BODIES OF GLASS:
A CULTURAL AND LITERARY HISTORY OF TRANSPARENT HUMANS

by
Elena Fabietti

A dissertation submitted to Johns Hopkins University in conformity with the requirements for the degree of Doctor of Philosophy

Baltimore, Maryland

June 2017

Abstract

My dissertation presents a cultural historical analysis of the transparent human as a figure in European literature and culture from early modernity to the 20th century. Exploring the ways in which humans are represented as transparent throughout European cultural history, I investigate the distinct notions of the human disclosed by each historical constellation. Spanning literary, medical, visual, and political sources, my research assembles the composite cultural plot that yields such phenomena as the melancholic glass humans of early modernity, the trope of the transparent heart in Enlightenment literature, the Faustian restaging of the alchemic fantasy of an artificial human replica, the visual rhetoric of glass anatomic models displayed in German hygiene exhibitions during the 1930s.

In my dissertation I argue that the appearance of the figure of a transparent human on the stage of cultural history always signals and performs a crucial negotiation between competing notions of the human. The stakes of this negotiation are the boundaries between the individual and the community, the categories of normality and pathology, of power and impotence, of purity and contamination. The way a transparent human represents and arbitrates these conflicts is different in each case. The transformative, metamorphic imagination of a body that abolishes flesh for a transparent material such as glass plays out as a fantasy of transcending the human, sometimes overcoming its mortality, sometimes enhancing its fragility.

The dissertation is articulated in four chronologically organized chapters: 1. Breakable Bodies: Early Modern Humans of Glass in Cervantes's "El Licenciado

Vidriera"; 2. A Transparent Heart: Mechanics and Poetics in Laurence Sterne and Jean-Jacques Rousseau; 3. A Human in a Glass Bottle: Goethe's Homunculus and Romantic Embodiment; 4. 20th-Century Transparent Bodies: From Social Hygiene to Nazi Propaganda.

The historical placement of each figure within the cultural coordinates and discourses that have contributed to its emergence yields an account of this figure along the unfolding of a narration that, without being teleological, tells the story of how humans have fantasized, imagined, constructed, and reinvented their bodies.

Readers: Dr. Hent de Vries, Dr. Leonardo Lisi, Dr. Drew Daniel, Dr. Evelyne Ender, Dr. Jacques Neefs.

Acknowledgements

I am deeply thankful to my advisors, Leonardo Lisi and Hent de Vries, who supported this work from its first tentative steps to its present shape, with their kindness, trust, and guidance. Leonardo Lisi followed my writing with the greatest care, patience, and attention, always pushing me to sharpen my questions and arguments, and always making himself available to discuss and engage in fruitful conversations on the stakes and meaning of my work. Hent de Vries has always been there to listen, patiently and attentively, to my doubts and dilemmas. With his wisdom and insights, he has helped me to productively organize my thinking not just about this work, but about any topic I have encountered in the course of my intellectual path of my graduate study.

The Humanities Center, with its unique academic freedom and generosity, made it possible for me to pursue my research in a greatly supportive and open environment. Each member of the faculty of the center has, at different moments and in different ways, engaged with my project with comments, feedback, and advice. I want to thank Michael Fried for the inspiration to pursue original questions with the greatest rigor, Ruth Leys for the magnanimous welcome she offered me in the American university when I was still trying to find my place there, Paola Marrati for the philosophical sparkle she lit in me during her deeply formative seminars, Anne Eakin Moss for being the kindest mentor, and Yi-Ping Ong for showing me how to render one's research interests productive in the classroom space.

The first idea for this research took shape in 2013 in Berlin, when I was guest of the Zentrum für Literatur- und Kulturforschung (ZfL), thanks to the hospitality of Sigrid

Weigel. In the course of a graduate workshop and subsequent conversations with her, I was able, thanks to her rigorous guidance, to hone and consolidate my questions for this dissertation. Again at the ZfL, in 2015, I was invited to present a part of my research at the conference *Glas. Materielle Kultur zwischen zeigen und verbergen*, engaging in a very productive exchange with several scholars, in particular Margarete Vöhringer and Simon Werret. My contribution is going to be published soon in Berlin in a collected volume of essays (Fabietti 2017). In 2015, at the ACLA in Seattle, I presented part of my work at the panel *Transparency*, organized by Jeffrey di Leo and Zahi Zalloua, whom I want to thank for their hospitality and the discussion that led to an article I wrote for the journal *Symplokē* (Fabietti 2015).

I am indebted to Stefanos Geroulanos for an enlightening and productive afternoon of exchange on the topic of transparency, and to Simone Marchesi for his many stories and for his advice.

I am thankful to Bernadette Wegenstein, the director of the Center for Advanced Media Studies at JHU, for the support she gave me through a generous fellowship that made it possible for me to complete this manuscript.

For kindly reading parts, extracts, or drafts of my work at different stages, or for giving me ideas, or linguistic and intellectual feedback, I am thankful to Katie Boyce-Jacino, Alice Christensen, Tarek Dika, David Gutherz, Hannah Hunter-Parker, Omid Mehrgan, Fabrizio Ortolano, Massimo Petrozzi, Denise Reimann, Avraham Rot, Daniel Schwartz, Benjamin Stein, and Stephan Willer.

I want to thank Michael McCreary for patiently proofreading my manuscript.

Avraham and Aviva Rot have been incredibly gracious and supportive friends, with whom I shared exciting discussions about my work as well as funny and beautiful moments of my American life.

For the incessant and ongoing conversations, discussions, and readings, I am always thankful to Frederic Ponten, my partner and ally in life. Our son Jonas, with his overwhelming joy for life, has made every little struggle with my work a lighter enterprise.

My family in Italy has encouraged me to go through many challenges and doubts with their unremitting love and trust. To my father, who won't be able to read this work, but who believed in it from the beginning, and to his inspiring example, as a scholar and as a human, in loving memory, this research is dedicated.

Table of Contents

List of Figures

The first number refers to the chapter; the second number to the figure

Introduction

> We also say of some people that they are transparent to us. It is, however, important as regards this observation that one human being can be a complete enigma to another. We learn this when we come into a foreign country with entirely foreign traditions; and, what is more, even given a mastery of the country's language. We do not *understand* the people. (And not because of not knowing what they are saying to themselves.) We cannot find our feet with them.
>
> Wittgenstein, *Philosophical Investigations*

A transparent person is a common figure of speech, as Wittgenstein reminds us. In the passage above, a transparent person is somebody we can perfectly understand—transparency the comforting and reassuring opposite of enigma.

The present research has sprung from a similar investment in common sense: why is it that transparent persons, hearts, and minds, crowd the linguistic imagination of our speech about ourselves and others? And further along these lines, why is it that transparency gives us comfort, and appears to be such an appealing or productive property that we tend to apply it to a wide range of subjects and situations? Have we always been attracted to the imagination of transparent people, or rather haunted by it? The fable of Momus, first told by Aesop in the 6th century BCE and retold some seven centuries later by Lucian, would seem to indicate as much:

> The story goes that Zeus, Poseidon and Athena were arguing about who could make something truly good. Zeus made the most excellent of all animals, man, while Athena made a house for people to live in, and, when it was his turn, Poseidon made a bull. Momus was selected to judge the competition, for he was still living among the gods at that time. Given that Momus was inclined to dislike them all, he immediately started to criticize the bull for not having eyes under his horns to let him take aim when he gored something; he criticized man for not

> having been given a window into his heart so that his neighbour could see what he was planning; and he criticized the house because it had not been made with iron wheels at its base, which would have made it possible for the owners of the house to move it from place to place when they went travelling. (Aesop 2002, 518)[1]

Momus's reproaches are informed by pragmatic wisdom and criticism; to expect houses to be mobile and bulls to look straight ahead is a stance no less practical than to expect humans to be completely comprehensible, and not to pose a constant enigma to each other. In the Greek text, however, a window proper is not mentioned: the phrasing indicates an opening on the chest (ἀνοικτὰ τὰ στὴθη), or doors (θυρωτὰ), and in a different version, just the exterior location of thoughts (ἔξωθεν), so that they do not remain hidden (λανθάνωσιν); in other words, no window is required for the thoughts to be exposed on the outside, and one could easily think of other imaginative devices allowing for such exposure.

Some seven centuries later, Lucian retold the tale in a slightly modified fashion in his philosophical dialogue *Hermotimus, or Concerning the Sects*:

> The story goes that Athena, Poseidon, and Hephaestus were quarrelling over which of them was the best artist. Poseidon modelled a bull, Athena designed a house, while Hephaestus, it seems, put together a man. When they came to Momus, whom they had appointed judge, he examined the work of each. What faults he found in the other two we need not say, but his criticism of the man and

[1] The English translation by Laura Gibbs (518 refers to the fable's number) is based on Babrius's version: Ζεὺς καὶ Ποσειδῶν καὶ Ἀθηνᾶ καὶ Μῶμος**.** Ζεὺς καὶ Ποσειδῶν, φασί, καὶ τρίτη τούτοις ἤριζ' Ἀθηνᾶ, τίς καλόν τι ποιήσει. ποιεῖ μὲν ὁ Ζεὺς ἐκπρεπέστατον ζώων ἄνθρωπον, ἡ δὲ Παλλὰς οἶκον ἀνθρώποις, ὁ δ' αὖ Ποσειδῶν ταῦρον. ᾑρέθη τούτοις κριτὴς ὁ Μῶμος· ἔτι γὰρ ἐν θεοῖς ᾖκει. κἀκεῖνος, ὡς πέφυκε πάντας ἐχθραίνων, πρῶτον μὲν εὐθὺς ἔψεγεν τὸ τοῦ ταύρου, τῶν ὀμμάτων τὰ κέρατα μὴ κάτω κεἰσθαι, ὡς ἂν βλέπων ἔτυπτε· τοῦ δέ γ' ἀνθρώπου, μὴ σχεῖν θυρωτὰ μηδ' ἀνοικτὰ τὰ στὴθη, ὡς ἂν βλέποιτο τῷ πέλας τί βουλεύοι· τῆς οἰκίης δέ, μὴ τροχοὺς σιδηρείους ἐν τοῖς θεμελίοις γεγονέναι, τόπους τ' ἄλλους συνεξαμείβειν δεσπόταισιν ἐκδήμοις.

