

Fluid Fat: Considerations of Culture and Corporeality

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4:11 I can assure you is no time for indulgence,
for silliness, to rethink life's bargain.
It is the moment, instead, glasses askew,
to lift each thigh from overnight caress
of garlic, fresh bay leaf, home-harvested thyme,
to massage flesh under cold water
with priestly certainty, free all excess of salt,
lay each upon its pallet of skin and fat.

Gaylord Brewer, *Duck Confit*

Duck confit is a traditional Gascogne dish of choice. It is a monument or celebration of the "peasant bird" (Schneider, p. 50); a method through which the delicate flesh is bathed, caressed and finally dissolved in its own juices – and primarily its own fat. The duck meat is meant to "melt on the tongue"; to disintegrate at our mere touch (dartagnan.com). Meat is separated from excess matter, and when this matter is reintroduced it proves simultaneously gentle, loving, disarming and destructive.

The philosophy of the palate (or the plate) extends to the philosophy of embodiment – as this is indeed how fat tends to be thought of in contemporary culture in general. We separate fat and flesh conceptually, like we do on the cutting board (whether this be in our kitchens or our operating theatres). *There's no threat from fat. Yellow like butter, wobbly like a balloon. Shining, smooth. It cushions, it pads. It provides a shelter, a parachute, when at times the intestinal wall is breached. Such a friendly, unthreatening substance on the inside, and yet how we deplore it. It's our luxury, our excess, our sin. The system we think we could do without.*

In the following fluid ruminations, we contemplate and chew over the politics and poetics of body fat – as well as the interior/exterior, stable/ephemeral, solid/fluid binaries these have come to

straddle in contemporary culture. Correlating our thoughts and experiences, as a cultural historian and theorist and a medical doctor/writer – two specialists of embodiment on different sides of another discursive divide – we negotiate the processes and transformations that occur inside and outside the body as fat is ingested, digested and divested in the corporeal and cultural body-machine, both on a physiological and a conceptual plane. As we manipulate and melt the cultural boundaries we encounter, we find that fat is as scientifically as it is socially ephemeral. Fat is a “wobbly” substance, and a simultaneously substantial and insubstantial fluid. It is the body matter we refuse to consider, but we can’t live without.

There has been a surge of fat studies in recent feminist academia, and numerous special issues, collections and articles including Susie Orbach’s seminal *Fat is a Feminist Issue*, Esther Rothblum and Sondra Solovay’s *Fat Studies Reader*, Samantha Murray’s ‘Fat Bodily Being’ special issue of *Somatechnics* and Tove Solander’s article ‘Fat Feminism’ have considered how fat affects conceptions of self and identity. There is very little scholarship on the ontological perimeters of fat as a corporeal substance, however. Feminist studies tend to focus on how fat as an *exterior addition* to the idea of the female body beautiful affects our sense of self, but seldom touch on how fat as an *interior part* of us always already functions within the continual constitution of said self. Susie Orbach argues that the disconnection between fat and other types of body tissues creates an imaginary boundary between our idea of our bodies and our actual anatomical constitution. She describes how people suffering from eating disorders and obesity tend to imagine a *real* or *true* body underneath the layers of fat that make up their physical shape (2006, p. 77). Fat is seen as a liminal or transitory substance that comes and goes, but never substantially affects the more stable and essential parts underneath. Fat belongs to the Imaginary realm, rather than the experience of the Real. As Karin Sellberg has argued elsewhere, “fat becomes somehow disconnected from corporeal experience: it is the clouding aspect, or the veil, behind which ‘real experience’ hides” (2014, p. 100). Susie Orbach describes this conception of fat in terms of a pathological thought pattern, but it is not entirely dissimilar to the way in which fat is considered in contemporary culture in general. It even permeates contemporary medical discourses. *With other tissue I’m careful, almost reverent. I’m making the hole in the skin as small as possible, I handle the intestines like a fragile, pulsating, porcelain vase. A careless cut, a sloppy move, and the magic might be broken. The outside world of food and faeces intrudes into the peritoneal cavity, causing disaster. That’s not how it is with fat. I pull it, I tear at it, I rip it out. A little more, a little less, it doesn’t matter. There’s*

nothing to hold on to, the grip of the instruments is poor. We cut through, we dissect, looking for the treasure underneath.

