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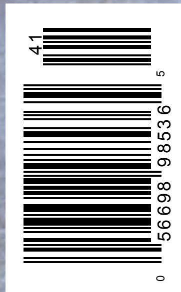

INGESTION / THE ENDOSCOPIC IMAGINATION

D. Graham Burnett

"Ingestion" is a column that explores its topic within a framework informed by history, aesthetics, and philosophy.

In the course of research into the history of spy cameras, I stumbled recently on the following letter to the editor in the *British Journal of Photography*, volume 55 (1908):

Gentlemen: In these days of great photographic possibilities one is often obliged to take in *a great deal connected with what used to be called our "art-science," but it is not often one is expected to actually swallow a camera and electric light plant at one gulp.*[1]

The correspondent ("F. A. Bridges") proceeded to report a rumor concerning one "Dr. Fritz Lang, of Munich," said to have developed "an apparatus … by which the inside of the stomach may be clearly photographed." The cited account of its operations could be clearer, but reads in relevant part:

The camera is actually swallowed by the patient, and no sooner does it reach his stomach than the walls thereof are illuminated by a small electric lamp attached to the apparatus. At the bottom of the camera is wound a photographic film 20in. long and a quarter of an inch wide. All the surgeon has to do is to pull the cord and thus run the film past the lens.

Such a device, if it in fact existed at that time, would represent a pioneering episode in the history of "endoscopy"—the penetration of the body by instruments affording visual access to what is inside us.

A doctor at St. Alban's Naval Hospital in Queens, New York, examining a fluoroscopic image showing the position of a Gastro-Photor inside a patient's stomach. The swallowable two-inch-long camera was capable of taking images from sixteen directions at once. From *Life* magazine, 30 May 1949. Photo Bernard Hoffman.

Historians of medicine have paid close attention to endoscopes, not least because the ambition to convey the investigative gaze of a doctor through the hidden channels of the human body has been understood to literalize certain charged aspects of scientific inquiry writ large. For instance, one notes an undeniable element of transgression at work in such probing. And there is, too, that unsettling cross between the phallic and the ocular that has preoccupied many critics of techno-scientific rationality—a convergence especially difficult to dismiss in reviewing the ranks of rigid tubes used to peruse the digestive and urogenital systems of patients from the late eighteenth century forward. Not until the development of fiber optics in the 1950s was it possible to "snake" a slim, flexible image-conveying instrument through the twists and turns of our plumbing. Before that, some portion of the body had to submit to a straightening entrance. Indeed, the notable German physician Adolph Kussmaul famously collaborated with a professional sword-swallower in performing the first successful esophagoscopies in the late 1860s. All of which is to say, most early endoscopes look like a priapic prosthetic for the eye—and that, of course, is exactly how they were used.

But not every probe is a prosthetic. Against the canonical history of these early endoscopes—where the point-of-view (like the eye of the doctor) remains entirely outside the body—a device like that ascribed to

Low-budget "endoscope" courtesy of the US Air Force, with whom the Navy apparently did not share its technology. According to the October 1951 issue of *Popular Mechanics*, the camera, invented by captain Harry R. White, was "not recommended in scientific practice," but did make it "possible for a dentist to photograph his own teeth."

"Dr. Lang" represents something fundamentally different. After all, the introduction of a camera *into the body itself* definitively refigures the seeing scene: no longer do we peer into the innards from an Archimedean distance (with all the leverage that implies); we are, instead, *engulfed*. The scopophilia hasn't gone away, but it has been dialectically subsumed/undone: we aren't *looking inside*; we are *inside, looking*.

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So did Lang exist? And did he actually make the camera ascribed to him? Dipping into Reuter, Engel, and Reuter's seven-volume *History of Endoscopy*, I found a confirming lead: "1898: Fritz Lange and D. A. Meltzung experiment with gastrophotography."[2] Camran Nezhat's *Historical Analysis of Endoscopy's Ascension since Antiquity* seconded, according Lange a single lonely (if admiring) mention: "it is stunning to consider that a flexible scope was actually developed fifty years before the era of fiber optics."[3] But this is a rather odd way to put it, since it wholly overlooks what was truly innovative about Lange's device: he didn't make a flexible gastroscope *avant la lettre* (only an endoscopist could think of it that way); what he made was *a waterproof micro-camera on a string*. And this, as best I can make out, was totally unprecedented. Lange seems to have made the *world's first ingestible camera*.

Consulting several essays on the history of endoscopic photography, I found nothing to suggest otherwise. Those studies uniformly ascribed the earliest operational deep-body cameras—cameras that in their optico-mechanical entirety physically entered into body cavities (i.e. not merely insertable lenses or systems of throat/vaginal/rectal mirrors)—to the late 1940s. Pride of place generally goes to the Olympus "Gastrocam," developed by Japanese researchers making use of miniaturization technologies that came out of the war effort. More digging turned up several additional period accounts of Lange's actual work, including a remarkable illustration of the device in use published in *Scientific American* in September 1899. The cutaway drawing establishes the nearly perfect technical homology between the Lange camera and the Olympus Gastrocam of fifty years later.

Still more surprising was an aside in the *Scientific American* article, which made it clear that Lange's device was understood to hail from and/or participate in the (very) new world of cinematic image-making: "The camera is a marvel of compactness, and is *constructed on exactly the same principles as all cameras for taking moving photographs.*"[4] The text goes on to acknowledge that there had been, to date, no attempt to combine or project the frames, but the anonymous author then immediately alludes to the way moving pictures of such a kind could give access to the "actual operations of the stomach," establishing beyond doubt that Lange's radical innovation—a swallowable camera—was received, in 1899, as (at least imminently) a swallowable *movie camera*.

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James Williamson's 1901 silent short, *The Big Swallow*, came swiftly to mind. In this important, early, fifty-nine-second "comic" film, a well-dressed gentleman apparently caught suddenly by an unhappy awareness of the camera, cameraman, and/or cinema-spectators (he would seem to have been otherwise occupied), approaches gradually, speaking and gesticulating with increasing animation. At thirty-six seconds he is unsettlingly

At the threshold. Still from James Williamson's 1901 film *The Big Swallow*.

close—close enough that we can clearly discern each tiny whisker of his upper lip. And at this point he begins to open his mouth, widening its gape until the screen goes completely black.

For a hallucinatory instant, a movie camera on a tripod and its operator (seen from behind, hands upthrown in horror) flash into view before the abyss, only to teeter forward and tumble out of sight down the inky maw. The thin lips then smack down on this disappearance, and we are left to contemplate the satisfied mug of our ravening assailant, who steps away and flashes a manic grin, having effectively bitten cinematic subjectivity in two. Everyone has some digesting to do.

The Big Swallow—called a "sensation" by one early critic—elicited genuine astonishment in its first runs, leaving viewers in a state of queer vertigo that they seem to have expiated in guffaws.[5] A modern moviegoer, sitting through the same blurry, cheese-ball minute on YouTube, likely finds so dramatic a response thoroughly incomprehensible. But a period eye is required: recall that in 1901 the experience of a cinematic "close-up" itself remained a kind of assault on the senses of an audiences—the convention was really less than a year old.[6] To find so novel a genre already pushed to its dialectical threshold—to see the creeping intimacy of the close-up slip Jonah-like into the belly of the beast; to be thereby so rudely reminded of the self-loss that lies at the terminus of appetite for the other; to be, in effect, "vomited forth" to one's autonomous perspective after that chastening spell in the dark, but newly apprised of the contingency and peril of that (apparent) autonomy—must indeed have given punters a thrill. Rightly considered, the gesture retains no small force.

Endoscopy has been, to the best of my knowledge, universally conceived as a program of body visualization. But is that quite right? What if the whole enterprise is better understood as an elaborate and sublated inquiry into the phenomenology of that which enters the body? Sure, at first glance the gastroenterologist, peering into his endoscope, appears to be looking *at* the upper gut. But on closer inspection, is he not looking *as* the thing that enters the body? Is he not seeing *from the point of view of the edible*? Endoscopic gastrology: the techno-scientific pursuit of metempsychotic convergence with an eaten thing. Call it a participant ethnography of food. Or a white-coat sublimation of our collective anthropophagic fantasy.

I had not previously thought of *The Big Swallow* as an allegory of the endoscopic unconscious, but, in light of Lange's contemporaneous experiments, I suddenly found myself trembling unsteadily on the verge of such an interpretation.

A part of me fell forward. And a part of me stepped back, looking on.

1 "A Novel Method of Photographing Interiors," *The British Journal of Photography*, vol. 55, no. 2511 (19 June 1908), p. 482. Emphasis added.

2 Matthias A. Reuter, with Rainer M. Engel and Hans J. Reuter, *A History of Endoscopy*, 7 vols. (Stuttgart: Max Nitze Museum, 1999–2003).

3 Camran Nezhat, *Nezhat's History of Endoscopy: A Historical Analysis of Endoscopy's Ascension since Antiquity* (Tuttlingen: Endopress, 2011), p. 70.

4 "Photography of the Stomach," *Scientific American*, vol. 81, no. 11 (9 September 1899), p. 171. Emphasis added.

5 The critic is Frederick A. Talbot, on whose account of the reception of the film I draw. Talbot offers a very interesting summary of the technical challenges overcome in the making of what might seem a very simple trick picture. In fact, a shifting focal plane in an apparently continuous shot required rigging a Victorian motion picture camera with the adjustable bellows of a traditional portrait camera—apparently unprecedented at the time. See Talbot, *Moving Pictures: How They Are Made and Worked* (Philadelphia: Lippincott, 1912), pp. 254–257.

6 The exact origin of the cinematic close-up is contested, but there is considerable consensus around George Albert Smith's *Grandma's Reading Glass* (1900), which features a very tight and vignetted shot of a human eyeball.

INVENTORY / "DO YOU BELIEVE IN ANGELS?" AND OTHER INQUIRIES

Lori Cole

"Inventory" examines or presents a list, catalogue, or register.

The questionnaire was a ubiquitous genre from the turn of the twentieth century through its peak in the 1920s and 1930s and magazines continue to use the form to this day. Questionnaires—also known as surveys, symposia, or inquiries—consisted of broad, open-ended questions such as "Why do you write?" and "What is the avant-garde?" posed by magazine editors to their contributors, whose responses were then compiled and published in subsequent issues of their journals. Part of the questionnaire's appeal for editors was its capacity to solicit material from their contributors at little to no cost. Questionnaires were also popular because they provided a formula that contributors and readers alike recognized, one that engaged in, mocked, and usurped technocratic language for the periodicals' aesthetic platforms while allowing editors and respondents to contest the issues of the day.

The format's essential mode—to provoke debate through prepared questions—emerged from an earlier genre, namely the interview. In the 1880s, Jules Huret, who frequently interviewed artists and writers, began to present his subjects with questionnaires.[1] As these efforts grew in popularity and scope, *enquêtes* became a regular feature of the *Mercure de France*; one from 1905, for instance, asked, "Is Impressionism finished? Can it renew itself?" and "What opinion do you have of Cézanne?"[2] Providing a space in which to reflect on the shifting art