



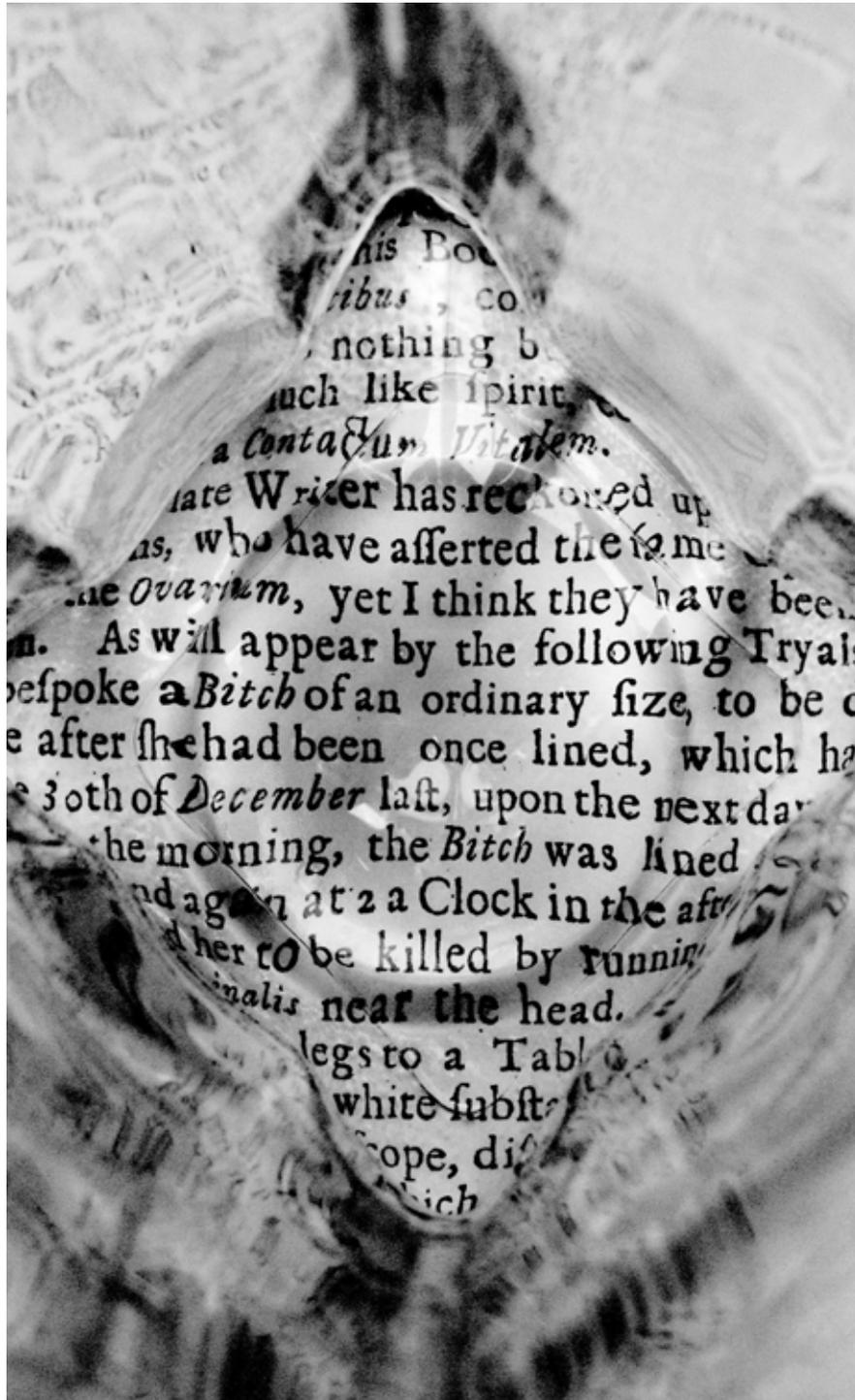
## V GENERATION (1684-1693)

*Although I am well aware that your Honors are better served by an accurate observation than with a whole volume of speculations, since these are nothing but brain-work, I have nevertheless again interspersed in this missive some of my reflections because it seems to me that, if I am qualified to judge at all, I am in a better position to draw conclusions from my observations than would be others who had never heard of such matter, let alone seen it.*

*Antoni van Leeuwenhoek*

*So that the species might be propagated, Nature decided that the connubial act should be linked with an enormously pleasurable sensation. If she had not implanted this sensation in men and women, the human species would surely have perished. . . . What woman would have rushed into a man's embrace unless her genital parts had been endowed with an itch for pleasure past belief? The nine months of gestation are laborious; the delivery of the fetus is beset with dreadfully excruciating pains and often fatal; the rearing of the delivered fetus is full of anxiety.*

*Regnier de Graaf*



**AS EAGER AS ALL OF NATURE TO ADVANCE  
OURSELVES**

"Come, come, Van Leeuwenhoek. It's useless, you yourself admit, to speculate," said Seigneur van Zuleichem.

"I never said that," my father protested. "I said we could not observe the subtle air. But there's much exists we can't observe."

"And much we can. Or *you* can, my worthy man. Surely you're not *tiring* of your observations?" Seigneur van Zuleichem turned his bright clear eyes on my father. His face was as deeply etched as oak bark.

"*Tire*," my father repeated. "Certainly I have not so much vigor as you."

"Few men do," his son said with a sigh. Heer Christiaan Huygens was fifty-six, his father near ninety.

Seigneur van Zuleichem looked around the room; he let his eyes rest on my father's grinding cup, the anvil by the fire, the large cabinet in which my father stored his glasses and his displays.

"You surpass me by far in your steady application to your art." My father blushed at the old man's praise. He blushed even deeper at his censure. "If you want to debate the learned men, Van Leeuwenhoek, don't do so over matters of speculation. You will gain nothing. It's your observations, man, will gain your fortune."

"Fortune!" scoffed Heer Huygens. "What fortune can be had from his endeavors?"

"None from the French King," Seigneur van Zuleichem cajoled his petulant son, "but we must not abandon hope of recognition by our own court—or our own assemblies."

"It's not the same," Heer Christiaan Huygens said. He adjusted his peruke. He continued to dress, as he had for his twenty years sojourn in Paris,



## *WE MAKE OUR OWN FORTUNES*

Prince William's aspirations enriched us all, soldier and arms-maker, money-lender, saddler, and baker. My own father's fame increased my trade as well. However, it was to neither the Prince nor my father that I owed the patronage of our Grand Pensionary, Heer Heinsius. When, in the spring, Heer Heinsius came to my shop to order new damask for his bed curtains, he came at the suggestion of his good friend Heer Vallensis.

"I have no more," I told him. "But you could order it yourself from Haarlem."

"Haarlem," he said with a smile. "We have King Louis to thank for this."

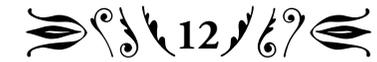
I kept my peace. It seemed unjust to benefit from the Sun King's savagery. But it was true, we Dutch no longer requested velvets from Genoa, tapestry from Aubusson. In their exile, the Huguenots had brought to us, along with their great sorrow, their knowledge of the makings of silk, leather, and paper, a treasure even greater than the goods they left behind. Our nation was the richer for it, which we well needed, for all the wealth of the country is still required to oppose the insatiable hungers of that man in Versailles.

But the Grand Pensionary had not come to talk to me about the French King's wickedness, or the revocation of the Edict of Nantes, Waldeck's next campaign in Flanders—or even damask.

"I saw the glass you gave Heer Vallensis." The tall man stood quietly, his knuckles resting so gently on the edge of the carpet covering the table that they did not even cause the threads to bend.

"The glass I gave Heer Vallensis is merely a curiosity. It is one my father gave me years ago."

"So Heer Vallensis explained. Made from a single grain of sand, I believe? At first I thought your father had so honored Heer Vallensis. I was, I



### *WHAT I CHOSE AND WHAT CHOSE ME*

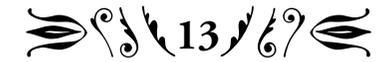
I did not submit to Heer Vallensis' will that third Thursday in June in the secrecy of my father's garden. It was he submitted to mine.

I did this to save us both. Surely you can understand. My father's fame would never change my standing with the burgomasters or their wives, mothers, cousins. To attempt to do so would only bring me shame. I was no more inclined than my father to endure blame or refutation. Indeed, I did not wish to change my condition. It suited better than damask and lace. As a spinster, as a draper by trade, and as my father Antoni's daughter and only child, I had a freedom greater than I would in marriage. I had only to think of the unconquerable melancholy that filled my Aunt de Mey when she married Peter the saddler to be assured in my decision. "There is nothing, not even my body, that belongs to me anymore," she told me.

But like my father, neither did I intend to blunt my own appetite for discovery. I wished to make my own observations on this vexing question of generation the real truth of which is hidden to all of us, men as well as women. I knew that to do so would assure that I could never again in good conscience consider a proposal of marriage. I liked that certainty. It was a cost I was most willing to pay.

Heer Vallensis was not a man of licentious habits. In our country, even young men are not encouraged in such vice. The French and the English call us cold, but they are confused. It is true our private honor is our source of deepest pleasure—we defend it, hotly! Indeed, I met with Heer Vallensis in such a secret fashion to preserve, I believed then and I believe now, my own honor. It was not the same for him. We shared all—and we shared nothing.

Until his death, Heer Vallensis always felt he had committed a great injustice to me that summer, not once but many times. An even greater injustice to God. Each man has a right to his own opinion. Each woman.



### *AS LONG AS THE LORD WILLS*

"It is a great relief to me to discover at last the secret of the procreation of the eel," my father announced once the talk at the table had quieted. We no longer muttered about the defeat at Steenkerke, nor of the death of so many this entire summer through fever, nor of the earthquake in Middleburg that caused the streets to rise and fall like waves of water.

"You have proved by your own observation that they arise from dew?" teased Magdalena Molijn, my cousin Antoni's wife. Her eyes sank into her face as she laughed, her belly swelled.

"Surely it's none of our business," said Phillip van Leeuwen's wife. "If the Lord intended us to know such things he would have revealed the truth to us."

"Which He has. Which He has," my father said querulously. "If we would just use our eyes instead of our ears—not listen to the old stories but look for ourselves."

"Well, Husband, where do they come from, if not the dew? Do they spawn like bream or cod?"

"It took me more than two years to find the womb," my father said. "I filled every hollow with quicksilver, but I could not be sure. Finally I discovered two openings by its navel. And even more recently, Our Creator revealed this mystery to me. Pressing against the womb of the eel, I expressed from the orifice that I call the womb—"

"Oh, don't tell us, Uncle," cried Geertruida.

"*Living* young," my father exclaimed triumphantly. "They wriggled in the water just like their mother, they resembled her both head and tail."

"But so would a vinegar eel. All eels appear the same," I said.

But my father ignored me. "So many people have said, 'Van Leeuwenhoek believes everything comes through procreation. Let him prove