Avatar Udders
2014–2016
In the context of *We'll Meet Again*,
Kunsthalle Athena, Athens

An economy of fluids—a conversation between Jennifer Teets and Barbara Orland

Jennifer Teets

Jennifer Teets:
You and I first met over an invitation to "The World in Which We Occur," a telephone series I co-organize with my colleague Margarida Mendes focusing on prominent issues in politics, science, art, and the history of materiality contextualized in the form of a question. In that context, you presented your thinking around the notion of the pharmakon from the perspective of medical materiality. You stated that "We shouldn't only think about the pharmakon in the narrow sense of 'What is a drug?' but instead, 'What do we mean by *healing power* or creativeness? How do we determine that some substances are healing and others not, that some are even poisonous and can harm our bodies?'" This was a very striking response for thinking through the problems of embodiment, substance, and the imagination around "volatile humeral bodies." Could you define your thinking around an "economy of fluids" and the different epistemologies employed historically? How is this positioned with regards to your research on milk?

Barbara Orland:
History for me is a possibility to distance oneself from our present thinking. If you ask yourself, how do we judge any kind of substance, then you soon will recognize that we moderns tend to think very simplistically in terms of purposes—a pharmakon is any kind of drug, a pharmaceutical product, remedies, or cures that help physicians etc.—and in terms of "building blocks." Substance x or y is a compound of a, b, c, etc. Most often we replace the medical question, why does this substance help

Jennifer Teets is a contemporary art curator, writer, researcher, and performer born in 1978 in Houston, Texas (USA), living and working from Paris. She is known for her research on cheese, mud, and terra-sigillata—their transitioning towards materiality and entity and their ability to become something else when put in an exhibition or an essay. Her research and writing combines inquiry, sciences studies, philosophy, and ficto-critique, and performs as an interrogative springboard for her curatorial practice.

Barbara Orland, born in 1955 in Düren (Germany), is a historian of science, technology and medicine and Affiliated Senior Researcher at the History of Pharmacy Museum at the University of Basel (Switzerland). Her current research interests range from the history of the life sciences and biomedicine, for example, scientific concepts of fertilization and pregnancy, nutrition and metabolism, and biomaterials like blood and milk.

me to be healthy and cured of this illness, with the chemical answer of this or that compound. Thus, we leave the work and domain of definition of pharmakon to pharmaceutical science and their industries. They tell us that drugs are biologically active substances. This, however, is just another expression of the same question: What means biological activity? You see, we move in a circle. Our original question regarding health and healing is still unanswered. My first interest is to become aware of our modern epistemologies. In contrast, premodern physiologies argued quite differently in terms of an economy of fluids. That means, the early modern body was not a stable entity. It was fluid, porous, a volatile humoral body. Because bodily fluids such as blood, milk, semen, sweat, tears were constantly changing, physicians (and so did chemists or apothecaries) thought in terms of a liquid physiology, even when they were studying the skeleton, the muscles, or the organs.

Jennifer Teets:
My own research into milk and cheese led me to your writing. My work with cheese, like other materials or substances I'm engaged with as units or derivatives, has a back-story. It is not your usual cheese. It is essentially an effort to make a trace in cheese. A traumatic trace (in cheese form) made from a herd of dairy goats that were afflicted by psychosomatic effects as a consequence of a violent European windstorm named Xynthia that struck France in 2010. Goats are sensitive creatures. They are affected by minute environmental disturbances related to sound and movement. So visualize this storm combined with other factors, in this case helicopters swarming and surveying from above post-storm, and imagine the kind of environmental stress that it implies for them. What was mistaken for a bacterial infection was a Mycoplasma. Mycoplasmae are slow-growing microorganisms, members of the mollicute family, and are characterized as infectious agents, somewhere between a virus and bacteria. They are

known to cause serious and often fatal illness in goats. Their symptoms include the decrease in milk production and mastitis as well as respiratory issues. Conducting first-hand research, I became immediately captivated, and as a response to a commission tied to my research group at SPEAP (SciencesPo Experimentation in Arts and Politics, a social sciences/artistic research group led by Bruno Latour in Paris) looking at disaster-induced displacement, I took the opportunity to research, write, and film around bacterial displacement. Even further, I learned to make cheese from their milk. Nervous cheese. The writing inspired a film-lecture that examines cheese inside a technological wheel, and it positions stress in tandem with an "ingestion of politics"—a concept I've been maneuvering in the work. In your research and writing, how has the psychosomatic expressed itself within milk and cheese and "liquid physiology"—another epistemological term you've resuscitated from the literature of the past?