According to Orbach, we have started to conceive of fat as subsidiary to the rest of our physical makeup due to patriarchal ideas of feminine petiteness, anorexic body ideals and harmful influences from recent fat-phobic media and culture. This does not seem entirely right, however. The rejection of fat is not just a feminine or feminist issue – fat has been excluded from the Western *Body Actual* for centuries and this includes images of both genders. Vesalius's famous models from *De Corporis Humani Fabrica* (1543) portray the human body in various stages of dissection, but even his most complete corporeal schemas, like his sketch of the muscular tissue in table 1, book 2 (see Fig. 1), give rise to an idea of a body entirely devoid of fat. Vesalius's man even holds onto and contemplates his removed skin, but his subcutaneous fat is nowhere to be seen.

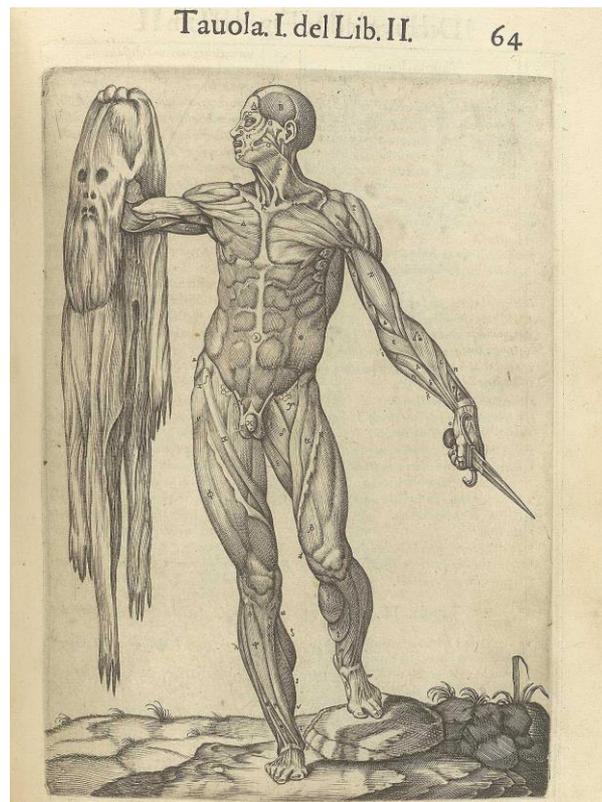


Fig 1. Vesalius, table 1, book 2, p. 64.

The fat-free perspective developed in Vesalius's sixteenth-century anatomical drawings is not exclusive to early modern anatomical models. It has remained throughout the centuries in Western medical discourse. Contemporary anatomical models similarly tend to scale off the layers of fat that would usually cover and embed the organs and muscle tissue of a healthy body. *How was fat taught in anatomy classes at medical school? Not much. The removable organs on the plastic doll were cleanly dissected, even though some layers of subcutaneous fat were visible in the transversal cut of the abdominal wall. The mamillae were also displayed in their full fatty splendour.*

The absence of fat in contemporary ideas of corporeality has become a feminist issue because the few spaces in which fatty substances are recognised as part of our physiology *at all* are typically recognised as female sites of embodiment. The only spaces where fat is allowed to emerge are those areas already "other" to the typical "body of man". As Luce Irigaray argues in *This Sex Which is Not One*, any physical parts that are not firm and stable have become encoded as feminine in Western culture (p.106); however, whether we look at a male or a female body, what is really striking about human corporeality is the contrast and juxtaposition between fluid and solid, muscle and fat. *When we open up a real person, the fat we see both is and isn't part of the general structure. If we make a midline cut, slicing through the epigastrical region, being careful to circumvent the navel, and continue down toward the lower part, we will first be met by the stomach supporting the omentum majus, a fatty curtain protecting the intestines. If we pull it to the side, the intestines will pop out, tossing and turning and wriggling like worms – our internal Medusa head. But if we push them to the side, most other organs underneath are imbedded in fat and connective tissue. It keeps them put, pads them and connects them. Fat is both outside and inside the body, but it is also both outside and inside the organs. It muddles the borders and defies classification.*

