughs, and Painlevé)—but continues to be active in the refracted and partial space that the film (filmmaker, spectator) cannot see or image. The sensual imag(in)ing of the octopus—what absents the organism—is also the refracted space in which the organism presses back through the workings of sexuality.

## “OCTOPUS... CREATURE OF HORROR”

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 and abstract. The lines of the image are organic, curved into living form. The title of the film, *The Love Life of the Octopus*, is the only guide for reading the image. It promises a prurient 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 distance. The enlargement distorts the edges of the image, blurring the resolution of the photograph into a grisaille. Doubled and distorted, the image troubles the positivist, indexical nature of the photograph as an unmediated copy of reality. 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 reserve is abandoned in favor of a more sensuous view. It is a look that extends the eye’s ability into an altogether unfamiliar dimensionality.

The first sound, a voiceover (with subtitles), reorients me: “Eight tentacles<sup>3</sup>... two thousand suckers.” The direct address in French is coarse, masculine, and descriptive—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 photograph of a man holding a large *Octopus*

<sup>1</sup>In her “Cyborg Manifesto,” Haraway famously positioned her cyborg against “the Oedipal project” and “was not generated in the history of sexuality,” worrying that psychoanalysis relies upon a “myth of original unity, fullness, bliss and terror, represented by the phallic mother from whom all humans must separate.” However, a more nuanced accounting of psychoanalysis that included Sigmund Freud’s “body ego,” Jean Laplanche’s “implantation,” or Jacques Lacan “*Spatlung*” (split subject) would consider how psychoanalysis has studied the *fantasy* of holism and unity that is always already foreclosed. Similarly, Haraway’s “material semiotic”—which itself supposes re-unification (unity) of the real and its representation—is already considered in Freud’s account of fantasy. He insists that fantasy is not mere illusion and reality is not an absolute—for Freud, psychical life is what produces our experience of reality, its certainty. We might call this, if not precisely Harawayian or Freudian, a materialsemiotic accounting of the world, but one, for Freud, can only feel unifying, but can never produce unity. This is all to say, there may be more sympathies between Haraway’s approach and psychoanalytic theory than is suggested in her cyborg manifesto, and even more so in her “Companion Species Manifesto.” In her later manifesto, love, longing, and desire substantively matter in Haraway’s “significant otherness,” indeed shape and reshape the transfecting force between her and Cayenne.

<sup>2</sup>Teresa de Lauretis theorizes the relationship between imagining and imaging. Cinematic form—from camera to editing and mise-en-scene—what de Lauretis means by imagining, is the condition through which imagining—fantasy, politics, and spectatorship—is made possible. Imag(in)ing are inextricable.

<sup>3</sup>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 octopod nomenclature see Lane (1960).

*vulgaris*. The narrative seems established: this is an expository documentary about the natural history and biology of the genus *Octopus*, and about encounters with octopuses. The motion picture camera, the photographic image, and the voiceover appear evidentiary, converging on the octopus to produce a rhetorical argument. Yet as the intriguingly abstract, magnified opening shots put forward, the film modulates between classic documentary style while undermining expository form through perceptual demands in the form of the extreme close-up.

The close-up, the magnified view proposes a different visual engagement—too close but without totality, intimate but without assuring the spectator of their omniscient orientation. Cinematic grammars that position the spectator as all-knowing and everywhere-present is refused for a refracted position—one that uses extreme closeness to refuse order and its control, which is to say, without the final visual hold or grasp. Paradoxically, the intimacy of this perspective is also its refusal, its foreclosure. This visual disorientation is supplemented in relation to the filmed octopus. In the opening image, the octopus is the location of refraction. What is refraction and magnification for this film is also its imagining of octopuses. The representation of the octopus is itself refracted. In doing so, this surreal documentary elaborates Lippit's octopus. The octopus is the scene of visual loss, a lack constituted not through narrative (e.g., Metz, 1986) alone, but through vision itself. Prehensile and abjectly visual—as Haraway and Burroughs, respectively, describe—this imaged octopus is refractory (including the sexuality the term denotes).

Following the opening shots of a photograph, we see wet life. An octopus comes, arm over arm, from the ocean. It dares the dangers of the exposed intertidal shoreline, pouring through knots of seaweed that cover balanoid and laminaria zones. Its supple body shines, endlessly malleable—this is both Haraway's and Burroughs's octopus. Far from the water, nearly two thousand suckers use their sense of touch (which is bound with smell through chemoreceptors) to manipulate pebbles and shells, looking for shelter among the rocks and crevices. The complex musculature allows its suckers, requiring the wettable surfaces of low tide, to attach, contract and pull.

As marvelous as the landed octopus seems, a collage of sounds—echoes, vibrations, distortions, and whorls—ascend; they are radical sound more than music. Each tone is idiosyncratic and eerie, generating oddness and strangeness, contesting the relationship between sound and music. The experimental electronic composer, an important figure in the *musique concrete* movement, Pierre Henry scored the film. His work demonstrates a deep concern for the not unmusical properties of noise. These electronic sounds are disassociated from their source: manipulated, re-arranged, and recontextualized. Manipulating pitch, timbre, and loudness, the sound generates erratic, polyphonous rhythms that work on the body—accents and beats have no fidelity to the image. Here, Henry's noise-music functions as a form of sound refraction and disorientation; the octopus takes on an alien form through tones, pings, chirps and scrawling, twinkling, surging. The un-octopoidal sounds, the torquing of sound through music (and *vice versa*)—articulated murmurs, odd phrasing, electric bubbling—the spectator is both invited *into*

and alienated *from* the film. Accompanying these uncanny noises is a narration full of chilling affect. The narrator says: “Octopus...Cephalopod,” “Creature of horror,” “Completely spineless, devoid of shell,” “Changes in coloring reflect its environment as well as its emotions;” “[It] boasts folds serving in the guise of eyelids.” The hand-held camera pulls back, giving the spectator an establishing shot, a panoramic view of the shore.

Through the meshing of electronic sound, natural history documentation, and poetic narration, *The Love Life of the Octopus* blurs fiction (surreal) and non-fiction (science/documentary). The ambivalence of octopoidal unfamiliarity coupled with scientific investigation within a playful narrative creates fissure and connection; paradoxically, radical differences are maintained through intimate conjunction. The image confuses the real and the imagined, the animate and the inanimate; the image is a literal *deségrégation* of the symbolic by referential elements. Binds and disentanglements are created and temporarily preserved, and then they are undone, even destroyed. The combinatory and ruinous relationships are palpable. Odd sounds trouble and re-code sober descriptions of octopus biology; the music/sound of the film is contrapuntal to reasoned tone of the non-diegetic speech. The hand-held image is kinesthetic and mobile, suggesting its currency in the real. But the real is bound to monstrous and fantastic acousmatic adjectives and descriptors. The referent (the octopus) itself exceeds the assumption of exclusive aquatic inhabitation, crawling along slick rocks on dry land. The octopus's ability to become terrestrial is not uncommon, but the popular knowledge of octopus physiology disavows a more liminal existence, between water and air. At every resolution, the film is an example of excessive contradiction, the point where the real of the documentary is saturated and oozing with surreality and sexuality, where absence and decadence interpenetrate in a way that brooks no reconciliation.

## SEXUAL DIFFERENCE, A TECHNOLOGY OF SPECIES

The film cuts to two octopuses: one tentatively approaches; the other is bright orange and alert. Noise-music tells the ear that it is immersed; I hear 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.

Their skins surge color: red, blue, green, brown, black, and white. As Burroughs would have it, affect is translated into an exterior visibility of chromatic expressivity. The narration: “The male turns white with fright as the female approaches.” The narration continues: “[For reproduction] the male inserts his special arm, third right from the head, into the female's mantle cavity.” While *Octopus vulgaris* is gonochoric (having two sexes), there is little sexual dimorphism, making it difficult (for non-octopuses) to distinguish sexes. And yet, the project of species is to sort sex, or better speciation is a technology of shoring up the logic of sex/gender (Haraway,

1989). To a certain degree, this film playfully problematizes the octopus as a sexual site, but not through the structure of identification. Ambiguity distorts a spectatorship predicated on sexual difference—anthropocentric, sexual difference is replaced by a blurring, a kind of instability at the level of species and sexes. However, the narration and narrative produce numerous tensions between sex differences through reversals: the male is represented as tentative and fearful; the female is engaged and imposing. The small size of this male makes him vulnerable to the larger female—she may choose to eat him rather than reproduce, suggesting death in sexuality. Numerous differences of this coupling alter 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. Painlevé and Hamon quip: “There is no officially recommended position for achieving this.” Although the narration, through this kind of tease, holds these behaviors up as mirrors, the film compels the spectator to consider the futility of superimposing sameness over difference. The narrative and narration suggest and refute anthropocentric cross-species identification. A friction is produced between the paradoxical tendencies of seeing octopuses (and animals in general) as pure alterity and as mirrors of us. The filmed octopuses are pressed into a sexual imaginary—predicated on sexual difference and primal scenes/fantasies—that fails to be completely human. Moreover, the sexual imaginary is exposed as a sensuous bestiary—are not the purrs, coos, licks, and infections of other organisms enmeshed in our earliest experiences? (Lingis, 2000).

A second focus supersedes the first narrative—structured around tropes of the natural history documentary—guiding me into a world of magnification, a central concern of this film (Nichols, 1991; Mitman, 1999; Bousé, 2000). Things are too close, then too distant, hardly ever just right. The film continues to move through various size and distance scales. The view is interpretable, but always pulls and pushes. Throughout this aquatic film we are confronted with magnification as a trans-medium movement that produces dialectic between the familiar and strange. The film’s continual 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 eyes might strain to stretch into those eight arms, into those dazzling colors, we are made aware of the apparatuses and species differences that define the image, prohibiting easy identification and body borrowing.

### “NEAR AND FAR, LOVED AND REVILED, LOVING AND PERVERTED....”

Akira Mizuta Lippit interprets Haraway’s octopus as an “oetopus.” He states, “near and far, loved and reviled, loving and perverted, emotional and hysterical; each paradox marked visually by a unique legacy forming on the body an octo-paradoxy” (Lippit, 2005, p. 11). The Oedipus of Lippit’s octopus is a visual riddle, a blinding as story of repression, a riddle of desire. Lippit writes, “I am infected by another, by significant

otherness” (Lippit, 2005, p. 9). Haraway deploys the colloquialism of “significant other” (as in my lover, my partner) into an insistence on difference—an ethical imperative that runs through much of Haraway’s work. Lippit evokes the Oedipal scene—another interpretive that insists on difference—as what fuels Haraway’s “reality takes shape in a grasp” (Lippit, 2005, p. 9). As such, “A hysterical invertebrate, an invert, pervert, *oetopus*” (Lippit, 2005, p. 10). Oetopus is the kissing cousin of Oedipus:

It [oetopus] embodies in a phantasmatic body (a body that consists entirely of eyes and legs; a body that is less without organs than simply *without*) a speculative and spectacular visuality rendered by perversion and irreducible exteriority. It is a figure of deviant visuality, a scene from the outside but also of the outside that glares back in the full splendor of a perverse and impossible visuality: “WHAT ARE YOU LOOKING AT” (Lippit, 2005, p. 13)?

Oetopus is visuality that is too exterior, impossible, a paradox. There is something of the oetopus in magnification. Epstein writes about magnification in film, “I am hypnotized. Now the tragedy is anatomical.... Muscular preambles ripple beneath the skin. Shadows shift, tremble, hesitate” (Epstein, 1993a, p. 235). Magnification indexes paradoxes: identification is abandoned for intimacy; scopic distance is replaced with fetishistic nearness; and, the apparatus (primary cinematic identification, according to Christian Metz) over takes narrative (secondary cinematic identification). Magnification is political, the lens a political project. The film’s recurring deployment of magnified images relies on light passing through multiple interfaces. It is important to note that these interfaces are not merely lenses that mediate between the light, the camera, and my eye. Interface then is not only about the inseparability of the observer and observed, but also about the ongoing relationship that produces its conditions of possibility. Interfaces, then, are always in process, always setting up zones of interaction bound in specific spatial-temporal configurations—interfaces are the ecotones of the eyes, “eyecotones.” The magnified image requires a look that makes constant reference to the instrumentation of the image, binding the image to the apparatus. 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” (Haraway, 1990, p. 190). Attention to the production of visuality foregrounds specificity and difference. We see 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 disarticulated as impure and a composite of interpretations, technologies, and actions; magnification 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 gives, as Haraway writes, a “situated knowledge” (Haraway, 1990). Situatedness is a mode of embodiment—to be located within the production of space and place. That is to say,



magnification materializes the workings of light, marking the presence of transparencies, exposing how the image is produced. But magnification is also always partial. Magnification brings into focus the entwinement of apparatuses and the failure of the possibility of apparent vision, the failure to provide the unmediated, distant, and whole story. Indeed, magnification troubles the fantasy of *true* visual access—and, as such, absence and partial truths are operative analogies for 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 concretely and semiotically bound in active process. I see: *what's* seen is not simply inaccessible-to-the-naked-eye perspectives mediated by a lens, but rather folds of enacted perception, what Laura Marks describes as “mutually enfolded in material processes” (xxi) (Marks, 2002). The focus here is on what it is to inhabit, to *live in*, inorganic and organic mediation, not merely *looking at* independent objects in the world—although vision, visibility, and visibility are as central to the subjective dimensions of technobodily existence as they are to its objective dimensions.

Magnification it is not an innocent practice. Cartwright rightly suggests that magnification carries a history of surveillance. She is concerned that the microscope fragments, abstracts, and spectacularizes bodily images (Cartwright, 1995). The microscopic image promises a tantalizing peek into an inaccessible world, and colonization of the infinitesimal looms large. The magnified view through instrumentation has deep histories dating back at least to the sixteenth-century in Europe. Lacking in precision and clarity, many early magnifying tools—lenses, lace-making baubles, looking glasses, and others—were used for entertainment purposes. Technicians as beguiling recognized the magnifying lens, known for its distortions, perceptual confusions, and optical plays. The magnified image “subverted the norm of lucid, coherent, and stable bodies.... What appeared clear and distinct to the naked eye was exposed as chaotic or flawed under the microscope” (Stafford, 1996, p. 147). The colonial tendency to make “the unknown visible” was worried by interpretation, instrumentation, and the instability of the magnified object. The unaided eye could not see whatever was observed through the aggrandizing lens; the original could not be directly consulted (of course, eye and brain themselves yield a highly interpreted image and perception. The microscope adds only another layer to the “original” unaided perception). Magnification signaled a rupture in the natural order, a challenge to rationality. Initially, the incoherence of static forms produced a negation of positivism, a kind of profane illumination that required a solution. It wouldn't be until the latter part of the nineteenth-century that resolution and distortion were reworked for accuracy (Crary, 1992). Once relative lucidity and detail were secured, the compound microscope—with its multiple lens structure—was deployed as an analytical and diagnostic instrument to view the infinitesimal. However, the magnified image remains haunted by loss, just as it offers clarity. Visual displacement and dislocation vex empirical certainty regarding the enlargement—that which is magnified is always already imbued with blind spots or scotomas.

The close observer encounters the optics of the lens through which the illuminated minute is seen. “Close inspection” as a spatial practice, as a mode of encounter, defines magnification. By encounter, I mean the observer becomes embedded into the apparatus of “seeing”; that is, the observer's eye is “prosthethically augmented” (Cartwright, 1995, p. 84). That magnification constructs encounters, suggests that otherwise visually inaccessible domains become a space that the observer inhabits. This is not a metaphysical move as such (though it may have metaphysical implications). The observer visually enters into another scale in which there are no originals or copies. The relationship between the microscope and the observer is generative, even as it is refracted or bent. Their bodies—organic/inorganic or animate/inanimate—are fused in the production and refraction of magnified images. Magnification is the instantiation of broken and conjoined knowledge pathways through which the observer enters a scale not to her/his own measure.