Barbara Orland:
We have to bear in mind that psychosomatic explanations or, more generally, the difference between a somatic/physical and the psychological level of a human being did not exist in the humoral thinking and reasoning of the premodern times. The material thinking of a liquid physiology always comprised both levels, with sometimes odd consequences. To give you a few examples: goat's milk was not the most suitable milk for nourishing babies and the sick because the baby could become as bitchy as the animal. Temperament, character, strong emotions or passions could all affect the bodily matter, and even animals, though lacking a rational soul, transmitted their characters through their flesh and milk. Physical health and mental health were interwoven and could not be separated. Just as passions and the imagination could cause deformities in children in utero, they could have an impact on breastfeeding as well. Even though natural philosophers writing after Descartes argued for

a disconnection of body and mind, still during the eighteenth century it was nevertheless common to assume a strong connection between them, and this was seen as more than metaphorical. Farmers reported that a cow whose calf was taken away could stop giving milk. Or physicians believed that organs could become irritated by bad experiences. One physician argued that the milk of a nursing mother had coagulated within her breast after she had seen her baby fall to the ground. Fear constipates the breast, just like any nervous change, he believed.

Jennifer Teets:
You have also written extensively on the materiality of the modern world and the threshold space of the element fluorine; how it sits between a "modern, physicochemical knowledge that conceptualizes the material world on the basis of the smallest, timeless units (a modular system of eternal, static elements) and the chaotic material world as it presents itself to us in daily life, as a constantly changing world of appearances, which produces, in endless sequences, a flow of fleeting sensory perceptions." Can you further this idea of "flow" that fluorine portrays and where you position it with regards to the resurgence of the material turn?

Barbara Orland:
The story of the discovery of fluorine is an interesting example that teaches us about the volatility of our modern knowledge of the chemical elements. From a chemical perspective, fluorine is a halogen that is probably the most reactive of all elements. Fluorine liquefies and dissolves; it disintegrates and erodes; it bonds and speeds up processes. In short, it sets matter in motion. Though chemists of the 18th century hypothesized about an element, they could not isolate it because of its instability, its idiosyncratic behavior, and its liminal nature. Handling fluorine compounds was even life-threatening. Chemists were blinded and died when they inhaled the vapors that escaped from

their laboratory equipment. It was not until 1886 that the French chemist Henri Moissan successfully isolated pure fluorine, yet only for a very short moment. Thus, fluorine in some sense straddles the boundary between the modern, physicochemical knowledge that conceptualizes the material world on the basis of the smallest, timeless units (a modular system of eternal, static elements) and the chaotic material world as it presents itself to us in daily life.

Jennifer Teets:
I'm also fascinated with one paper written by you that spotlights "metabolic narrations" such as the case of Francisco Lozano, a laborer from Venezuela, who was said to have suckled his child with his milk (as described by Alexander von Humboldt in his reports from 1799). Increasingly gender relationships are entangled with matter. This historical relic further complicates sexual difference. Could you describe it more with regards to the lack of sharp boundaries in the past on the level of bodily fluids? Specifically, I'm interested in the concept of a "fungibility of fluids" mentioned in this text. Have you also read on lactating male animal species?

Barbara Orland:
Humboldt himself was not so much astonished about the suckling father. He wrote that it "is not a very uncommon circumstance to find males, both among humankind and animals, whose breasts contain milk." The usualness of such an event he authenticated with tales known from other countries, e.g., a he-goat in Hanover who was milked every day for a number of years, or some people in Russia where anatomists said to have found milk in the breasts of men. Humboldt suspected, however, the opinion of other travelers to America who had argued that the weakness of the American caused male lactation. Unlike to these beliefs, he agreed with the historical evidence of lactating men. Referring to Aristotle's history of animals as well as anatomists textbooks from different cen-

turies, to Humboldt, it seemed beyond doubt that men could suckle a child if their nipples are stimulated. In fact, medical authors—in addition to the evidence in Aristotle and the corpus Hippocratic—quite often reported cases of male lactation. Again, stories about male lactation are another example of a liquid physiology that could be well explained by the generative and regenerative processes of matter transformations that occur invisibly inside the body. To be sure, early modern bodily fluids and flows did not replace each other. Whether in scientific or in popular writings, blood was blood, and milk was milk. Accordingly, milk was not an uncertain being of unfixed gender. As food for the offspring, it was part of a female flux. Nature had, in its typically wise, teleological foresight, ordered the generative process in two distinct and hierarchically different bodies. Pregnancy and nurturing were sex-specific bodily functions and breastfeeding an exclusive female body ability. If men nevertheless were able to generate milk, this capacity was the outcome of nature's sometimes peculiar order, made possible by the fluidity of the body. It was an exception that developed alongside the natural needs of human beings. The physical body changed in conjunction with the external environment, climate, territory, food and could even induce gender variations. In fact, without explicit mentioning Humboldt referred to a century-old common sense knowledge that milk (and blood) were the only aliments that most living beings (plants, animals, humans regardless of age, gender, or status) were able to produce by themselves for the maintenance of life. Milk also had not only one physiological function, that is to be the food for the newborn. Instead, milk was characterized through a remarkable physical and symbolic malleability. Like blood, it could be found at many places inside the body, and in bodies where one usually would not expect to find it, such as the bodies of virgins, post-menopausal women, and men.

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