Dietary Fat

As Jane Bennett establishes in *Vibrant Matter*, all edible substances to some extent straddle the boundaries between inside and outside, self and other. They exhibit what Gilles Deleuze calls a "vagabond" materiality; "a propensity for continuous variation that is elided by 'all the stories of matter-form'" (Bennett, p. 50; Deleuze, 1979). Vagabond matter simultaneously metabolises, merges and transforms on one level, and on another level remains intact. Bennett ventriloquises the words of Maud Ellmann's *The Hunger Artists*:

[Food's] disintegration in the stomach, its assimilation in the blood, its diaphoresis in the epidermis, its metempsychosis in the large intestine; its viscosity in okra, gumbo, oysters; its elasticity in jellies, its deliquescence in blancmanges; its tumescence in the throats of serpents, its slow erosion in the bellies of sharks; its odysseys through pastures, orchards, wheat fields, stock-yards, supermarkets, kitchens, pig troughs, rubbish dumps, disposals: the industries of sowing, hunting, cooking, milling, processing, and canning it; the wizardry of its mutations, ballooning in bread, subsiding in soufflés; raw and cooked, solid and melting, vegetable and mineral, fish, flesh, and fowl, encompassing the whole compendium of living substance. (Bennett, pp. 49-50; Ellmann, p. 112)

As our ingested food matter moves through its various phases, it simultaneously dissolves and enters into new processes of becoming "through forces of recombination that compose its potential directionalities" (Manning, p. 6). This is why Salvador Dali claims that "la machoire est notre meilleur instrument de connaissance philosophique" (the jaws are our most philosophic organs); for "quoi de plus philosophique que cet instant supreme ou vous aspirez avec lenteur la moelle d'un os qui craque encore sous vour molaires?" (what is more philosophic than the supreme moment when you languidly try to suck in the marrow of a bone that is being crushed by your molars?) (1952, p. 22).¹ The individual boundaries of the bones are shattered and one form of matter temporarily slides into, transgresses and transforms the structure of another. The yellow marrow, the fluid life of the bone (which incidentally also is a form of body fat) is consumed in one final crunch, but life is also formed in its sprawling digestive directions. As Bennett puts it, such vagabond matter "reveals the swarm of activity subsisting below and within formed bodies and recalcitrant things, a vitality obscured by our conceptual habit of dividing the world into inorganic matter and organic life" (p. 50).

Fat used in cooking, as an edible and nutritious substance, is of course as "organic" as our body fat, but there is still a sense in which it is considered inanimate or "life-less" – and our ingestion of fat (including the way we ingest it conceptually) confuses the boundaries between body and non-body. Contemporary media and fat-phobic advertising has taught us to consider each gram of butter on our sandwiches to literally transpose onto our stomachs, butts and thighs once it enters our systems. Unlike the proteins that build and sustain our muscular tissue, the boundaries

between which are never blurred (we never think that the steak or pork chop we eat actually *becomes* our muscles), fat in food and body fat is considered one and the same. We ingest it when we crave it, and we do our best to remove it (through dieting or liposuction) when it disturbs our ideal body image. The cultural conception of fat denies it any agency of its own. It is passive and pliable.