Chambry's version (followed by Perry 1952, 360), however, has Prometheus instead of Poseidon: Ζεὺς καὶ Προμηθεὺς καὶ Ἀθηνᾶ κατασκευάσαντες, ὁ μὲν ταῦρον, Προμηθεὺς δὲ ἄνθρωπον, ἡ δὲ οἶκον, Μῶμον κριτὴν εἵλοντο. Ὁ δὲ φθονήσας τοῖς δημιουργήμασιν ἀρξάμενος ἔλεγε τὸν μὲν Δία ἡμαρτηκέναι, τοῦ ταύρου τοὺς ὀφθαλμοὺς ἐπὶ τοῖς κέρασιν μὴ θέντα, ἵνα βλέπῃ ποῦ τύπτει· τὸν δὲ Προμηθέα, διότι τοῦ ἀνθρώπου τὰς φρένας οὐκ ἔξωθεν ἀπεκρέμασεν, ἵνα μὴ λανθάνωσιν οἱ πονηροί, φανερὸν δὲ ᾗ τί ἕκαστος κατὰ νοῦν ἔχει, τρίτον δὲ ἔλεγεν ὡς ἔδει τὴν Ἀθηνᾶν τὸν οἶκον τροχοῖς ἐπιθεῖναι, ἵνα, ἐὰν πονηρός τις παροικισθῇ γείτων, ῥᾳδίως μεταβαίνῃ. Καὶ ὁ Ζεὺς ἀγανακτήσας κατ' αὐτοῦ ἐπὶ τῇ βασκανίᾳ τοῦ Ὀλύμπου αὐτὸν ἐξέβαλεν. Ὁ λόγος δηλοῖ ὅτι οὐδὲν οὕτως ἐστὶν ἐνάρετον ὅ μὴ πάντως περὶ τι ψόγον ἐπιδέχεται.

> his reproof of the craftsman, Hephaestus, was this: he had not made windows in his chest which could be opened to let everyone see his desires and thoughts and if he were lying or telling the truth. Momus, of course, being shortsighted, held such notions about men, but you have better sight than Lynceus and, it seems, see through the chest to what is inside, and everything is revealed to you, and you know not only what each man wants and thinks, but also who is better or worse. (Lucian 1959, 297-299)[2]

Besides the replacement of Zeus with the craftsman-god Haephestus, Lucian adds, to Momus's reproach, the lack of windows (θυρίδας) on the human chest that would hypothetically make it possible to recognize the desires and thoughts of human beings (ἃ βούλεται καὶ ἐπινοεῖ), and, most of all, whether somebody is lying or telling the truth (εἰ ψεύδεται ἢ ἀληθεύει). In the context of the dialogue, Lycinus-Lucian is criticizing Hermotimus for the superficiality of his philosophical choices, based on questionable preferences dictated by fashion. Making fun of his naïvely Stoic interlocutor, Lycinus ironically says that Momus must have been short-sighted (ἀμβλυώττων) to take the problem of interiority so seriously, and to place such a great importance on a window on the chest (στέρνον). In fact, what Lycinus is implying is that Momus always saw deep enough into the predicaments of human beings, bound as they are to complete lack of transparency. From Lucian on, a window on the chest has come to represent a radical fantasy of an alternative way to imagine the human being, overcoming the actual conditions of her embodiment. Every subsequent fantasy of a transparent human being refers in a more or less direct way to this mythological representation as to a sort of

[2] […] φησὶ γὰρ ὁ μῦθος ἐρίσαι Ἀθηνᾶν καὶ Ποσειδῶνα καὶ Ἥφαιστον εὐτεχνίας πέρι, καὶ τὸν μὲν Ποσειδῶ ταῦρον ἀναπλάσαι, τὴν Ἀθηνᾶν δὲ οἰκίαν ἐπινοῆσαι, ὁ Ἥφαιστος δὲ ἄνθρωπον ἄρα συνεστήσατο, καὶ ἐπείπερ ἐπὶ τὸν Μῶμον ἦκον, ὅνπερ δικαστὴν προείλοντο, θεασάμενος ἐκεῖνος ἑκάστου τὸ ἔργον, τῶν μὲν ἄλλων ἅτινα ἠτιάσατο περιττὸν ἂν εἴη λέγειν, ἐπὶ τοῦ ἀνθρώπου δὲ τοῦτο ἐμέμψατο καὶ τὸν ἀρχιτέκτονα ἐπέπληξε τὸν Ἥφαιστον, διότι μὴ καὶ θυρίδας ἐποίησεν αὐτῷ κατὰ τὸ στέρνον, ὡς ἀναπετασθεισῶν γνώριμα γίγνεσθαι ἅπασιν ἃ βούλεται καὶ ἐπινοεῖ καὶ εἰ ψεύδεται ἢ ἀληθεύει. ἐκεῖνος μὲν οὖν ἅτε ἀμβλυώττων οὕτω περὶ τῶν ἀνθρώπων διενοεῖτο, σὺ δὲ ὑπὲρ τὸν Λυγκέα ἡμῖν δέδορκας καὶ ὁρᾷς τὰ ἔνδον, ὡς ἔοικε, διὰ τοῦ στέρνου καὶ ἀνέῳκταί σοι τὰ πάντα, ὡς εἰδέναι μὴ μόνον ἃ βούλεται καὶ ἃ γιγνώσκει ἕκαστος, ἀλλὰ καὶ πότερος ἀμείνων ἢ χείρων (Lucian 1959, 296-298).

archetypical fantasy. More importantly, Lucian's text has introduced, in the idea of exposing human interiority and making it legible, the element of mediation: a window, a pane of glass, something to look through.

Throughout history, transparent humans punctuate the cultural imagination: consistently present at all times, but each time meaning something slightly different. In fact, transparent humans have not always coincided with the redemptive fantasy of Momus, or the comforting place where one could find oneself, as Wittgenstein put it in his *Investigations*; quite to the contrary, they sometimes happened to embody, with their peculiar bodies of glass, the opposed enigmatic elements of the human condition. What is unquestionable is that transparent humans have consistently appeared at crucial junctures of cultural history as subjects of literary, artistic, philosophical, or political imagination, and whenever they appeared, some fundamental thinking about the "human" was always at play—some hypothesis that shared with Momus's reproach the quality of a radical fantasy, a fundamental reimagining of the conditions of being human.

In the course of my research, I have come to think of transparent humans as thought experiments, or what the German vocabulary knows as *Denkfiguren*: figures that help shape and articulate a thinking process—in this particular case, thinking the conditions of being human. By altering the actual conditions of being human through the replacement of flesh with a transparent body, transparent humans make it possible to test the power and reach of the other defining features of human beings. If flesh were not there anymore, what would a human being look like? How would she act? Would she still be human? These questions sustain the very different figures conjured throughout

modernity and analyzed in the course of this work; each of these figures performs a thought experiment under varied cultural historical conditions.

If Momus established the figure of a human provided with a window on the chest, transparent humans can show different features and degrees of transparency. For example, the whole body can be transparent, or only part of it; transparency can come from glass, thus implying a particular fragility as well; what the transparent body discloses, besides the "thoughts and desires" imagined by Momus, can be such different things as the anatomic perfection of the inner body, or the truth of someone's life; or the glass body can be the vehicle of a delicate and precarious existence rather than that of a transparent interior life. All these possibilities are explored in the case studies examined in the present research.

However distinct and different the transparent bodies analyzed in this work are, they share a common definition of transparency. As such, transparency can indicate quite different properties. A glass window is transparent, insofar as one can see through it, as if it were not there. Transparency would then seem to define the ability of the medium of vision to almost disappear, eliding its own material presence. But in another very common use of the word, transparent is also applied to the objects that we see transparently, that is, to that which we see through a transparent medium rather than the medium itself: a transparent house is a house whose transparent walls allow us to see its interior; a transparent politics is a policy system that citizens can see at work through the allegedly transparent medium of communication strategies. The transparent humans analyzed in this work belong to the latter kind: they are humans whose body is transparent, making it possible to envision their interiority, be it anatomical or spiritual.

That is, they are not themselves transparent media of vision, as in the first definition of transparency given above. In this sense, a large number of transparent humans has been excluded from the scope of this research: invisible humans, camouflaged humans, humans whose bodies entirely disappear as a medium through illusionistic, magical, or visual effects, making it possible to see what is behind or beyond them.

Because the transparent humans of this research are those whose bodies are transparent, the focus of the analysis will be both on the body as transparent medium, and on the interiority that the transparent body makes visible. Both notions—the body and interiority—are historically sensitive, that is, they are constantly redefined by the historical moment. As already mentioned, interiority can mean a range of heterogeneous things, such as interior anatomy, the soul, or one's thoughts, and one of the main challenges of the current work has been to ponder the specific kind of interiority revealed by each historically distinct case study of transparent humans. Likewise, the body as medium is constantly redefined by broad cultural conditions. This dependency of the subject of the present research on the ever-changing historical conditions defining both the body and human interiority has oriented this work towards historical contextualization. Historicist in its premises, this research develops through the consistent use of historical sources that provide the widest basis to anchor each case study. The heterogeneity of the situations implied in each distinct case of transparent human may seem to prevent a unified study of the subject as *one*, but the methodology of this work, anchored in the history of culture, conceives of culture as a fluid field, constantly reshuffling its focus and its borders; the hybridity of the subject "transparent humans"

constitutes therefore a condition of authenticity for a cultural historical analysis rather than an obstacle to the research.

Transparent humans are the subject of this book-length study for the first time in scholarship; a somehow surprising fact, considering that other forms of transparency have been the subject of a large number of studies examining the broad network of meanings of the notion. Transparency has come to dominate the political and social vocabulary of our age: transparent parliaments, transparent policies, or transparent information, are all indicators of the spread and flexibility in the contemporary metaphoric applications of transparency. Historically invoked in the 19th century as the desirable outcome of revolutionary practices, transparency had been the guiding element of a number of modern utopias, foremost among them in architecture. From Fourier's phalansteries, through the London Crystal Palace of 1851, to the movement of the Glass architecture of the 1920s in Germany, glass constructions have come to represent the avant-garde of social utopias; in 1929, Walter Benjamin wrote that "to live in a glass house is a revolutionary virtue par excellence."[3] But the utopian linings of the notion of transparency are even more deeply rooted in Western culture, defining "an entire socio-political tradition centered on the (often utopian) idealization of political and legal transparency" (Geroulanos 2007, 1074), and spanning theological and political applications:

> This tradition—beginning with the Augustinian belief in the soul's transparency before God and continuing through the Gallican/Jansenist political preference for councils over the Papal and Royal administration of faith, Rousseau's confessions, aspects of utopian socialism, scientism, materialism, and finally

[3] Benjamin 1978, 49. For a thorough review of transparency and revolutionary policies in Russia, the recent study by Julia Chadaga (2014) provides a varied series of case studies. Chadaga examines the powerful counter-example of Eisenstein's *The Glasshouse* (1927-30), a radical project of critique against transparent social life as it has been achieved in America (Chadaga 2014, 162).