Extreme close-ups as well as macro- and microscopic magnifications produce a discourse on space and perception: defamiliarization and then re-meeting on other terms. It is true that the magnified image field and observer are fused, but the question remains: is “Perception... unhinged from the sensory body...” (Cartwright, 1995, p. 82)? Perception, through magnification, is part of a relay of viewing that engages mediation. To view the image is to use cornea, light receptors (in retina), ocular nerve, 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—a direct address of the body by relays of “bodies.” Magnification is not necessarily or obligatorily 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 ideology of that apparatus) of its construction, never unhinged from matter of its making. Magnification is not a view from nowhere. Magnification makes apparent cinematic space, extending the observer into the space by yoking the apparatus to the extension. That is, the observer (me, for example) is compounded with the apparatus; the apparatus via magnification extends the optical reach of the observer. The magnified image becomes translated into bodily experience. Perspective and image no longer function as discrete units, but as interfaces in contact, engaged in a constant action of reciprocal mis/re-alignment and de(in)flexion (Merleau-Ponty, 1968). The apparatus is doubly bound to the extension that it initially produces. The viewing eye is submerged into another scale, and yet we are clearly on the other side; we are inside and outside, within and nearby. This indeterminacy articulates the ambivalent nature of magnification.

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 the 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: points on the axis of a lens to which incident light rays are united or from which they appear to be diverged. Consequently, these smaller portions are enlarged.

The privileging of magnification in the *Love Life of the Octopus* transforms my reflective tendency to project and identify with an image that is not me. Generally, cinematic reflectivity engages the screen as a mirror that reflects spectator's imaginary selves (though seldom their own body). A relay of looks stitches spectator into the formal and thematic space of moving images. The reflective cinematic image engages psychical processes of representation that invoke identification with the characters or events of the image, or the cinematic apparatus itself. In contrast to reflectivity, magnification records the promiscuousness of light, the overt bending and disarticulation of light that does not duplicate images, but transforms them. As in *The Love Life of the Octopus*, magnification bends me away from the reverie of reflectivity, making me fetishistically aware of the apparatus, of materiality, and also proximity of bodies: octopus to octopus, lens to octopus, me to octopus.

The film, then, cuts to a cinemacoscopic—a magnified view that shows the very small in great detail—close-up of a captured crab passing from octopus sucker to sucker on its way to the beak-like mouth—I hear sucks, slurps, and grinds. The screen is saturated with orange. The sensuous meal takes place in the lower left of the screen—not central, not familiar. The film cuts; the camera is immersed underwater. Illuminated bits: particles in the water with different refractive indexes float in front of camera. The camera then returns to a cinemacoscopic look at the beak-mouth, offering a magnified view. It is as if the octopus, offering closeness, a proximity that is unsettling, might incorporate the camera itself. Here, the objectifying possibilities of distance are violated; transcendence is out of the question and out of the frame.

*The Love life of the Octopus* stresses the carnal response and the sensuous affect of the resistant image (a refractory image) that mixes delight and dread, attraction and repulsion, visibility and obscurity (Milstein, 2012). The film sustains rather than occludes this refracted tension and refractory friction at its source. Refraction, then, as exemplified in this film, carries a sensuous address (a fleshly appropriation) and stimulated, corporeal experience (corporeal light? carnal light?). As sensuous illumination, then, what is called refracted light opens up and exposes the inhabited space of sense experience as a condition of possible (if fractured) embodiment. Radical entailments of incarnate light: refracted light involves the visible, audible, kinetic aspects of sensible experience to make sense visually, audibly, and haptically. *The Love Life of the Octopus*, in form and “content,” manifests through magnification a living interchange, a fleshy dialectic, that renders light visible; that is to say, light is made verb, it conjugates perception and expression.

## SURREAL SCIENCE

While more ink has been spilled on Painlevé's biography than Hamon's, he is also a relatively unknown figure in film history. References to his work are rare: Brunius (1949); Barnouw (1974), and more recently Burt (2004) are among the few who have offered Painlevé's work as something more than a footnote. His story starts, for our purposes, in 1921, when he entered the Sorbonne to pursue studies in medicine. After a short-lived career as a medical student, he turned his attention to zoological sciences. During his time at the Sorbonne, “Painlevé coauthored a paper on the color staining of glandular cells in chironomid larvae... and presented it to the Académie des sciences” (Berg, 2000). Chironomid larvae are often found living in the mantle cavity around the gills, gonads, and siphonal tissues of various species of mussels. Painlevé's technique allowed for greater visualization of the cellular structure of these symbionts. He further pursued his zoological interests during an internship at Roscoff, a marine biology station. In 1928, Painlevé presented his first film, *The Stickleback's Egg: From Fertilization to Hatching*, to the Académie des sciences. The response to his film was overwhelmingly negative. One botanist, infuriated, stormed out, declaring, “Cinema is not to be taken seriously.” This reception was not unexpected. Cinema had yet to prove itself as something other than superfluous entertainment full of optical illusions and trickery. The relationship between fiction and documentary was still molten. The scientific community was not yet convinced that film could document without altering, distorting, or transforming the filmed organism and/or its biological processes.

Little to nothing has been written on 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?” (Berg, 2000, p. 11). She is part of that growing list of women artists and scientists who have been “discovered” because they are left out of 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 (Berg, 2000, p. 10).

Though they were never devoted to the Surrealist movement with its emphasis on psychoanalysis, automatism, the unconscious, and dreamwork, their films engage a surrealist aesthetic that in James Clifford's words “values fragments, curious collections, unexpected juxtapositions that work to provoke the manifestation of extraordinary realities” (Clifford, 1988, p. 118). 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” (Short, 2003, p. 6). 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” (Short, 2003, p. 6). These threats were never meant to be “terminal blindings,” but were deployed to create fissures in the familiar, to dislodge commonsense (Short, 2003, p. 6). Surrealists were concerned with the mixing of the sexual in the visual, of the unconscious in the real. Films such as Luis Buñuel and Salvador Dalí’s *Un Chien andalou* (1929), Man Ray’s *L’Étoile de mer* (1928), or Antonin Artaud and Germaine Dulac’s *La Coquille et le clergyman* (1928) construct the conscious world as a site of conflicted forces. Nature is constructed as a generative force of decomposition—inertia and entropic/regression toward inanimate/death in sexuality. (Interestingly, most cephalopods, including octopuses, die after reproducing).

To visualize erotically infused death as embedded in dream-life, Surrealists called for a dynamic image, one that made everyday objects, as André Breton suggested, into the “marvelous real.” “It was a matter of discovering it, not inventing it” (Breton, 1988, p. 14). 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 observer 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 spectator’s ocular nerves and sensations” (Barber, 1980, p. 46–47). This line of reasoning brings together the observer’s identification with the cinema, which is constituted as a specular and psychical process, and an embodiment that is not abstracted from the lived body, nor merely mediated through language. A *dépaysement*: Surrealists saw the cinematic image as a dense object that physically engaged the observer’s body—a collision of observer and observed 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. Surrealist cinema, as did Surrealist art in general, enacted the uncanny collision of seemingly desperate elements: representation/referent, living/non-living, human/non-human, mobile/immobile, real/surreal (Read and Breton, 1971; Short, 1980; Alexandrian, 1985).

Through an idiosyncratic interplay of visual and laboratory experimental practices, Hamon and Painlevé captured the attention of the Surrealist movement (Berg, 2000). For example, their film *The Vampire* [*Le Vampire*] (1945) is a sanguinary satire on Nazism told through the natural history of the vampire bat, *Desmodus rotundus*. Hamon and Painlevé juxtaposed the radical jazz of Duke Ellington with sequences from Murnau’s *Nosferatu* and from biological sciences to illustrate threat, the traveling of contagion, and political resistance<sup>4</sup>. *The Vampire* is an unsettling imagistic and sonic encounter loaded with symbolic meaning and political intent. But, at the moments in which the observer is presumed to understand the message, the film reorients the

focus, revealing just “how monstrously different this other life form actually is” (Rugoff, 2000, p. 51). The film shows that even the act of symbolism seems perversely anthropocentric, a house of human-centered mirrors, directing attention away from the “marvelous” diversity produced by speciation. The film argues that the vampire bat is not an easy, viable allegory for anti-Semitism and its infectious consequences. The vampire bat is not just a screen for identification, mis-identification, or representational strategies. Rather, the film shows monstrous differences, how those differences emerge in cultural practices, and how through these emergences, bat and human come to co-constitute each other in ways that exceed analogy and anthropomorphism even as the film plays with these protocols.

Many of Hamon and Painlevé’s films were experiments with underwater cinematography that were, in the words of 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”(73). 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 (Berg, 2000, p. 23). 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 untethered 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” (Berg, 2000, p. 29). The underwater camera enabled the presentation of a surreal technoscientific look, allowing new visual extensions into the watery domain.

In 1934 Hamon’s and Painlevé’s film *The Seahorse* [*L’Hippocampe*], used these underwater viewing technologies to show how the female of *Periophthalmus* puts the nipple of her cloaca into a specialized pouch on the male’s belly, transferring over 200 eggs into the male’s body. With beautiful close-ups and dazzlingly lit images, the film works at many levels to trouble categories of many kinds. Hamon and Painlevé saw the seahorse as a hopeful challenge to conventional anthropocentric notions of sex, sexuality, and the labor of generation. The film takes and offers much pleasure in watching the male seahorse laboring and contracting on the bottom of the aquarium. The seahorse, Painlevé wrote, “was for me a splendid way of promoting the kindness and virtue of the father while at the same time underlining the necessity of the mother. In other words, I wanted to re-establish the balance between male and female” (Berg, 2000, p. 23). Dominant heterosexual, masculinist fantasies that define much Surrealist imagery were reworked to invoke a different kind of sexual economy, one not predicated upon essentialist, human-centered, sexual difference.

<sup>4</sup>There is a cephalopod appearance in this film. An octopus crawls/floats over a human skull. The narrator says, “The grace and terror of gestures....”

Hamon and Painlevé looked toward animal worlds for alternative ways to think about anthropocentrism and anthropomorphism. 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 stories for these filmmakers to construct potent and astonishing science-*as-fiction* worlds. It is possible to suggest from their films that Painlevé and Hamon imagined that animals might offer stories that could shape and reshape the observer's understanding of themselves. Through their use of alternative imaging technologies, Painlevé and Hamon produced films in which animals act upon observers, 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 encounter.

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<sup>5</sup>. It is not apparent from these films that Painlevé and Hamon had any hope of rewriting some of the more conventional human/animal relations—these animals were clearly *used*. Throughout most of the film the presence of people is erased. This absence reinforces some of the old habits of the nature documentary (the effacement of presence in the frame but its assertion through editing).

## “I,” OCTOPUS EYE

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 across 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 framing of the aquarium obscures the enclosure. The off-screen space masks the glass boundaries of the aquarium, giving the illusion of greater space, but the octopus clings to the aquarium glass, pressing its suckers to the screen. (Of course the editor, not the octopus decided upon the inclusion of this image.) By clinging to the glass wall, the octopus exposes its

staging, its enclosure (as does the editor). I am not seeing an unmediated image of “wild” octopus behavior—like most natural history documentaries inform their observers that they are privy to. 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 (en-actor) in “intra-acting” with the apparatuses: lens, aquarium, camera, film, screen, and myself.

In *The Love Life of the Octopus* the octopus is subject and object, a figure of action (agency?) and a captive. But how can we talk critically about the agentive octopods of this film? Agency/actorship needs to be qualified in terms of power and the asymmetries therein. In other words, the octopus does not choose to be filmed, there is no agreed upon contract. The octopus cannot speak back to the curiosity of us simians. The octopus does not possess an innate or static agency. This definition of power leaves the octopus with none. However, if we see agency in a relational sense “emerging as an effect generated and performed in configurations of different materials,” then we can see the octopus with some agential power (Philo and Wilbert, 2004, p. 17). Agency is always relational, not the property of a fixed subject. Thus, one does not “have” agency. Rather, one is in an agential relation. So what can we say about the octopus?

I want to return to that earlier image of the octopus clinging to the aquarium glass. First, what about the aquarium, that transparency that further mediates light touching the organism, with all of its own refractive properties? The aquarium glass, though it forms distinctions between inside and outside, also foregrounds, like the microscope, space and mediation. In fact, the glass is metonymic of the microscope. Layers of glass—slide and cover slip—and a drop of liquid—sometimes water, sometimes oil at higher powers of magnification—allow me into inaccessible worlds. And as with the microscope, what one sees through the aquarium glass is distorted by refraction. Refraction, through water, relocates the image field on either side of the aquarium/water/air interface. I see, as does the octopus for that matter, the aquarium space indistinctly.

There are moments in the film when the aquarium's presence seems to be slightly masked. The framing of the image pushes the aquarium edge off screen. I am led to believe that I am beneath the surface. But, in a precise moment I see the smaller octopus give away its enclosure, its stage, and a direct address of sorts, reminding me where I am. The suction cups of the octopus cling and hold to the glass as its twisting arms become daring but tentative, approaching the larger octopus. It is a gestural move. It is an unscripted action. The octopus does not transgress the boundaries of its aquarium. However, the octopus does press against the fourth wall of its stage, the wall toward me. Its suckers cling to the off-screen space, to the apparatus of its image. I am led to consider the framing and staged enclosure of the octopus in this scene. Through this action, dare we say “acting,” the octopus manipulates the appearance of its own image. The unintended gesture shapes how the viewer understands the space in which the octopus is forced to perform. So, no, the octopus doesn't speak, but it does effect and affect the workings of cinema. The octopus engages its own image in the visual field.

<sup>5</sup>Painlevé's own perverse curiosity (and betrayal) is seen in the 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 (Berg, 2000).



Sustaining this inquiry into octopus acting, obligatory filming strategies also foreground the octopus's influence on the image. This is to say, aquatic organisms, such as the octopus, necessarily highlight cinematic instrumentations by requiring specialized filming techniques. Images of the octopus bind its environment—laboratory aquarium or intertidal zone—to the camera. The camera must accommodate the biology of the octopus. In the lab/film studio, the camera is always situated in relation to the aquatic environment of the octopus. The camera sits outside the aquarium glass. Layers of refracted light—lens, glass, air, water—illuminate the octopus in the aquarium stage. Although the octopus does not actively negotiate its framing, its physiology requires careful negotiation to secure a “good enough” image. Likewise, in the intertidal, the camera is limited by its ability to follow the octopus into tide-pools. Reflected and refracted light off the surface of the water hinders visibility. Yet, when the octopus is crawling through rockweed, the camera—a primarily terrestrial apparatus—is at home. In these moments of filming in air, the camera can have distance and the capability to pursue. The camera can hide in the structure of cinema. But when the octopus returns to the water, the camera is vulnerable to distortions. The aquatic camera, at best, records an image that foregrounds its own constructedness in the image field. And as viewers through the camera lens, we too are bound in these couplings, hooking us into the image field and the environment of the octopus. This is relational agency.

What else can we say about the role of the octopus in effecting its own image? Jonathan Burt writes, “This rupturing effect of the animal image is mainly exemplified by the manner in which our attention is constantly drawn beyond the image and, in that sense, beyond the aesthetic and semiotic framework of the film” (Burt, 2004, p. 12). We might consider this rupturing effect as a product of symbolism, a purely anthropocentric effect. However, what Burt is suggesting, and I think convincingly, is that while the animal is figured through an array of conceptual and political frameworks, the bodies of the animals configure these frameworks<sup>6</sup>. That is to say, the physiological differences of the animal in question shape its conceptualization in the cultural imagination. The octopus's body, behavior, and lifeway help produce its figuration in images. The octopus's many armed, shape shifting, color changing, and quick learning shape and reshape the construction of “the octopus” in language and culture.

Moreover, like the octopuses in Painlevé and Hamon's film, the image of the animal exceeds familiar representational

strategies. The referent becomes irrevocable; the referent becomes “real.” This does not mean that the referent can be recovered from the representation—this is not an argument about returning representations to whole referents. The image of the octopus foregrounds the broken light between the cinematic apparatus and the lived organism; they are certainly bound to each other, but only through incompleteness and partiality. More a light-scar than a trace, the animal image foregrounds the failure of the apparatus in truly “capturing” the organism. Idealization of human-octopus relations is mitigated by the fact that *The Love Life of the Octopus* constantly exploits the limitations of seeing (refraction) and plays on the disjunctions between what is seen/what is not seen, what is known/what is not known. The film is about concealing and providing—I am provided with representation at its limits.

Refracting (what Burt calls rupturing) representation, the image offers a partial experience of the organism beyond the apparatus. This is not to suggest that the octopus is merely metonymic of oceanic ecosystems, linking the organism back to that place called “nature.” Rather, the semiotic functions of the film that rely on precise kinds of selecting and combining (paradigmatic and syntagmatic operations) turn away from the conventional framework of narrative continuity, foregrounding the photo-chemical register of the “real” organism. That, as Burt suggests, “the animal image can so readily point beyond its significance on the screen to questions about welfare suggest that the boundaries of film art... cannot easily delimit the meaning of the animal within its fictions” (Burt, 2004, p. 13). As it is now impossible to disentangle ecosystems, bodies, and technologies, so too is it impossible to separate out mediated aspects of human-animal relations. The breaches, wounds, and scars between representation/real, human/animal, and technology/bodies become part of the apparatus. The consequence of these relays of rupture/loss/connectivity suggests that, “We are looking from within nature, and not at nature” (Burt, 2004, p. 47).

This notion of fractured (or refracted) light is suggested in an earlier image, where we see an extreme close-up of an octopus's eye. Burt writes, “Film effectively turns the animal eye into a camera, a non-human recording device.” He is interested in how animal films tend to offer close-ups of the animal eye. Looking through the history of cinema and its foundation in animal images, he suggests that these close-ups propose that the animal's eye is the closest to “the technology that produces it” (64). The octopus's eye, for our specific purposes, is metonymic of the lens rather than the camera. The lens with its refractory qualities, its variation in refractive indexes, more precisely describes the octopus's eye. The octopus eye is refractory, as is our own. Light is admitted through the pupil, passing across the lens where it is altered, focused, refracted, then on to the retina. The close-up of the octopus's eye links it to the refractory nature of *The Love Life of the Octopus* itself: scale changes and interfaces. The movement of light through the lens, its changeability and variability, is conflated with the octopus's own mobility. The octopus eye also foregrounds the limits and distortions of its lens. In other words, like the lens, the octopus eye does not allow for a knowing “look.” All I can know for sure is that layers of mediation both separate

<sup>6</sup>Burt has also started asking similar kinds of questions about “animal” images. We disagree in important ways; he is interested in how the image of the “animal” dissolves mediation. He argues that the “animal” creates a more affected viewer, unable to see cinematic structures. I, on the other hand, cannot help but notice how Painlevé's and Hamon's film about octopuses produces greater awareness of the mediation, hailing a critical viewer into the environment of the image and its referents. We differ in scale and conclusion. While this is a significant difference, we have reached similar conclusions on the role of, in his terms, “animal agency.” I don't use that term, fearing its tendency toward subjectivity, preferring “actor” with its connections with Bruno Latour (Actor Network Theory) and James Clifford's intriguing account of Sea Otters as historical actors in Clifford (1997). We both want a more active non-human animal.

and bind the octopus's eye to mine. The octopus's eye, again like the lens, is a pathway through which we encounter the octopus in the visual field.

## FROM EGG TO EYE

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 observational space: the microscopic image foregrounds the space between the image and myself. These moments point to how relations are mediated by a spectrum of spatial settings and processes. If the film suggests a refractory space, then it offers an alternative to how *Octopus vulgaris* is represented.

I experience something other than “the impression... that animals are merely passive surfaces on to which human groups inscribe imaginings and orderings of all kinds” (Philo and Wilbert, 2004, p. 17). The octopus images are determined for observers and octopuses; the octopuses have no *say* in how they are represented, and observers 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. I am confronted with *focused* difference, a recognition that cannot be easily repressed. Perhaps refraction can assist in this work, bending the mirrored image of self-back into the body in space, re-imagining 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 sexuality begins: interest, cohabitation, discomfort, distortion, and magnification of focus from self-location in relation to the cephalopod. *The Love Life of the Octopus* is about how sexuality—as suggested by refraction/refractory—is both a projection onto the animal, but as Lippit's octopus suggests, as well as space in which the organism we call octopus may show up. Consider how the film opens with a man/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. But importantly, it is the optics of refraction—its partiality, its intimacy—that produces sexual site in which fantasy (e.g., Haraway, Burroughs, Lippit) layers with un-representable sexuality.

## REFERENCES

- Alexandrian, S. (1985). *Surrealist Art*. New York, NY: Thames and Hudson.
- Barad, K. (1999). “Agential realism: feminist interventions in understanding scientific practices,” in *The Science Studies Reader*, ed M. Biagioli (New York, NY: Routledge), 1–11.

*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 octopus. The film addresses us as “not octopus,” it does so by portraying an experience that feels immediately not one's own. The filmic space extends to us by soliciting, cajoling, and seducing, but only to offer a space of heterogeneity, differences, and fragmented coherences. Adopting a seemingly critical stance, the film wants the spectators to see themselves in relation to the octopus—to see our profound otherness while playing with familiarity. The refracted image—like the metaphor of the octopus's gaze—is a sexual provocation. The spectator sees parts of the magnified octopus, but also see the mediation of the image and 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...” (Epstein, 1993b, p. 239). The refracted image and the filmed octopuses offer a productive alternative to both radical alterity and ultimate knowability, but only through sexuality and its structuring of subjectivity. What ought to be foreclosure of organismal presence, spectatorial sexuality, is the most promising site for experiencing the force and activity of the organism. As such, 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 myself. *The Love Life of the Octopus*, witnessed in title alone, is an erotic narrative; octopus, camera, filmmakers, and spectators are conjugated in the refracted space—each is a wet reach.

## NOTE

A shorter version of this essay, “Enfolded Vision: Refracting the Love Life of the Octopus,” first appeared in the journal *Octopus* (2005). In that essay, I offered a cinematic theory of refraction (a supplement to reflection and mirroring) that attended to the physics of refraction, particularly magnification, to propose a bodily and sensuous spectatorship.

## AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and approved it for publication.

- Barber, L. (1980). *The Heyday of Natural History: 1820–1870*. New York, NY: Doubleday & Company.
- Barnouw, E. (1974). *Documentary: A History of Non-Fiction Film*. Oxford: Oxford University Press.
- Berg, B. (2000). “Contradictory forces: Jean Painlevé, 1902–1989,” in *Science Fiction: The Films of Jean Painlevé*, eds A. M. Bellows, M. McDougall, and B. Berg (Cambridge: MIT Press), 2–47.

- Berrill, N. J. (1983). The pleasure and practice of biology. *Can. J. Zool.* 61, 947–951.
- Bousé, D. (2000). *Wildlife Films*. Philadelphia, PA: University of Pennsylvania Press.
- Breton, A. (1988). *Mad Love*. Trans. by M. A. Claws. Lincoln: Bison Books.
- Brunius, J. B. (1949). “Experimental film in France” in *Experiment in Film*, ed R. Manvell (London: Grey Walls Press), 60–112.
- Burroughs, W. (1995). “Octopus,” in *Living With the Animals*, ed G. Indiana (Boston, MA: Faber and Faber), 1–8.
- Burt, J. (2004). *Animals in Film*. London: Reaktion Press.
- Cartwright, L. (1995). *Screening the Body: Tracing Medicine’s Visual Culture*. Minneapolis, MN: University of Minnesota Press.
- Clifford, J. (1988). *The Predicament of Culture: Twentieth-Century Ethnography, Literature, and Art*. Cambridge: Harvard University Press.
- Clifford, J. (1997). *Routes: Travel and Translation in the Late Twentieth Century*. Cambridge: Harvard University Press.
- Crary, J. (1992). *Techniques of the Observer: On Vision and Modernity in the 19th Century*. Cambridge: MIT Press.
- Epstein, J. (1993a). “Magnification,” in *French Film Theory and Criticism: A History/Anthology, 1907-1939, Vol 1*, ed R. Abel (Princeton: Princeton University Press), 235–241.
- Epstein, J. (1993b). “The senses,” in *French Film Theory and Criticism: A History/Anthology, 1907-1939. Vol. 1*, ed R. Abel (Princeton: Princeton University Press), 241–246.
- Freud, S. (1995). *The Basic Writings of Sigmund Freud*. New York, NY: Modern Library.
- Haraway, D. (1989). *Primate Visions: Gender, Race, and Nature in the World of Modern Science*. New York, NY: Routledge.
- Haraway, D. (1990). *Simians, Cyborgs, and Women: The Reinvention of Nature*. New York, NY: Routledge Press.
- Haraway, D. (2003). *The Companion Species Manifesto: Dogs, People, and Significant Otherness*. Chicago, IL: Prickly Paradigm Press.
- Hayward, E. (2010). Fingeryeyes: impressions of cup corals. *Cult. Anthropol.* 25, 577–599. doi: 10.1111/j.1548-1360.2010.01070.x
- Lane, F. W. (1960). *Kingdom of the Octopus: Life History of the Cephalopoda*. New York, NY: Sheridan House.
- Laplanche, J. (2015). *The Temptation of Biology: Freud’s Theories of Sexuality*. Trans. by D. Nicholoso-Smith. New York, NY: Unconscious in Translation.
- Lingis, A. (2000). *Dangerous Emotions*. Berkeley, CA: University of California Press.
- Lippit, A. M. (2005). *Oeotopus. Octopus 1*, 9–13.
- Marks, L. (2002). *Touch: Sensuous Theory and Multisensory Media*. Minneapolis, MN: University of Minnesota Press.
- Merleau-Ponty, M. (1968). *The Visible and the Invisible*. Trans. by A. Lingis. Evanston, IL: Northwestern University Press.
- Metz, C. (1986). *The Imaginary Signifier: Psychoanalysis and the Cinema*. Bloomington, IN: Indiana University Press.
- Milstein, T. (2012). “Banging on the divide: Cultural reflection and refraction at the zoo,” in *Perspectives on Human-Animal Interaction: Internatural Communication*, ed E. Plec (London: Routledge), 162–181.
- Mitman, G. (1999). *Reel Nature: America’s Romance with Wildlife on Film*. Cambridge: Harvard University Press.
- Nichols, B. (1991). *Representing Reality: Issues and Concepts*. Bloomington, IN: Indiana UP.
- Painlevé, J. (1965). *Love Life of the Octopus*.
- Philo, C., and Wilbert, C. (2004). *Animal Spaces, Beastly Places*. New York, NY: Routledge Press.
- Read, H. E., and Breton, A. (1971). *Surrealism*. London: Faber and Faber.
- Rugoff, R. (2000). “Fluid mechanics” in *Science is Fiction: The Films of Jean Painlevé*, eds A. M. Bellows, M. McDougall, and B. Berg (Cambridge: MIT Press), 48–57.
- Short, R. (1980). *Dada and Surrealism*. London: Octopus Books.
- Short, R. (2003). *The Age of Gold: Surrealist Cinema*. London: Creation.
- Stafford, B. M. (1996). *Artful Science: Enlightenment Entertainment and the Eclipse of Visual Education*. Cambridge: MIT Press.
- Conflict of Interest Statement:** The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.
- Copyright © 2019 Hayward. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.