This is, of course, not the case from a scientific point of view. The tissue we refer to as body fat is not identical to the chemical substance known as fat. When fat is absorbed into the body it develops into adipose tissue. This is a connective tissue composed primarily of adipocytes; cells specifically developed to store energy in the form of fats. In reality, this tissue thus functions as a type of corporeal battery, harbouring vast quantities of energy, movement and heat within its walls. *The size of a pearl, the oily droplet. And that's just what we see. If we put it under the microscope, it's fractioned into segments, which are divided into cells. Each one contains so much fat it looks almost empty. However, at the centre there's a core, like the black nose on the face of a teddy bear. And there's movement. Building up, breaking down, producing heat and hormones.*



Fig. 2: adipose tissue cells, with 'teddy bear nose' nuclei
GE Healthcare, <<http://www.gelifesciences.com>>

Bennett argues that “the activity of metabolization, whereby the outside and inside mingle and recombine, renders more plausible the idea of vital materiality” (p.50). Body fat is the tissue through which the effects of metabolisation, its fluidity and vitality, may be stored. These fat-filled folds of potential energy exemplify what Bennett imagines Michel Foucault would have called the “productive power” of food (Bennett, p. 40) in a way that defies both its spatiality and its temporality. Fat is movement, heat and life-in-becoming. It is formed through what Erin Manning would call an “intensity of preacceleration” (p. 13): it is a substance (or space) formed through potential duration.

The specific qualities and energy efficiency of the fatty substances stored in our bodies is dependent on the type of acids that make up their molecular structures and the acids’ internal as well as inter-molecular spatial relationships. Chemically, fat is the collective and popular name of a subset of substances known as lipids. Fats are triglycerides, i.e. combinations of the alcohol glycerol and a three-part structure of different fatty acids (McMurray, p. 1088).

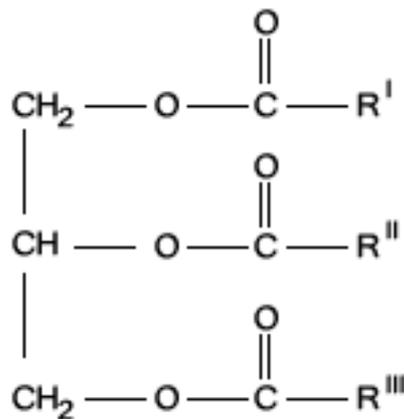


Fig. 3: basic chemical structure of fat (generic triglyceride)

Find Pulse, <<http://www.findpulse.com>>

There are many different types of fatty acids, but they are usually divided into three major groups: saturated, unsaturated and trans-isomer fats. Saturated fats have a high energy content and efficiency as they possess a simple and easily broken down molecular constitution and are able to “stack” themselves closely on a molecular level, resulting in a substance that is solid in room temperature (e.g. animal fats and lard) (McMurray, p. 1091). Unsaturated fats (mono- and poly-)²

have a firmer molecular structure (with at least one double bond between carbon and hydrogen atoms), which is energy-demanding to break down, and renders the molecule less prone to inter-molecular connection, thus resulting in a substance that is fluid (e.g. vegetable oils) unless it enters very cold environments (McMurray, pp. 1088–89). Finally there are trans-isomer fats (commonly known as trans fats) – low energy, “stackable” but yet at room temperature typically liquid fats, which are uncommon in nature and usually developed as a waste product when unsaturated fats are transformed into saturated fats for a desirable solid consistency that can be included in, for example, margarines. Trans fats have become known as the most “harmful” – and are thus the most demonised of the fatty acids available for consumption in Western societies, as many studies have shown that they increase the risk of coronary heart disease (McMurray, p. 279).

Like any chemical substance, fats have both fluid and solid states, but their propensity to remain fluid in room temperature is dependent on the molecular complexities and connective abilities of the three fatty acids that form their bases. Fluidity, from this point of view, comes to represent a form of disconnectedness (or decreased connectedness) and solidity becomes a closely knit, almost familial state. This echoes the idea of any identifiable and subjective type of embodiment as necessarily solid, as described by theorists like Luce Irigaray (see Elizabeth Stephens’s article in this special issue for a more thorough discussion of this concern). It also echoes Susie Orbach’s conception of body fat. Fluidity is a type of escapism, characterising the type of matter that passes through us (or in the case of fat, lingers on top, beneath and between the various parts of our body proper), without becoming *part* of our embodied structures. There is thus a sense in which fluid fat becomes the exemplar vagabond matter – it goes through any number of “temporary congealments of materiality”, becoming an integral and catalysing agent in each structure it encounters, but is never constricted to just one form.

Digestive Fat

There are many uses of fat and adipose tissue in our bodies, and numerous types of fat cells that accommodate our different needs. Lipids are the largest constituent of the myelin that surround our neurons (brain and nerve cells) and are pivotal for fast conduction of impulses and commands between various parts of the body and the brain. Various types of adipose tissue also surround and buffer each of our internal organs, muscles, blood vessels and tendons (Dani & Billon, p. 17).³ Fat is not merely a “passive” insulating substance, however. All adipose tissue has an important

endocrine function, actively producing hormones and various neural signal substances (Veilleux & Tchernof, p. 123). Brown adipose tissue furthermore generates heat. This is an important process developed through mitochondrial “uncoupling”, movement and transformation (Klingenspor & Fromme, p. 39).

There is a vast array of bodily processes incorporating fat – far more than we have space to discuss in this short article. We will thus narrow our scope. Considering the specific focus on edible matter and eating habits that tend to follow cultural considerations of fat, we have decided to focus on abdominal adipose tissue – and we specifically want to contemplate how this fat interacts with the intestines. The abdominal tract is interwoven with tiny blood vessels and adipose tissue, forming an intricate web of energy production and storage. The fat inside our abdominal cavity is composed of many different intertwining and intermingling types of white adipose tissue and is different both in function and appearance from inter-muscular, skeletal and subcutaneous fat, the type we would usually recognise as the wobbly tissue stored under the skin. Known as visceral fat, it is semi-fluid and inconsistently spaced (Veilleux & Tchernof, p.134). When separated from the body the gastrointestinal tract does not look like a sausage rope, like many popular zombie movies and contemporary anatomical models would have you believe. It looks like a pulsating, shape shifting flesh flower, connected to the abdominal wall through petals of adipose tissue and blood vessels. Their edges are laced with yellow visceral fat droplets that glisten and are soft to the touch.

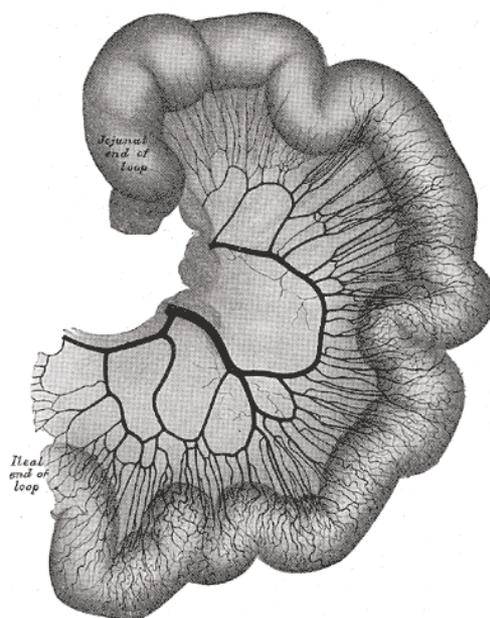


Fig 4.: loop of the small intestine, unfolded

Gray, *Anatomy of the Human Body*, Fig. 535, <http://www.bartleby.com>

I can still hear the sound of flesh separating from flesh as we tore the abdominal walls apart, me standing on one side and the surgeon on the other. It was the first time this woman's body was opened and the intestines enfolded on top of the yellow detergent skin, one shimmering loop after another. Pink, propelling, pulsating flesh. The surgeon pushed them to the side, to me. I tried to catch hold of them, but they were slippery to my touch, like wet rose petals. We were strangers, who forced our fingers through the yellow semi-fluid fat droplets, lifting the connective tissue with pliers before cutting a hole into the woman's body. The intestines wriggling, squirming, like worms in the sun.