> Marx and a tradition following from him and notably involving Lukács. (Geroulanos 2007, 1074)[4]

Later accommodated into the vocabulary of reform of democratic policies (from the era of Glasnost to its Western counterparts), transparency became, in the last decades of the 20th century, the subject of a critical revision: demystified as a myth (Vattimo) or accused as evil (Baudrillard), its virtues have been drastically put into question.[5] If, for Benjamin, the glass house was a revolutionary scene that does away with the overcharged space of bourgeois interiors, criticisms of transparency have concentrated on the potentially tyrannical function of exposing one's privacy to constant surveillance, be it from behind glass walls or the total sharing of private data.

In the present study, the material configuration of humans with transparent bodies shares with the material constellation of glass architecture more than one feature—primarily, the ethical promise of a better, purer, more honest form of existence. But transparent bodies can also reverse that promise into a negative dream of exclusion from the social group, or of loss of humanity. The location of transparency in the medium of the body brings into the very definition of transparency the relevance of the body, orienting the research both towards the cultural discourse of the body (medicine and science), and the material conditions of embodiment (be it early modern glass, or a window on a mechanical heart, or an alchemical vial, or a transparent plastic shell). This

[4] This essay by Geroulanos is in particular concerned with Blanchot's critique of transparency: "For Blanchot, the political world in which transparency would reign […] is the world of a denatured and dehumanized life—both in the sense of life in the name of a law that encompasses everything, admits no possible change and no future, and in the sense of life reduced to an existence that is itself premised on death" (Geroulanos 2007, 1074).

[5] Vattimo 1992; Baudrillard 1990. For Vattimo, the transparent society is a fiction perpetuated by communication systems (Vattimo 1992, 24-25); for Baudrillard, transparency is the stage where critical thought as reflection has ended: "Alienation is no more: the Other as gaze, the Other as mirror, the Other as opacity - all are gone. Henceforward it is the transparency of others that represents absolute danger. Without the Other as mirror, as reflecting surface, consciousness of self is threatened with irradiation in the void" (Baudrillard 1990, 122).

has directed my approach towards material history, from which I retrieve, for each historical figure of transparent human under investigation, the elements of a cultural materiality, with a strong emphasis on the medial aspects of the body and its techniques. This entails, for example, reconstructing the trade of glass and the technologies of glassblowing in early modern Europe, the insurgence of mechanical models of the body and the fashion of automata in the 18th century, the alchemical theory of the transformation of matter, and the state-organized practices of hygiene in early 20th century Europe.

Even though the quality of the subject "transparent humans" is not that of an idea but that of a figure, the methodology of this study shares with the tradition of the history of ideas some fundamental methodological premises. As Lovejoy defined the methodological stakes of his discipline:

> […] any unit-idea which the historian thus isolates he next seeks to trace through more than one—ultimately, indeed, through all—of the provinces of history in which it figures in any important degree, whether those provinces are called philosophy, science, literature, art, religion or politics. The postulate of such a study is that the working of a given conception, of an explicit or tacit presupposition, of a type of mental habit, or of a specific thesis or argument, needs, if its nature and its historic role are to be fully understood, to be traced connectedly through all the phases of men's reflective life in which those workings manifest themselves, or through as many of them as the historian's resources permit. (Lovejoy 1950, 15)

Only an accurate historical placement of each figure of this research within the cultural coordinates and discourses that have contributed to its emergence can yield a rigorous account of transparent humans guided by a cultural historical, and not simply thematic, endeavor. My underlying claim, throughout this work, is that for each distinct historical constellation, transparent humans play a significant role in questioning some cultural assumptions about being human and experimenting with the borders and limits of the

notion, by staging an imaginative, alternative, liminal way of being human under modified conditions of embodiment.

As I claimed above, the transparent human works as a *Denkfigur*—a figure for thinking theoretical issues with the help of a materially informed configuration. But more broadly, a figure could be defined, borrowing Donna Haraway's phrasing, as a representation making an "invitation to inhabit the corporeal story told in [its] lineaments." Haraway writes:

> Figures are not representations or didactic illustrations, but rather material–semiotic nodes or knots in which diverse bodies and meanings coshape one another. For me, figures have always been where the biological and literary or artistic come together with all of the force of lived reality. My body itself is just such a figure, literally. (Haraway 2008, 4)

In the figure of the transparent human, biological, literary, artistic and yet other meanings coalesce to shape a lively knot of signification. Transparent humans enact these meanings in a distinctly concrete way. The aspect of performativity in fact defines the agency of all the heterogeneous figures of transparent humans of this work. As fictional figures, they inhabit a space of alternative reality, one that shares some of the features of the actual world but that retains its autonomy, providing the freedom for the experiment to unfold. As fictional humans, however, these figures carry the load of the thinking experiment (*Denkfiguren*) they are invested with by acting it out in the more or less narrativized space of their performance.

Literature in this research is a privileged access point to the cultural history of transparent humans. Whenever literature imagines these figures, it provides them with the fictional space to unfold their performativity—their "lived reality." Literature however is never taken by itself in this study, methodologically informed by an idea of discourses as

interlacing practices that co-shape each other: literature and medicine, literature and philosophy, literature and science, literature and propaganda, are some of the diverse exchanges explored in the course of this work.

In Chapter 1, I reconstruct the case of melancholic subjects who, in early modern Europe, believed their body was made of glass. Looking closely at medical sources documenting this syndrome as well as at the protagonist of a short story by Miguel de Cervantes, "El Licenciado Vidriera" (1613), I show what bodies of glass, in the cultural imagination of early modernity, came to represent: a fictional experiment of an alternative way to be human under the circumstances of mental disorder, a reorganization of the relations between the normal and the pathological, the exceptional and the strange, power and impotence. The glass delusion, as this pathological phenomenon has been called, did not constitute a diriment solution to the problem of the melancholic human, but enacted the tensions between social, medical, religious, and philosophical traditions in a body that, for the time of the glass delusion, constituted an embodied existence, as the phenomenological conception of the body I draw on suggests. The glass body of early modern melancholics performed a fictional substitution of the conditions of human embodiment, powerfully and painfully real in its experience, allowing the melancholic subject to navigate the predicaments of social existence in a meaningful, operative way.

In Chapter 2, I move to the representation of transparent humans in the age of Enlightenment, and in particular in narratives by Laurence Sterne and Jean-Jacques Rousseau: *Life and Opinions of Tristram Shandy, Gentleman* (1759-1767) and *The Confessions* ([1769] 1782). This historical constellation draws directly on the myth of Momus to give life and body to fictional humans endowed with a transparent heart. In the

coeval narratives of Sterne and Rousseau, the transparent heart is a key figure to express ideas about the unattainability of the knowledge about the human being or, on the contrary, the trust in its possible achievement through the act of confession. In an age highly invested in the task of knowing, discovering, and understanding the human being, the figure of the human with a transparent heart played a key role in negotiating the limits and reach of this knowledge. The metonymically transparent humans of Sterne and Rousseau are shaped by the medical and philosophical representations of their time, and in particular draw on a rich repertoire of mechanical models, but their function is highly critical, and not simply derivative of mechanistic conceptions. In this regard, they share their epistemic agency with the other transparent humans of this research. Once more, this doesn't mean they ultimately arbitrate the epistemic conflicts they are summoned to enact, but that they present fictional strategies to articulate, represent, or reimagine the cultural tensions that feed the thinking about the conditions of being human. This chapter in particular shows how the visual paradigm of the scientific rhetoric of Enlightenment failed where the knowledge of the human was the knowledge of a particular individual; the transparent human thus became the chimera of thorough and complete knowledge, signaling at the same time the grandiose ambitions and shortcomings of the project of Enlightenment.

In Chapter 3, I analyze a yet entirely different kind of transparent human: Homunculus, the little hermaphroditic human in a flask created by alchemy, and in particular the one crafted by Wagner in Faust's laboratory, in the second part of Goethe's *Faust* (1832). This peculiar human has a clairvoyant capacity, which descends from his transparent life in the glass vial. The particular embodiment of Homunculus provides him

with the same essential function of transparent humans that I emphasize in the course of this work: the rethinking of the conditions of being human through the fictional experiment of replacing the human embodiment in flesh with a transparent body. The transparency of Homunculus indicates an imaginative possibility to establish the epistemic conditions for a transparent vision of the world. Homunculi, creatures generated at the intersection of nature and art, embodied yet spiritual beings, are superior to humans in their power of knowledge, yet subjected to them. Their nature is therefore liminal, as I show in the course of the chapter. In Goethe's play, Homunculus yearns for a transition to a completely human body, desiring to give up his transparency, and therefore openly enacting the stakes of transparency or the lack thereof. Homunculus indicates a path for defining the human that is alternative to that of epistemic perfection, or of the unthwarted knowledge of reality that transparency ever since Momus promised; the path away from transparency and towards embodiment undertaken by Homunculus is burdened by the weight of the body but lightened by the insatiable desire to overcome the boundaries of the world.

In Chapter 4, I examine the transparent human model crafted in the 1930s by the Hygiene Museum in Dresden, Germany, and later circulated around the West as a didactic tool for popular medical schooling as well as an entertaining object to behold. When Nazi propaganda designers exhibited this item by re-contextualizing it in their exhibitions dedicated not just to hygiene but to eugenics and race, they transferred to it, through a strategic use of propaganda, the new disquieting projections of a human ideal (the "new human type," in the infamous formula by Hitler), conceived as a stage beyond, and properly after, the human. This chapter, which constitutes the historical endpoint to

the present research, takes the transparent human model from Dresden as a limit case of what transparent humans historically came to represent. In the use of this transparent human in the context of museological and propagandistic activity, the negotiation of the conditions of embodiment comes to an extreme end: it reinvents the conditions of the human in order to programmatically impose a new normativity on the body and the human being as such. Where the early modern transparent body enacted the fragility of disease as well as the sacred exclusion sanctioned by the melancholic complex (Chapter 1), and the transparent heart of Enlightenment imagination both exposed and questioned the mechanical ideal of a perfectly knowable human being (Chapter 2), and where the Romantic fantasy of a transparent human choosing to give up its transparency to retrieve the body and its desires rehabilitated the value of opacity over that of transparency (Chapter 3), the transparent human of the 1930s enacts the social-hygienic aspirations of Nazi ideology (Chapter 4). While the preceding transparent humans explicitly enacted the tensions of a culture trying to negotiate its notions of the human, the last chapter would seem to present a case of programmatic normativity. However, in this chapter I show how, even in this case, there is an element of tension inhabiting the figure of the transparent human; it derives not so much from the cultural historical implications of the transparent body in question, as in the earlier cases, as much as from its material, a-historical texture. While lending itself to the ideological construct of a "new" human, the "durchsichtiger Mensch," in its material constitution and aesthetic dimension, subverts the "transparency" it is supposed to symbolize thanks to the resilience of its very material (a plastic compound) to the perfect transparency it allegedly enacts, predisposed as it is to yellow and fade.

The transparent human: thought experiment and *Denkfigur*, but also lively, performative fiction of an alternative way of being human. This alternative way, under different conditions of embodiment, aims at providing a field for rethinking the conditions disciplined and arbitrated by a certain culture. This fictional quality of the transparent human could be read along the lines of what Agamben has called the structure of *exceptio* (an inclusive exclusion) in relation to the Roman juridical construct of *homo sacer* (Agamben 2005); in our case, the exclusion performed by the figure of the transparent human would be that of the flesh from the human body. In this sense, the transparent human can represent life (retaining its contours, agency, the structure of *a* body, and so on), without having to include the specific attributes of life descending from blood, corrupting flesh, etc… But while, for Agamben, Western politics arbitrates life by means of a forcible separation of bare life from political life, where, by being excluded, bare life is nonetheless affirmed, the transparent human articulates a different negotiation: that between the field of corporeality and that of power, where the latter includes the power of the political, the social, as well as of the theological and the metaphysical. More broadly, my research shows how even the discourse of medicine constitutes a form of political power precisely by defining the limits of the body and the ways to discipline it, and in this regard the present research's obvious methodological debt is to Foucault's epistemological analysis.[6] In their heterogeneous and competitive interdependence, all

[6] I am referring to Foucault's conceptual grid as it is clearly articulated in *The Order of Things*, where *episteme* is the key notion of cultural analysis: "By *episteme*, we mean, in fact, the total set of relations that unite, at a given period, the discursive practices that give rise to epistemological figures, sciences, and possibly formalized systems […] it is the totality of relations that can be discovered, for a given period, between the sciences when one analyses them at the level of discursive regularities" (Foucault 2010, 191). As a departure from Foucault's scope, my aim is not to suggest general epistemic fields defining cultural periods, but rather to define *some* epistemic constellations at play around the cultural imagination of transparent humans.

these methodologies (historicism, the history of ideas, and foucaultian epistemological analysis) have inspired this research to perform a constant transition through fields of knowledge that are not discontinuous but greatly interlaced. Though my core interest lies in literary texts, this work addresses them in a continuity with other sources, be it medical, iconographical, museological.

Lastly, this research presents a "cultural and literary history" of transparent humans, that is, it relies on an idea of narrative as a form of cultural analysis. I have already specified the historicist premise at the core of the methodology I adopt; it is however important to emphasize how this narration is not teleological. My aim is to tell the story of how humans have fantasized, imagined, constructed, and reinvented their bodies through the fantasy of a transparent body, but I won't tell how the arch of this historical trajectory has a purposeful direction, or how it is supposed to end. The uses of the figure of the transparent human continue today, and a further study of the forms of transparent humans adopted by certain cultural constructs such as the "gläserner Patient" (the glass patient) in contemporary Germany would undoubtedly disclose more interesting phenomena occurring under this figure.[7] The future uses of this figure, however, are not predictable, nor should they be. Transparent humans have always played a meaningful role in history as well as in the literary imagination, but their destinies have always been the particular, unexpected, idiosyncratic product of their unique historical moment.

[7] Rosenbach, Schmergal, Schmundt 2015.

CHAPTER 1

BREAKABLE BODIES:

EARLY MODERN HUMANS OF GLASS IN CERVANTES'S "EL LICENCIADO VIDRIERA"

This chapter examines the figure of the transparent human as a product of early modern European culture. Documented in a variety of medical sources from the 15th to the 17th century, this figure was part of the vast complex of melancholy, constituting one of its delusional symptomatologies. While the writing devoted to this pathological delusion remains sparse in the medical accounts that most directly testify to its occurrence, a literary text from the 17th century, namely Miguel de Cervantes's short story "El Licenciado Vidriera," represents a cultural mine from which to retrieve a rich description and a narrativization of this phenomenon. My research connects Cervantes's short story to the medical and philosophical sources of the time in order to reassemble the cultural map that hosted the figure of a glass human being. Particularly wary of the perils of anachronistic reading and metaphoric superimposition, I argue in this chapter for a historically embedded metaphorics, which draws on those significations available to the protagonists of what we could call, in our contemporary vocabulary, tales of mental disorder. After an exhaustive review of primary sources documenting the syndrome, I proceed to present it in the context of early modern melancholy, for which I emphasize distinct and apparently contradictory strains, namely pathological symptoms and signs of exceptionality. I then present a novel suggestion resulting from my research into the material culture of glass in early modern Europe. By joining the melancholic network of meanings where the figure of the glass human arises to the material history of early

modern glass as it is attested in the practices of craftsmanship and trade of the time, I demonstrate how the glass delusion is a concrete, tangible place where the widespread, comprehensive culture of melancholy is inscribed. In my reading, what was until today considered a little known, rather marginal, and certainly bizarre syndrome, becomes instead a privileged place to understand the complex of melancholy, whose diverse expressions and outcomes have been abundantly acknowledged and expounded upon by scholarship. The semiology of the glass human becomes in this chapter a privileged place to read melancholy, and a necessary supplement allowing for a more complete view of the cultural space of melancholy in early modern European culture.

Whereas I mobilize a rigorously historical, non-anachronistic methodology, I find in 20th century phenomenology of embodiment a very useful, perhaps even crucial indication of the necessity to locate symbolic meanings in the body and in its particular spatial orientation. This indication has the merit of helping to avoid the pitfalls of anachronism precisely by calling on the contingent elements that define the materiality of a glass body in the early modern period: how does the body react to touching; how does it express pain? The chapter therefore does not exhausts itself in the findings of material history, but returns to Cervantes's literary account in order to detect the elements of a phenomenology of the body that are associated with pain and physical withdrawal, demonstrating how the body constitutes a site for the social negotiations between health and disease, order and disruption, normality and abnormality. The glass body, insofar as it is a body, becomes the site of a negotiation of social and cultural meanings—in the case under consideration, those meanings that were associated with the broad indicator of melancholy, and that involved variable degrees of divergence from health standards and

social norms. The properties of glass applied to a body, including breakability, thinness, and transparency, are the conditions of a physical, concrete performance of melancholy, a staging (very much real for the performer) of an otherness that the traditional medical category of melancholy had been responsible for containing and managing. As Roger Bartra has summarized, melancholy applied to several existential scenarios:

> Melancholy was a disease of the frontier, an illness of transition and uprooting. An illness of displaced people, migrants, associated with the fragile life of those who suffered forced conversions, and who faced the threat of great reformations and changes of religious and moral principles that had been guiding them until then. A disease that attacked those who had lost somebody or never found what they were looking for, and from this point of view, it was a disorder that affected the defeated as much as the conquistadores, runaways as much as newcomers. Melancholy could destabilize those who trespassed prohibited borders, those who invaded sinful spaces, or who nurtured dangerous desires.[8]

The diverse, dissimilar, sometimes even contradictory elements united under the index of melancholy, however, are orchestrated in the performance of the glass human in a way that lends them a consistency they otherwise seem to lack. Glass humans of early modern Europe such as Vidriera, the protagonist of Cervantes's story that we will get to know in this chapter, are a powerful demonstration of what bodies of glass, in the cultural imagination of modernity, can come to represent: a fictional experiment of another way to be human, an imagined reinvention of the conditions of embodiment, and with them, of the possibility to reorganize the relation between the normal and the pathological, the exceptional and the strange, powerlessness and power.

---

[8] "La melancolía era un mal de frontera, una enfermedad de la transición y del trastrocamiento. Una enfermedad de pueblos desplazados, de migrantes, asociada a la vita frágil de gente que ha sufrido conversiones forzadas, y que también a enfrentado la amenaza de grandes reformas y mutaciones de los principios religiosos y morales que los orientaban. Un mal que ataca a quienes han perdido algo o no han encontrado todavía lo que buscan y, en este sentido, es una dolencia que afecta tantos a los vencidos como a los conquistadores, a los que huyen como a los recién llegados. La melancolía podía desequilibrar a quienes traspasaban fronteras prohibidas, invadían espacios pecaminosos y alimentaban deseos peligrosos" (Bartra 1998, 37). My translation.

§1. A man of glass[9]

It is sometime around the year 1560. The location is most probably the Spanish region around Valladolid. A man believes he has become a glass vase and consequently avoids any contact with other humans for fear of breaking. For the purpose of healing, he is locked in a room covered with straw; the room is then set on fire. The man cries for help, banging desperately on the door. His guardians, outside, respond to his cries by asking him why, if he really is made of glass, wouldn't he break from all that banging. To these questions he replies: "Open, I am begging you, my friends and dearest relatives, because I don't think I am a glass vase but just the most miserable of all men; especially if you will let this fire put an end to my life."[10] This sadistic and painful story is recorded in a book written around 1569 by a Spanish doctor, Alonso Ponce de Santa Cruz, and published decades later by his son Antonio, a doctor himself, in 1622.

When, in the first years of the 1600s, Miguel de Cervantes was writing his short story "El Licenciado Vidriera" ("The Glass Graduate"), one of the twelve *novelas ejemplares* published in Madrid in 1613, he could have been familiar with this case, and he definitely was familiar with the symptomatology shown by the mad man portrayed in it, who believed himself made of glass: a certainly strange, but not unheard of, disorder of the mind, which medical texts concerned with melancholy at the time most often reported among a plethora of similar delusions.[11] The syndrome appears in several treatises, not

[9] Most historical sources refer to men, with only few exceptions (for example, Richelieu's sister according to the *Histoirettes* by Tallement des Réaux, quoted in Blok 1976, 114; fn 36).
[10] "Abrid, os ruegos, amigos míos y familiares clarísimos, pues ya no me considero un vaso de vidrio sino el más miserable de todos; sobre todos si dejáis que este fuego ponga fin a mi vida" (Santa Cruz 2005, 61). My translation.
[11] Gill Speak, in one of the most exhaustive compendia about the matter, defines the glass delusion "the best-documented, but the least-studied melancholic aberration" (Speak 1990b, 192).

just in Spain, but all over Europe: from England, through Italy and France, to the Netherlands.[12]

If medical texts referring to the glass delusion abound, their consideration of the matter may appear puzzlingly imprecise from a contemporary perspective.[13] The descriptive drive and taste for what is curious and strange characterizing these accounts, are not accompanied by etiological and semeiological depth of observation.[14] Even the specific rhetorical presentation of these medical texts, while attesting to the network of meanings the mental disorder was inscribed into, can constitute an obstacle to the contemporary attempt to interpret the psychic disease as such.

The fundamental incommensurability between contemporary diagnostic categories and early modern ones is one of the main obstacles to the exegesis of these texts. This difficulty may explain why Cervantes's novella has mostly been read outside of the interpretative frame of the melancholic symptomatology.[15] This chapter will be an attempt at facing this resistance and reading Cervantes's text in the context of its contemporary medical production of meanings.[16]

---

[12] On melancholy as a European phenomenon see Gowland 2006, especially 80.

[13] Gowland (2006, 83), speaks of an "instability" of those texts, pointing to the same difficulty in understanding them from the standpoint of contemporary expectations about medicine that I am here suggesting. Jean Starobinski has settled the matter by affirming: "Les historiettes psychiatriques, dont se contentent la plupart des médecins jusqu'au XIXe siècle, sont aussi amusantes qu'insuffisantes" (Starobinski 2012, 15).

[14] On the peculiar rhetoric of these texts see Soufas 1990, 10ff., who emphasizes 1) the lack of originality of texts that boasted the repetition of a tradition 2) their hybrid genre of writing, between "medical tract and artistic literature" (11).
I am using the forms "semeiology" and "semeiological" in accordance to the specifically medical use.

[15] A notable exception is Gill Speaks, who advocates for an integration of the novella in the philosophical and medical discourse of Cervantes's time, against "the neglect among many modern literary scholars of the role of medical and philosophical treatises in influencing literary works of the late sixteenth and early seventeenth centuries" (Speaks 1990a, 857).

[16] As Soufas argues, "these medical works need not be considered source material for the literature of the Golden Age in the way some critics have argued. Instead they should be read as simultaneous expressions of many of the same issues the authors of artistic literature examine and react to in their writings" (Soufas 1990, 10). In other words, the medical cases do not just provide a pool of anecdotes and stories to be poured into the literary fiction, as often the criticism of *El Licenciado Vidriera* has suggested. Along

Cervantes's "El Licenciado Vidriera," a complexly woven literary text,[17] can serve as the main symbolic point of departure towards the world of early modern glass men—a world otherwise resistant, if not almost inaccessible, with its catalog of cases and symptoms displayed by the medical texts of the time, to historical interpretation. I will therefore use Cervantes's text not just as itself the site of the exegesis, but as an exegetical prop for the reading of the more resistant medical sources, trying to create a double hermeneutical movement from the medical sources to the novella and back.

While this is the methodological scope of the present chapter, its claims have to do with questions that arise once the interdependence of the medical and literary discourse has been acknowledged. The symbolic network disclosed by this interconnection brings forth the question of the cultural meaning of the figure of the glass human—a meaning which I will try to seek not in the metaphorical potentialities of that figure from a de-contextualized perspective, but *within* the context of the historical disease-production.

From a philological standpoint, Cervantes's sources include the medical book mentioned at the very beginning, *Di[a]gnotio et Cura Affectum Melancholicorum* (1622). It is also known that Cervantes was familiar with the treatise *Examen de Ingenios para las Ciencias* (*Examination of mental faculties for the sciences*) by Juan Huarte de San Juan, published in 1575 (and put on the Index in 1583),[18] and with the *Libro de la*

---

different lines, Gowland (2006, 113) has suggested that "melancholy was simultaneously constructed by medical theories and broad cultural expectations, which interacted dynamically with individual experiences of the disease in complicated and, in some cases, unfathomable ways."

[17] Especially aware of this complexity of the text is Forcione's reading of the satirical register in the novella (Forcione 1982), which I will discuss in some detail later in the chapter.

[18] Cervantes may have met Huarte's son in Baeza in 1591 (in Johnson 1983, 18). As Johnson observes, "Cervantes was acquainted with Huarte's work…and consciously incorporated various of Huarte's ideas into the Quixote..." (22). For an analysis of Huarte's influence on Don Quixote see Green 1957. In the case

Melancholía (*Book of Melancholy*), published in 1585 in Sevilla by Andrés Velásquez, a doctor from Arcos de la Frontera. The latter text was, even before Burton's, the first vernacular European text on melancholy, written at the intersection of the Galenic and Scholastic traditions.[19] Velasquez's book, mostly a work of compilation, was a didascalic patchwork of transmitted knowledge.[20] Orthodoxically Galenic, Velásquez sees melancholy as caused by black bile, and maintains the distinction between the simple excess of the humor (*melancholia natural*) and the product of combustion (*melancholia adusta*), or *atra bilis*.[21]

Because this body of knowledge constitutes the background for Vidriera's case, I suggest taking seriously the use in the novella of words and definitions to describe the disease. On the other hand, I will again insist on the novella's relative independence from medical descriptions, as Cervantes was certainly not trying to be a good Galenic doctor.

§2. A clear case of melancholy

As most readers of Cervantes's "El Licenciado Vidriera" have noticed, the structure of the novella presents a stark imbalance between its parts, namely between the pre- and post-madness sections, which are cursorily narrative (almost lists of events), and the central section devoted to the glass delusion of its protagonist, which is longer, slower,

---

of our novella, interesting links to Huarte's work concern for example the use itself of the notion of *ingenio*.

[19] Bartra 1998, 13; 28: "El libro del doctor Velásquez, como toda la medicina medieval y renacentista, está cruzado por una larga sutura que une la ponderosa tradición galénica con el pensamiento escolástico cristiano." My translation.

[20] Bartra emphasizes in this regard the cultural provinciality of Velasquez's context.

[21] Velásquez's traditionalism is also at the basis of his dismissal of Huarte's "original" book; see Gambin, in Velásquez 2002, 13 ff.. In addition to that, Velásquez distinguishes melancholia as the physiological cause of disease (either as excess or as *adustio*) from melancholia as the disease itself, "enfermedad" (Velásquez 2002, 105), or—quoting the 7th century Byzantine compendium by Paul from Aegina (*De Re Medica Libri Septem*)—*mentis alienatio, citra febrem*: "enajenación de entendimiento e razón sin calentura" (Velásquez 2002, 111). The latter definition is of course Galenic (Galen 1821, XIX, 416), and reappears constantly, as in Garzoni's *delirio senza febre* (Garzoni 1993, 212).

and more descriptive.[22] The following outline of the plot, which will not however be given all at once, is intended to clarify the circumstances of the insurgence of the glass delusion in the novella.

Tomás Rodaja, as he asks to be called[23] by two students on horseback who find him asleep at the foot of a tree, is an eleven-year-old peasant boy who wants to study and become famous. Convinced by his determination, the two wealthy gentlemen hire him as their servant, allowing him to pursue his studies, as he wished, in Salamanca. The boy immediately shows unusual intelligence (*raro ingenio*; Cervantes 1965, 11), succeeding in his studies and services, and becoming a faithful companion. After eight years, he has made a name for himself thanks to his intelligence (*buen ingenio)*, outstanding ability (*notable habilidad)*, strong memory (*felice memoria)*, and good understanding (*buen entendimiento)* (Cervantes 2013, 274; Cervantes 1965, 11-12).

After the years spent with his two benefactors, he joins them on their way back to their hometown, but soon becomes eager to return to his studies at the university, which his friends promptly pay for. On the way back from Malaga to Salamanca, he meets an infantry captain that talks him into the idea of joining the army, and once more, Tomás shows his rare intelligence (*raro ingenio*; Cervantes 1965, 13), eliciting a vivid interest in his new acquaintance. When the army captain invites Tomás to join him in his travels with the army, Tomás decides to accept the offer, "because long pilgrimages make men wise" (*pues las luengas peregrinaciones hacen a los hombres discretos*; Cervantes 1965, 17), and travels to Italy as a soldier, with the additional benefit of not having to officially enlist. Tomás visits all of the Italian landmarks, with what we would call a tourist attitude

[22] For a "statistical" account on the novella's plot distribution, see Shipley 2001.
[23] Self-naming is a pattern in this novella, where Tomás names himself three times, pre-, during, post-glass delusion, with three different names: Rodaja, Vidriera, Rueda.

(he visits, observes, admires), from Genoa to Florence, Rome, Naples, Venice, and Milan; finally content with his tour, he returns to Salamanca, where he finishes his studies and eventually becomes a law graduate (*licenciado en Leyes;* Cervantes 1965, 32).

It is in this Spanish town that Tomás Rodaja is one day convinced by his mates to pay a visit to a "lady full of craft and guile" (*dama de todo rumbo y manejo*; Cervantes 1965, 32), who falls in love with him but, to her great offense, is ignored and rejected by the licentiate, who seems exclusively interested in the pursuit of his own education (*él atendía más a sus libros que a otros pasatiempos*; Cervantes 1965, 33). Resenting the affront, the woman has Tomás ingest a magic philter (*hechizo*), a love potion hidden in a quince (*membrillo toledano*), which turns out to be terribly poisonous, constraining Tomás to bed for six months. This episode marks the text's transition to the central section devoted to the madness of Tomás:

> Tomás was in bed for six months, during which *he dried up, and was reduced to skin and bone*, as they say, and gave every indication of having lost his senses and although they applied all possible remedies, they cured only the sickness of his body, but not that of his mind, because he regained his physical health, but was the victim of the strangest madness ever heard of. The unfortunate young man imagined that he was all made of glass, and in this delusion, whenever anyone approached him, he would shriek, begging and pleading with coherent words and arguments, for people not to come near, because they would break him, because really and truly he was not as other men – he was made of glass from head to foot. (Cervantes 2013, 283) [my emphasis]

> Seis meses estuvo en la cama Tomás, en los cuales *se secó y se puso, como suele decirse, en los huesos,* y mostraba tener turbados todos los sentidos; y aunque le hicieron los remedios posibles, sólo le sanaron la enfermedad del cuerpo, pero no de lo entendimiento, porque quedó sano, y loco de la más extraña locura que entre las locuras hasta entonces se había visto. Imaginóse el desdichado que era todo hecho de vidrio, y con esta imaginación, cuando alguno se llegaba a él, daba terribles voces pidiendo y suplicando con palabras y razones concertadas que no se le acercasen, porque le quebrarían: que real y verdaderamente él no era como los otros hombres: que todo era de vidrio, de pies a cabeza. (Cervantes 1965, 36)

[my emphasis]

Tomás begins here his new life as a man of glass, who calls himself Vidriera (*así decía él que se llamaba*; Cervantes 1965, 40). As he wanders about town and encounters people on the street, first in Salamanca and later in Valladolid, he assumes the role of a wise and pungent satirist, passing judgment on more or less solicited issues, especially targeting professions from doctors to shoemakers.

Tomás is unequivocally a victim of melancholy. His symptomatology is quite straightforward: he dries up and thins—a typical manifestation of the effects of a black bile imbalance.[24] It is true, as some critics have noticed, that the ingestion of the philter seems inconsistent with the usual physiological explanation of melancholy, which mostly arises and escalates, as we shall soon see, from an inner imbalance of the body, but this narrative expedient doesn't challenge the status of the delusion as a manifestation of melancholy.[25] Rather, it may posit a crucial discontinuity between the medical discourse and the literary text—a discontinuity that is productive for this inquiry insofar as it carves out an "interruption" in the logic of the disease, the literary text being the space of discontinuity with more than one normative pattern of the world. The literary text can interrupt the continuity of the world, even of the world of health and disease and their significations, to establish its own stage of reality.

[24] See Speak 1990a, 857.

[25] Forcione, for example, dismisses the glass delusion in terms of the melancholic syndrome as something not pertinent to the actual narration of Vidriera, mainly because, unlike a melancholic, the licentiate got his delusion from eating a charmed quince (Forcione 1982, 274-275). Sybille Dümchen, from a different perspective, argues that "the poisoned quince does not make Vidriera mad, it is simply a device that helps to symbolize and radicalize a state he was already in before falling ill" (Dümchen 1989, 104).

§3. Early modern melancholy

The definition of melancholy as a disease traces back to the Greek doctrine of the four humors. Alongside with phlegm (φλέγμα), yellow/red bile (χολή ξανθή) and blood (αἷμα), black bile (μέλαινα χολή) was the fourth humor to constitute the fundamental fluid elements of the human body. Humoral theory resulted, around the 5th century BC, from a combination of elements. Pythagoric thought (which postulated tetradic clusters), was combined with the theories developed by Empedocles and his followers on the fourfold constitution of the human body in harmony with the cosmic elements of earth, air, fire and water (plus a specific property—δύναμις—for each of the qualities: heat, cold, moist, dry), and with empirically observable humors (χυμοί). Hippocrates, in *Of the Nature of Man* (περὶ φύσεως ἀνθρώπου), based on this whole physiological cosmos an idea of health as balance between bodily elements, whereas their imbalance was associated with disease.[26] In particular, the excess of black bile, conceived as a thick dark fluid (almost an "ink," as in the expression by Tommaso Campanella),[27] exposed to thermic and physical variations inside of the body, was considered the cause of melancholy.

The body of knowledge assembled by Hippocrates was absorbed and reshuffled, a few centuries later, by Galen, who devoted some of his writings specifically to

---

[26] Τὸ δὲ σῶμα τοῦ ἀνθρῶπου ἔχει ἐν ἑωυτῷ αἷμα καὶ φλὲγμα καὶ χολὴν ξανθὴν καὶ μέλαιναν, καὶ ταῦτα ἐστιν αὐτῷ ἡ φύσις τοῦ σῶματος, καὶ διὰ ταῦτα ἀλγεῖ καὶ ὑγιαίνει. ὑγιαίνει μὲν οὖν μάλιστα, ὅταν μετρίως ἔχῃ ταῦτα τῆς πρὸς ἄλληλα δυνάμιος καὶ τοῦ πλήθεος, καὶ μάλιστα μεμιγμένα ᾖ. ἀλγεῖ δ᾽ ὅταν τι τούτων ἔλασσον ἢ πλέον χορισθῇ ἐν τῷ σώματι καὶ μὴ κεκρημένον ᾖ τοῖσι πᾶσιν ἀναγκη γάρ, ὅταν τι τούτων χωρισθῇ καί ἐφ᾽ἑωυτοῦ στῇ.
The human body contains blood, flegm, yellow bile, and black bile. This is what constitutes the nature of the body, and this is what causes disease or health. There is perfect health when these humours are in the right proportion with each other from the point of view of quality and quantity, and when they are perfectly mixed; there is disease when one of these humours is isolated and concentrated, so that the place left by iy becomes affected, while the place where it is going to addensate becomes engorged and consequently sick (Hippocrate 2002, 2-4). My translation.

[27] Also quoted in Starobinski 2012, 24. The expression "inchiostro" is in Campanella 2003, 153.

melancholy.[28] The Galenic definition of melancholy within the system of humors provides the basis upon which to understand melancholy up to early modernity, when medical knowledge was in fact still fundamentally Galenic—Galen's *De locis affectis* being "the touchstone of learned orthodoxy throughout the sixteenth and well into the seventeenth century" (Gowland 2006, 88).[29] This basis of knowledge wasn't significantly altered (but was certainly positively intersected) by coexisting parallel explanations of melancholy, which participated in the collective production of the disease, and drew from different traditions, such as astrology and the Saturnine motif (Klibansky, Panofsky, Saxl 1964; Gowland 2006, 89), and demonology (Brann 2002, 192).[30]

On the one hand, the doctrine of the four humors, in its long history, was inevitably exposed to transformations, corrections, intermissions, as well as generative confusions, leading, for one, to an increasing complexity of the contents indexed under the category of melancholy.[31] On the other hand, distinct strains of thought merged in the tradition of melancholy, such as the association of melancholy with study. On the basis of the humoral theory outlined above, dryness was associated with excessive study, and Rufus's clinical cases abound with references to the nefarious effects of exaggerated

[28] Specifically *De Atra Bile*, but sections on melancholy are scattered in several other places.
[29] On the persistence of humoral theory up to the end of the 17th Century, and the transformations in medicine occurring at that time, see also Gowland 2006, 88.
On the persistence of melancholy in Renaissance culture, and its dependency on the ancient knowledge, see also Bartra 1998, 54-55.
[30] For some concrete examples of these strands in the primary sources, see Ficino for astrology (Ficino [1489] 2012), and Campanella for demonology (Campanella [1604] 2003).
[31] To mention one major addition to the body of knowledge of melancholy, it seems to have been Rufus of Ephesus in the late 1st century AD who introduced a distinction between the natural black bile humor, always present in the body, but in varying proportions, and the pathological product of the *adustio*, or combustion, of yellow bile, resulting in a different kind of black bile. This distinction produced the one between melancholia naturalis and non-naturalis: "the distinction (deriving apparently from Rufus) between the substance of a 'succus melancholicus' as a deposit of the blood and that of a 'melancholia adusta' originating from the scorching of the yellow bile had to some extent disrupted the cogency of the scheme of the four humours" (Klibanski, Panofsky, Saxl 1964, 87).

mental activity.[32] The medieval textbook *Regimen Sanitatis Salerni*, still in use during the Renaissance, advised avoiding thought and care because they would dry up the body.[33] This association didn't mean that melancholy was automatically seen as characterizing men of particular intellectual profile, however. According to Klibanski, Panofsky, and Saxl, this association was first achieved during the Renaissance in the particular context of Italian culture: "only the men of the Quattrocento, with their new conception of humanity, drew from it conclusions amounting to a basic revaluation of the notion of melancholy and to the creation of a modern doctrine of genius" (Klibanski, Panofsky, Saxl 1964, 68).[34]

The wide variation from one account to the next, sometimes due to the merging of disparate traditions, sometimes the result of imprecisions in the transmission of the Galenic corpus, added to the already diverse phenomena assigned to melancholy. As much as the range of symptoms of melancholy must be considered as a whole, its spectrum remains, as we will repeatedly verify, strikingly vast and diverse.[35] The unity of melancholy, predicated on the physiological basis of the humoral imbalance or corruption of black bile, μέλαινα χολή, expressed itself in an array of behaviors, from solitary to depressive, from delusional to suicidal.[36]

---

[32] Rufus 2008.
[33] Soufas 1990, 21; 23. Gowland 2006, 114, fn 141.
[34] See especially Brann 2002.
[35] A further dimension to this fact is the extraordinary persistence of the word "melancholy" (obviously with consistent reconfigurations of meanings)—a persistence that Jean Starobinski has explained with a basic taste for verbal continuity ("goût de la continuité verbale"; Starobinski 2012, 16).
[36] As Foucault has shown, the unity of the category of melancholy was above all a perceived unity, gathering together an array of different, if not contradictory, elements: “The morbid unity is not defined on the basis of observed signs or inferred causes, but half-way between the two, above some of them, it is perceived as a certain qualitative coherence” (Foucault 2006, 265; see also 268).

The two main Galenic symptoms of the pathologic imbalance of black bile are fear and sadness, *metus et moestitia*.[37] As such, they constitute a defining binary symptomatological unit: "Melancholics differ one from the other; all are afraid, scared, blame life, hate the company of other humans, but not all of them wish to die […] Hippocrates was therefore right in pinning down all possible symptoms of melancholics to these two: fear and sadness."[38] All later accounts of melancholy, and certainly early modern ones, will repeat this pairing.[39] On a different diagnostic level, melancholy can also be described as a unit insofar as it is "an affliction which affects the mind not without upsetting the spirit and triggering an aversion for things previously loved, but without fever,"[40] a formulation that remains almost unaltered in most early modern accounts.[41]

The great diversity and fluidity of symptoms indexed under the melancholic complex speaks to the deep-seated function of melancholy in early modern culture.[42] Roger Bartra has defined early modern melancholy a "key idea," a "thick sentimental

[37] Galen, VIII, 188, 190—*φόβος* και *δυσθυμία*.
[38] "Differunt autem inter se melancholici; nam omnes timent, moerent, vitam damnant, odio habent homines, sed non omnes mori cupiunt […] Proinde recte videtur Hippocrates omnia ipsorum symptomata in duo haec coegisse, metum et meostitiam" (VIII, 190). My translation.
[39] An interesting re-elaboration is provided by Renaissance author Tommaso Garzoni: "Tutti medesimamente confessan questo, che varie e diverse siano le specie di questa insanità melancolica… et assegnano fra gli effetti multiplici di questa demenzia l'aver pochissimo animo et ardimento, l'esser quelli ripieni di tristezza e di paura né saper di ciò render la causa; il pianger soverchio che fanno; il desiderio della solitudine; l'odio del consorzio umano; l'aborrire i sollazzi e i piaceri per qualche tempo, e di nuovo…pentirsi d'avergli sprezzati, e far ritorno a quelli; il bramar la morte, e qualche volta procurarla in fatto; i quali effetti tutti non concorrono sempre in un soggetto, ma travagliano talora appartatamente, e talora unitamente; onde infinite specie di matti maninconici vediamo trovarsi, secondo che l'umore abondante dispone a maggiori effetti, e più matteschi l'uno che l'altro" (Garzoni 1993, 212).
[40] "[A]ffectus qui mentem laedit non sine gravi animi molestia atque aversio a rebus charissimis, sit sine febre" (Galen XIX, 416).
[41] One for all: "una specie di delirio senza febre" (Garzoni 1993, 212).
[42] Drew Daniel has ascribed this fluidity (which he conceptualizes as "assemblage") to a "discursive surplus" characteristic of melancholy, and responsible for its "crowded scene" (Daniel 2013, 5ff.).

texture," and a "myth" (Bartra 1998, 30).[43] Only on the basis of the pervasive and manifold function of melancholy is it possible to start locating the syndrome of the glass delusion in its proper cultural space.

§4. "The melancholic man which took himself to be a pitcher": the glass delusion

Among the many forms that melancholy takes up in its continuous yet transformative history, the glass delusion, within early modern accounts, is one possible manifestation. At the end of this chapter, I hope I will have demonstrated how the glass delusion synthetizes in a particularly significant way the fundamental tendencies of the vaster complex of melancholy.

The first early modern medical treatise to explicitly refer to the glass delusion is *De Habitu et constitutione corporis*, by the Dutch physician Levinus Lemnius, first published in 1561[44]:

> One thought his buttocks were made of glass, therefore performed all of his business and his actions standing up, fearing that if he sit down on a chair, his buttocks would have shattered, and the glass shreds would have broken up.[45]

Further accounts of the glass delusion appear quickly thereafter, beginning in 1597, in the treatise on melancholy by the French doctor André Du Laurens:

> A great Lord, who thought himself to be glass, and had not his imagination troubled, otherwise than in this one only thing, for he could speak marvelously well of any other thing. He used commonly to sit, and took great delight that his

[43] "Durante el Renacimiento, la melancolía se expandío como una idea clave, como una densa textura sentimental y, sobre todo, como un mito, gracias a esta larga y sinuosa sutura que unía al pensamiento clásico con el humanismo cristiano." My translation.
[44] For a basic historical account, see Speak's exhaustive, however cursory, compilation of cases (Speak 1990a, 851). Speak's two articles (1990a and 1990b) remain until now the most complete review available on the glass delusion.
[45] "Alter quidam opinatus est ex vitro sibi conflates clunes, sic ut omnia sua negotia atque actions stando perficeret, metuens ne si in sedile se inclinaret, nates confringeret, ac vitri fragmenta hinc inde dissilirent" (Lemnius 1604, 180). Translation in the text is mine. An English translation was already available in 1576 with the title *Touchstone of Complexions*.

> friends should come and see him, but so as that he would desire them, that they would not come near unto him.[46]

The greatly increased number of cases reported and of studies devoted to the subject of melancholy in the early modern period is a complex historical question in itself (see Gowland 2006).[47] The recurrence of the figure of the glass melancholic in a number of texts also constitutes a remarkable example of the circulation of a cultural figure in different European cultures, partly aided by the contemporary development of printed texts (see Gowland 2006, where the claim regards the whole phenomenon of melancholy). Not limited to the space of medical texts, the glass delusion is mentioned as a piece of *anecdotica* in several places. For example, Enea Silvio Piccolomini (in 1458 Pope Pio II), in his *I Commentarii*, reports that French king Charles VI was said to have suffered from the condition.[48] In France, the royal physician Louis de Caseneuve or Ludovicus a Casanova, in his 1626 *Hierogliphica et Emblemata Medica*, mentions the case of a Parisian glass maker suffering from the delusion.[49] A reference to the glass delusion appears even in Descartes' *Meditationes* (1641) as an unquestionable example of madness. We find the glass delusion mentioned even in the 18th century, namely in Diderot's *Encyclopédie*, and accompanied by the narration of a short case that is worth reporting, if only for the peculiar variation on the therapeutic methods:

> Another example is a patient that believed he had legs of glass; in fear of breaking

[46] Du Laurens 1599, 102. The version I am quoting from is an early English translation from the French.
[47] Accounts on melancholy however do not always refer to it, attesting to a relative "rarity" of this symptomatology among other possible ones. The delusion is for example not mentioned in the highly popular 1586 English handbook by Timothy Bright, *A Treatise of Melancholie*, probably also known to Shakespeare.
[48] Book VI, chapter 4, "Existimabat nonnunquam se vitreum esse, nec tangi patebatur. Virgas ferreas vestimentis inserebat multisque modis sese armabat ne, cadens, frangeretur."
[49] "Parisis vitriarius in Sancti Germani suburbia se vitreas habere nates existimans,
pulvillo multa pluma timente semper etiam rectus muniebat. Medici iussu a vitriaria officina abductus, caesus virgis est. Et cum gemeret sub verberibus, carneas nates sentire, non vitreas dictum illi est. Ita resipuit. Alius se vitreos habere pedes autumans parcebat incessui."

> them, he made no movement. A sorrowful handmaid was advised to approach him and thrash him with a wooden plank. The melancholic man became violently angry, so much so that he lifted the handmaid and then ran after her to beat her. When kinetic abilities had returned to him, he was very surprised to be able to support himself on his legs and to be cured.[50]

The wide inter-textual circulation of this figure suggests that it is not merely a literary phenomenon, and we have to acknowledge the fact that people indeed fell ill with the glass delusion. The relation between actual disease and its medical definition, between the reality of suffering and its written description, is cyclical and continuous. As Starobisnki put it, "the patient is affected by his disease as much as he builds it, or he receives it from his environment" (Starobinski 2012, 15-16).[51]

Having traced the first attestations of the disease, it is now time to look at the exact manifestation of the symptoms, especially in relation to analogous delusional forms. The largest compendium of melancholy published in the 17th century is *Anatomy of Melancholy* by the clergyman Robert Burton (1621), which, unlike the actual medical writings, addresses melancholy from a moral and religious perspective (its beginning being nothing less than the fall of man; see Lund 2010, 171; Gowland 2006, 107)[52] and, more importantly, is written in vernacular, aiming at a wider readership. There are three

---

[50] "Un homme croyoit avoir des jambes de verre; & de peur de les casser, il ne faisoit aucun mouvement: il souffroit avec peine qu'on l'approchât; une servante avisée lui jetta exprès contre les jambes du bois: le mélancholique se met dans une colere violente, au point qu'il se leve & court après la servante pour la frapper. Lorsqu'il fut revenu à lui, il fut tout surpris de pouvoir se soutenir sur ses jambes, & de se trouver guéri" (Diderot 1765, 310). The therapy, which here is particularly harsh, is based on the same principle employed in the first case by Santa Cruz: dissolving the "deception" by confronting the patient with the inconsistency of his claims against the reality check. Another tradition of cure would imply, on the contrary, the condescendence accorded to the patient, who would undergo, for example, fake surgical interventions staged to remove his delusional physical abnormalities.

[51] "[L]e patient subit son mal, mais il le construit aussi, ou le reçoit de son milieu." Starobinski then follows: "le médecin observe la maladie comme un phénomène biologique ; mais, l'isolant, la nommant, la classant, il en fait un être de raison et il y exprime un moment particulier de cette aventure collective qu'est la science." From a slightly different perspective, Drew Daniel has emphasized the necessity of a "public signature" for melancholy to occur in the first place (Daniel 2013, 26-27).

[52] Burton's work can be located in a tradition, which it actually contributes to initiate, of moral and spiritual approach to melancholy; more specifically, within the Lutheran polemic against Calvinist predestination. See Gowland 2006, 107.

mentions of the glass delusion in this account, which are worth drawing out for some of the narrative patterns they share with other accounts, which indicate the sort of semeiology displayed by the early modern conception of melancholy. The first mention is in the section entitled *Symptoms or Signs in the Mind*:

> [some are afraid] that they are all glass, and therefore will suffer no man to come near them: that they are all cork, as light as feathers; others as heavy as lead; some are afraid their heads will fall off their shoulders, that they have frogs in their bellies.[53]

The second mention is in a section devoted to *Particular Symptoms from the Influence of stars: Parts of the Body and Humours*:

> Another thinks himself so little, that he can creep into a mouse-hole: one fears heaven will fall on his head: a second is a cock; and such a one, Guianerius saith he saw at Padua, that would clap his hands together and crow. Another thinks he is a nightingale, and therefore sings all the night long; another he is all glass, a pitcher, and will therefore let nobody come near him, and such a one Laurentius gives out upon his credit, that he knew in France.[54]

The third and last mention is found in the section dedicated to *Symptoms of Head Melancholy*:

> […] as Laurentius supposeth, those feral passions and symptoms of such as think themselves glass, pitchers, feathers, &c., speak strange languages, proceed a calore cerebri (if it be in excess) from the brain's distempered heat.[55]

As Tommaso Garzoni reports in his 1586 best-seller on mad people, *The Hospital of Incurable Fools* (*L'ospidale de' Pazzi Incurabili*), there is the melancholic that believes his body is one huge head, the one that believes himself a heel, or a cantaloupe in another case, or again a grain of mustard: interestingly, all cases quite comparable to the glass delusion as far as the transformation of the body and its consequent impairment go

[53] Part I, Section III, Memb. I, Subsection II (Burton 1989, 386).
[54] Part I, Section III, Memb. I, Subsection III (Burton 1989, 403).
[55] Part I, Section III, Memb. II, Subsection I (Burton 1989, 410).

(Garzoni 1993, 267-268).[56] Du Laurens, repeatedly quoted by Burton, under the paragraph "Histories of certain melancholic persons, which have had strange imaginations," lists "melancholic man which took himself to be a pitcher, and prayed all that came to see him, not to come near unto him, lest they should dash him in pieces" (Du Laurens 1599, 101). Among other cases, there is the one who believes himself a cock, or to have no head, or to possess a huge nose, or those who believe themselves dead, or the one who "was nothing" (Du Laurens 1599, 102). And there is yet another case of the one who imagined "his feet were made of glass, and dares not to walk lest he should have broken them" (Du Laurens 1597, 103). There is the baker afraid of being made of butter, and the "silly melancholic" who is afraid to empty his bladder for fear of drowning his town. Besides these, there are those who "think themselves kings, emperors, popes, cardinals" (Du Laurens 1597, 603).

A closer look at the different kinds of delusions enumerated in various accounts detects a certain structural pattern that seems to recur in most cases. A common feature that these delusions (*imaginationes*) appear to share is a fantasy of fragmentation, mutilation, or transformation of the body (especially into inanimate objects) in ways that fundamentally alter the orientation of the body in space, including bodily contact/exchange with others, suggesting an essential disempowerment of the body itself. The mental disease is described as highly corporeal, located in the body as it becomes unable to perform expected movements and functions. By means of this bodily disempowerment, the social interaction of the sick person is compromised, impeded by fear of touching or by the perceived impossibility to inhabit the social space. The available significations traditionally imparted to melancholy in the Galenic unit of

[56] However, to complicate at least partly the pattern, there is also the one affected by lycantropia.

symptoms already mentioned above, i.e. fear and sadness (*metus et moestitia*), find their reconfiguration in the pathological narrative of a body that cannot perform its functions properly, that is afraid of touch as well as of its own proportions, being too big, or to small, or even disappearing. Here the embodiment of the melancholic disease means, first and foremost, the bodily inscription of fear and sadness as received meanings of the disease. This shows how the early modern body is the site where significations inherited from a traditional discourse (Galenic melancholy) find a transitory reconfiguration that is markedly physical. Later in this chapter, I shall return to these motives of embodiment while trying to further analyze the material components of the fantasy of the glass delusion.

In the following pages, I shall try to show the peculiar description of the disease in Cervantes's text, both in order to link Vidriera's case to the cultural phenomenon of the glass man that I have tried to track historically, and to find in the text a surplus of meaning that may allow the uncovering of the full potentiality of meaning of this cultural phenomenon, from the unique perspective of its literary rendering. As mentioned earlier, the literary text becomes the place where the disease can be freely re-enacted, inhabiting a space of virtual discontinuity with historical reality which allows for a relative independence from the expected causality (as in the case of the magical philter) as well as for a richer network of significations which, as I hope to show, may help us to symbolically access that reality.

§5. Vidriera between *enfermedad* and *agudeza*

Tomás Rodaja, according to Cervantes's narrator, presents the strangest and most

peculiar *locura*. In the text his disorder is also variously defined as *imaginación*, or as *extraña imaginación* (Cervantes 1965, 36)—what we can in fact call "delusion." The delusional element is indicated by the fact that for him, the experience of being of glass is *real y verdadera* (Cervantes 1965, 36), real and true. The assumption of truth regarding his being made of glass allows him to reorganize his world around that imagination in a perfectly logical way. Tomás's world at the time of his madness is consistently organized around his imagination, down to the minute details of his material existence: he wears only loose clothing with no shoes, he feeds only on fruits, he drinks only water collected in his hands from a stream, he walks only in the middle of the street, he sleeps either in open fields or in haylofts, all wrapped in straw; in other words, he does what a real glass man ought to do. Tomás doesn't just believe he is made of glass. He *is* made of glass—this imagination reconfiguring his actual, concrete, relation to the world.

The reorganization of Tomás's existence around his delusion acts primarily as limitation, causing a disempowerment of the body in the social space that I have indicated earlier as the main phenomenological feature of the glass delusion that emerges from medical accounts. However, the novella reveals a further set of features attributed to Vidriera's body of glass, adding a different dimension to his peculiar state of embodiment. As we have seen in the plot, Vidriera, with his metamorphosis into glass, becomes a witty and pungent street satirist of sorts. This transformation sustains a long section of the novella that records the dialogues, filled with puns, between Vidriera and the crowd:

> He asked people to address him from a distance, and they said that they might ask what questions they liked, because he was a man of glass, not flesh, *and since glass is of subtle and delicate matter, the soul works through it with more speed and efficiency than through the material of the normal body, which is heavy and*

earthy. (Cervantes 2013, 283) [my emphasis]

> Decía que le hablasen desde lejos, y le preguntasen lo que quisiesen, porque a todos les respondería con más entendimiento, por ser hombre de vidrio y no de carne: *que el vidrio, por ser de materia sutil y delicada, obraba por ella el alma con más prontitud y eficacia que no por la del cuerpo, pesada y terrestre*. (Cervantes 1965, 37) [my emphasis]

Tomás declares himself able to answer with enhanced wisdom *because* he is made of glass. The materiality of glass, "subtle and delicate," is then a real substitute for the "heavy and earthy" materiality of the flesh. Glass as opposed to flesh, *vidrio* vs. *carne*: this is the logical premise for a new relationship between soul and body.

The narrative exploits the state of enhanced efficiency of Vidriera's intellect by enacting his satirical art. The literary text blends different levels of discourse, creating a subtle play of echoes, for example between the logics of Vidriera's delusion and the logics of his satirical wit. During his time at the Court, the glass graduate is interrogated about an array of subjects, which include poetry and poets. Dismissing much of the aura of the poet, he's asked about the reason why poets should be poor. This is an occasion for Vidirera not only to repeat that poets are authors of their own misfortune ("because they wished to be"), but to give an account of the status of poetry—and, possibly, of his delusion:

> He replied that it was because they wished to be, because it was in their power to be rich, if they would only use the chances they had all the time in their hands, or rather, in the hands of their ladies, for these latter were extremely rich, since their hair was of gold, their foreheads of polished silver, their eyes of green emeralds, their teeth of ivory, their lips of coral and their throats of transparent crystal, and they wept liquid pearls. And furthermore, the earth their feet walked upon, however hard and sterile it might be, at once produced jasmines and roses; and their breath was of pure amber, musk and civet; and all these things were signs and marks of their great wealth. (Cervantes 2013, 291)
>
> Respondió que porque ellos querían, pues estaba en su mano ser ricos, si se sabían aprovechar de la ocasión que por momentos traían entre las manos, que eran las

> de sus damas, que todas eran riquísimas en extremo, pues tenían los cabellos de oro, frente de plata bruñida, los ojos de verde esmeraldas, los dientes de marfil, los labios de coral y la garganta de cristal transparente, y que lo que lloraban eran líquidas perlas. Y más, que lo que sus plantas pisaban, por dura y estéril tierca que fuese, al momento producía jazmines y rosas; y que su aliento era de puro ámbar, almizcle y algalia; y que todas estas cosas eran señales y muestras de su mucha riqueza. (Cervantes 1965, 48-49)

While the passage certainly echoes the *cliché* status of Petrarchist metaphors (*cabellos de oro, frente de plata bruñida, los ojos de verde esmeraldas, los dientes de marfil, los labios de coral y la garganta de cristal transparente*), Vidriera is here displaying his "literalist" logics. He applies to his satirical wit on poets the same logic that governs his disease: as for the world created by poets, the metaphors of Vidriera's world are real features of it. Vidriera is certain of his world, *real y verdadero*, where he is a man made of glass, and to such a degree that he simply acknowledges, for example, that there has been a time where he wasn't made of glass (*una vez, cuando no era de vidrio*; Cervantes 1965, 53; *Acuerdaseme que cuando yo era hombre de carne, y no de vidrio, como ahora soy*; Cervantes 1965, 56).

Vidriera's literalist attitude is confirmed in his puns. When a passerby asks him "what he should do to go off with a job (*salir con una commisión*) he had been trying to get for two years," he replies: "get on your horse along with the person who has the job, and accompany him as he leaves the town, and you will go off with it (*saldras con ella*)" (Cervantes 1965, 58). The whole art of puns of the graduate is actually devoted to homophones, amphibolies and the art of double entendre, where the logic of the word becomes the logic of the world:

> - Mr Glass, a money-changer who was condemned to be hanged died in the prison tonight.
> […]
> - He did well to hurry up and die, before the hangman sat on his bench.

(Cervantes 2013, 296)

> - Vidriera, esta noche se murió en la cárcel un banco [money changer/bench] que estaba condenado a ahorcar.
> […]
> - El hízo bien a darse prisa a morir antes que el verdugo se sentara sobre él.[57](Cervantes 1965, 61)

In another joke, addressed to a small group of Genoese that had talked to him:

> - Come over here, Mr Glass, and tell us a story.
> - I'd better not, you might transfer it to Genoa. (Cervantes 2013, 297)
>
> - Lléguese acá el señor Vidriera y cuéntenos un cuento [story/account].
> - No quiero, porque no me la paséis a Génova. (Cervantes 1965, 62)

It is not that Vidriera cannot distinguish metaphors from literal meanings: "Although I am made of glass. I am not so weak as to allow myself to be borne along by the vulgar mob" (Cervantes 2013, 301); *Aunque de vidrio, no soy tan frágil que me deje ir con la corriente del vulgo, las mas veces engañado* (Cervantes 1965, 71). Rather, he produces literal meanings from metaphors. Hallucinatory and logical at the same time, the *licenciado* speaks the way he lives in his glass body: his words become things, phantasmata become beings.

But as delusional as his *locura*, *enfermedad*, has him be, Vidriera is sharper than the crowd and certainly, as he himself declares, unlike the crowd he is not *engañado*, "deceived." The opposition *vidrio/carne* provided by Vidriera himself as the key to his intellectual skills is a crucial point for the novella, as it opens up the symbolic dimensions of the glass delusion. The alleged property of glass to be a lighter, more agile, vessel for the soul, as opposed to the fleshy cage of the body—a topos of Scriptural interpretation—

[57] The pun is based on the use of sitting on the shoulders of the condemned hanging to finish them off.

[58] is not something that medical accounts of the disease dwell upon. In other words, the suggestion we find here, allows us to establish a semiology for the glass delusion that non-literary accounts do not include. If on the one hand the materiality of the metamorphosis into glass is impairing and disempowering, articulating the embodiment of fear, on the other this materiality is a vehicle for a different, privileged relation between body and soul, which adds a second dimension of embodiment. In both cases, however, the glass body doesn't function as a posthumous metaphor for a complex of significations, but as a body enabling a distinct relation to the "soul."

We have already seen how Tomás's *locura*, or madness, provides a specific material scenario for the installation of a perfectly logical world. In other words, his *locura* doesn't weaken his intelligence on the analytical and logical level, but rather sharpens it:

> Some people, wanting to see whether what he said was true, asked him many and difficult questions, to which he replied spontaneously, with great sharpness of wit, and this caused great wonder to the most learned people of the university and to the teachers of medicine and philosophy, when they saw that a man who was the victim of such an extraordinary delusion as to think that he was made of glass, had within him such an acute intelligence that he could reply to any question appropriately and shrewdly. (Cervantes 2013, 283)
>
> Quisieron algunos experimentar si era verdad lo que decía, y así, le preguntaron muchas y difíciles cosas, a las cuales respondió espontáneamente con grandísima agudeza de ingenio; cosa que causó admiración a los más letrados de la Universidad y a los profesores de la medicina y filosofía, viendo que un sujeto donde se contenía tan extraordinaria locura como era el pensar que fuse de vidrio, se encerrase tan grande entendimiento que respondiese a toda pregunta con propiedad y agudeza. (Cervantes 1965, 37)

The first, technical reason for the coexistence, in Vidriera's state of mental illness, of the

[58] As for the meaning of this quality of the glass as opposed to flesh, we have to relate it to the *topos* of the opposition between body and soul. "A Man is then a certain montruous beast, compact together of two parts […] if the body hadn't been added to thee, thou hadst been a celestial or godly thing" (Erasmus 1905, 81).

strangest imagination and the sharpest intellect (*agudeza*), has to do with the early modern conception of the structure of the mind, with its faculties and functions. In the glass delusion, as that of Vidriera, the *imagination* of the deluded is affected, but not so his rational capabilities: "In those who thought they had no head, or that they saw black men, the 'imaginatio' was disturbed, while understanding and memory remained intact" (Klibansky, Panofsky, