## The Still-Misunderstood Shape of the Clitoris

Can a 3-D printed model of the organ change views on female sexuality? Yes and no.
An Object Lesson.
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A life-size, 3-D printed model of the clitoris developed by Odile Fillod

The clitoris really isn't that confusing. Or it shouldn't be, anyway. Nonetheless, acknowledging the shape, size, or even existence of this essential body part has not always been par for the course—even in the medical profession. As a 2005 report from the American Urological Association puts it, "the anatomy of the clitoris has not been stable with time as would be expected. To a major extent its study has been dominated by social factors."

However, heralded by some as a sexual and physiological revolution, a new 3-D printed model of the clitoris is being used to change the public's view of female sexuality. Free to download, the life-size model was designed by the French engineer, sociologist, and independent researcher Odile Fillod and released early last year.

At 10 centimeters in length, from the tip of the glans to the end of one "crus" (or leg), the model clitoris is bigger than expected. That's tactical: It was created to dispel misinformation. Many dictionaries and even medical textsdub the clitoris as "pea-sized."

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Historical accounts of the clitoris are plagued by disparagement or ignorance. Though Magnus, a renowned scholar in the Middle Ages, <u>considered</u> the clitoris as homologous to the penis, not all who succeeded him agreed. In the 16th century, Vesalius <u>argued</u> the clitoris did not appear in "healthy women." <u>The Malleus Maleficarum</u>, a 1486 guide for finding witches, suggested the clitoris was the "devil's teat"; if the tissue were to be found on a woman it would prove her status as a witch. And in the 1800s, women seen as suffering from "hysteria" were sometimes subject to clitoridectomies.

It wasn't until 1981 that the Federation of Feminist Women's Health Clinics created anatomically correct images of the clitoris. Published in *A New View of a Woman's Body*, the images were part of a wider attempt to provide thorough, accurate information to women to support their health. Decades later, in 2009, the first 3-D sonography of the stimulated clitoris <u>was completed by</u> French Researchers.

Ignorance persists today. As the University of Western Sydney clinician and physiotherapy researcher Jane Chalmers explains, the subject of the clitoris is still avoided or ignored. "Several major medical textbooks omit the clitoris, or label it on diagrams but have no description of it as an organ," she says. "This is in great contrast to the penis that is always covered in-depth in these texts."

As a researcher who focuses on the vulva and pelvis as well, Chalmers says she is often harassed online. "I frequently face questions of 'Why would you want to study *that*?' and snide comments along the lines of, 'She must be a lesbian.""

The problem, many suggest, starts early. A recent <u>research paper</u> examined 55 qualitative studies in more than 10 countries. Its authors found that young people tend to have negative views of the sex education they received in school. The researchers noted that many students reported that very little was ever said about sexual pleasure, female pleasure in particular.

In France, where the model clitoris originates, sex education often teaches outdated attitudes, according to Fillod. Official guidelines for sex ed are "terribly sexist, heteronormative, even homophobic," she says. In particular, social norms are often inaccurately linked to biological information. For example, Fillod explains that children are taught "that boys are more focused on genital sexuality, whereas girls care more about love and the quality of relationships, in part because of their 'specific anatomical-physiological characteristics." She is not alone in her concern about this curriculum. In 2015 the Haut Conseil à l'Egalité, a government body which monitors gender equality, reported that schoolbased sex education in France was riddled with sexism.

Determined to do something about the problem, Fillod partnered with a Toulouse-based documentary-film production company to prepare a series of videos with alternative materials. In the process, Fillod realized that a life-size 3-D model of the clitoris would be a useful visual aid. In French biology textbooks," she explains, "the clitoris is *never* correctly pictured in the drawings showing the female genital apparatus, and even quite often not pictured at all."

As an engineer at the École Centrale Paris, who has been independently researching sex and gender issues in biomedical science since 2013, Fillod was prepared for the task. "Providing a free and open-access model that could be 3-D printed by anyone appeared as an ideal solution," she says. "It would not be just for me and this video, but for anyone wanting to use such a 3-D model for educative purposes."

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Before she could create a model, Fillod had to understand what was known about the clitoris. A review of available scientific literature provided Fillod with a defined shape and realistic average size of the clitoris and bulbs. With the dimensions understood, Fillod collaborated with the fablab at the Cité des Sciences et de l'Industrie in Paris, a scientific museum. They helped her transform the data into the stylised printable model.

The model can be downloaded and output by anyone with access to a 3-D printer. It is "anatomically correct, life-size, and in 3-D, which is far superior to the drawings that are generally available," Fillod says. That a life-size clitoris is 10 centimeters may be the first shock—but the wishbone-like shape of the organ is certainly the second.

Fillod says she hopes the model will help spread better knowledge of women's genital anatomy. It might be used for sex ed in schools, for one. But everyone else who might encounter a clitoris has something to learn from the model, too. Chalmers explains that understanding this "neat little organ" is important because medical professionals are now beginning to appreciate that it has a role in immune health. Being able to identify and understand the clitoris means knowing when something is wrong—both for women and for their doctors.

Considering the fact that clitoral pain (as well as infections, inflammation, and disease) are quite common, Chalmers contends that better understanding of the clitoris is essential. She adds that as the clitoris is closely tied to female sexual pleasure, the lack of knowledge about it amplifies inequality for women.

That may be about to change. According to Fillod, sex therapists, sex educators, school nurses, biology teachers, and sex-information institutions have all shown interest in using the model. And some French schools have already adopted it, although Fillod expects sexeducational use will not be widespread unless the Minister for Education supports the idea. Nonetheless, the model is sure to start conversations, even just among those who read about it. The size and shape present an anatomical reality that is more difficult to ignore than a

small drawing or written description. As the American Urological Association <u>concluded</u> in 2005, "It is impossible to convey clitoral anatomy in a single diagram."

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Further afield from France, <u>global media coverage</u> of the model reveals an interest in knowing more about the clitoris. But the same cultural preconceptions that inspired the model have attached themselves to its reception. "Some of the journalists who interviewed me and published a paper about it clearly wanted to send some kind of message," Fillod says, mentioning a myriad of examples of different motives attached to what should be a scientific model. "My concerns about this misinformation are mainly about the creation of new urban legends which reinforce gender stereotypes and the sex dichotomy."

Though misconceptions inevitably will continue, Fillod's model is not alone in battling the lack of "cultural cliteracy," as it has become known. <u>Cliteracy</u>, a project led by the artist Sophia Wallace, explores the history of the clitoris, the myths around it, and an introduction to the artists who have challenged misconceptions of the past.

As for the model, there is more to be done. The 3-D printing lab where it was generated hopes that a future a model might depict the pelvic bones, the clitoris, and the vagina. They believe that a more complex model would more reveal how the clitoris fits into the whole of the female genitalia, whether for stimulation or general health. They hope that future models could be printed in "a flexible material to approximate the anatomical reality."

But it's possible that further realism won't help matters. While model clitoris can clarify the form of the organ in the abstract, it might smack of scientism to believe that an accurate model of a body part would magically clarify how it fits into the lived experience of the human beings who possesses it. A more complex model could be useful, in other words, but it is unlikely to help the clitoris escape its troubled history. As Fillod's model has shown, anatomically correct information can help those willing to learn. But for those predisposed to misconception, an anatomically correct, scientifically rendered 3-D model might reinforce that bias, rather than rectify it.

https://www.theatlantic.com/health/archive/2017/03/3d-clitoris/518991/2/27/19