Visceral abdominal fat is one of the most intimate, but also one of the most threatening of the fats in our bodies. It has been linked to type 2 Diabetes, Insulin Resistance and a number of inflammatory diseases (Veilleux & Tchernof, p. 134). It is the fat we don't see, the fat we don't know to be frightened of, and the fat that can't easily be removed through liposuction or simple dietary strategies. Visceral fat is formed in our inner sanctum and remains in our inner sanctum, becoming a secret, parasitic and semi-fluid part of our gastro-intestinal tract. As the digestive system will never quite regain its integrative balance after surgery, it is best kept untouched and unseen. The fluid exchange between edible matter and corporeal materiality is unrepresentable and irreparable.

They were not meant for our gaze – the intestines. They were her secret; the unknown guardian deciding what to incorporate into her body and what to discard. Now they were breached, broken. Next time she is being opened, and there is always a next time, it will be different. No more magic. The skin of her intestinal walls will be white and hurt, and the petals will stick to each other like crystalised floral candy.

Distilled Fat

The digestive system is our body's point of exchange between outside and inside. It is the organ that transforms the life and flesh of strangers (plants, animal or others) into the life and flesh of our own. Despite its openness to the external world, it cannot bear to be opened. It's simultaneously naked and clothed; fearlessly absorptive and exquisitely vulnerable.

Returning to the Gasconne duck confit we started our text with, we will dedicate the final part of our ruminations to the process that turns living fatty tissue into grease, lard or fat for consumption. Duck confit is particularly well suited for our purposes because of its powerfully suggestive cooking process. When the duck meat is slowly cooked in its own fat, it is returned to its nurturing and life-giving juices, vitalised for a moment in our mouths, before it's slowly ground down and restructured in our digestive system. It is what characterises the subtle transition from living flesh to dead meat. It reminds us of the proximity between eater and eaten, and of the destructive circularity of life.

Duck confit was originally a peasant dish and a cheap and practical means of curing or preserving meat. Over the centuries, it has become regarded as a delicacy, however, particularly because of the simultaneously firm and moist consistency produced through the process and the surprising leanness of the meat as it eventually emerges from its fatty submersion. The dish thwarts our expectations, defies the norms and reformulates the general consistencies of dark bird meat. According to Edward Schneider, duck confit is thought to be the result of a fairly common fifteenth- or sixteenth-century preservative technique – and to decipher the cultural discourses imbued in such a venture, we will thus turn to the philosophies of fat in circulation at the time of its conception.

The oscillation between fluidity and solidity, living flesh and dead meat has been a concern in the discussion of body fat at least since the Greek philosopher and physician Galen of Pergamon in the second century AD. The English seventeenth-century physician Helkiah Crooke dedicates a considerable portion of his anatomical treatise *Mikrokosmographia – A Description of the Body of Man* pondering over the function and makeup of fat.⁴ Drawing heavily on the humoral medicine of Galen and Hippocrates,⁵ he decides that fat is “ingendered of the more oylie, thinne, and ayrie portion of pure and absolutely laboured and concocted bloud”, created in the liver, brewed and nourished in the stomach and finally “distilling like a dew out of the smal and capillarie veins of the habite of the body” (p. 73). This is a carefully measured and exact process: the “bloude is curdled by a moderate heate (for burning heate would consume it, and a weake heat would not concoct it” (p. 73). Indeed, blood “concocted” or “distilled” at various temperatures, pressures and speeds may transform into a number of vital substances, like semen, breast milk and spinal fluid.

Fat, according to early modern medicine is thus primarily engineered *in* our bodies, and *for* our bodies, rather than imported through our diets from other animals' bodies.⁶ Depending on the position of the fat and the function it is meant to serve (cushioning, insulating or accelerating), Crooke argues that fat can be made thicker or thinner and yellower or whiter, so that all the body may be "plump, equall, soft, white and beautifull" (p. 74). Although he recognises that this is true of the fat found in, and consumed from other animals as well as in humans, he firmly claims that human fat is different; "The Fat of a man is lesse white then of any other creature" (p. 73). The dictates of humoural medicine forbids Crooke to think of human and animal fat in anything like a similar light. As a manifestation of blood, corporeal fat is an intensely human and vitalising fluid, since blood according to the Ancient Greek tradition carries and materialises the animating spirits, life and soul of the body.

Despite this, the early modern physicians also tread a fine line in their negotiation of human fat and animal "grease" or "lard". Crooke recognises that the fat in our bodies in some extreme circumstances may become a source of nutrition:

in great famines and want of sustenance, it is conuerted into Ailment, and becommeth the Fother whereon the naturall heate relieueth it selfe. For being dissolued it aquireth the forme of a bloud-like vapour which returneth into the veines, and so becommeth for want of better, a subsidiarie nourishment of the partes. (Crooke, p. 74)

Also here, human fat both is and isn't essential to the body – and both is and isn't separate from ingested animal fats. In its negotiation with the stomach and digestive system – the "kiln" of the human body – it is continually transformed from nourishment to flesh and back to nourishment once more. It is the metamorphic material, and well as the "grease", which "moistens" and "supples" the machinery of its own transformation.

Humoural medicine, like our contemporary biomedical sciences, thus considers fat a polymorphic and multi-functional concept. It is a substance that stabilises, cools, insulates and moistens, and simultaneously heats, excites and sets the body in motion. The conceptually contradictory *raison d'être* is what gives this solid fluid its particular vitalising power. It is not one substance, but two (or more) – and its connotations rub against each other, creating cultural friction. It is what Irigaray

would consider a culturally fluid entity as well as an actual fluid, confusing boundaries and folding surrounding forms into its embrace. This fluidity is welcoming, warm, all-enveloping and open-ended. Fat nourishes us and moves us – not only physically but spiritually. It is a substance we share. As Eve Kosofsky Sedgwick shows in *Fat Art, Thin Art*, fat brings us closer to one another. As she hugs her husband and his fat touches hers, the flesh of their bodies combine and melt into one (p. 15). For Sedgwick, fat thus becomes a material manifestation of intimacy and love. It is the substance that allows her to move outside of herself. It becomes a bridge as well as a continually morphing boundary between her body and its environment.

This is what “wobbliness” comes to mean in this context. We may find it disconcerting. We may do everything in our power to maintain a solid and stable, harmonious or balanced body, but our subcutaneous fat always already disrupts such false stases. We wobble and wag – our bodies enfold on themselves and others whether we want them to or not. The meeting of fat folds incites the most illicit of touches, comforting and arousing even as it terrifies. We become two, three or many as the fatty extensions of our bodies caress and embrace themselves. But most important, perhaps, the fat on our bodies makes us question and appreciate what it is to be alive. Even if we try to deny it – even if they seem alien and lifeless – we’re all subtly aware that our fat cells are a vital part of us, responding to our signs and signals and carrying our genetic code. Fat may be less substantial and predictable than some of our other tissues, but it remains structurally intact through its fluctuations. Indeed, it’s fat’s transformative and fluid motions that sustains us and gives us life.

Notes

¹ Our translation.

² Unsaturated fats are further divided into mono-unsaturated (one carbon-hydrogen double bond) and poly-unsaturated (several carbon-hydrogen double bonds) fats, which produce different energy content depending on the amount complexity of double-bonded molecular structures (McMurray, pp. 1088-89).

³ Adipose tissue is usually divided into a white and brown variety, the first of which is primarily used for insulation and energy storage and can be found between muscles, in the brain, in the skeleton and to different degrees (depending on body size) under the skin. Brown adipose tissue is located primarily around the blood vessels of the neck and the thorax region (Dani & Billon, p. 2).

- ⁴ Interestingly, despite Crooke's lengthy discussion, body fat is never featured in any of his many anatomical drawings in *Mikrokosmographia*.
- ⁵ See Ania Chromik's article in this special issue for a more general discussion of humoral medicine. Its basic premise is that health may be sustained as long as the body keeps a moderate temperature, and a balance is found between the four essential fluids; blood, phlegm, yellow bile and black bile. The practice of medicine or "physic" is a negotiation between hot and cold, moist and dry humours, substances and practices.
- ⁶ We have not found any references to plant fats in early modern medical texts. Discussions of body fat seem to be entirely focused on the animal kingdom.

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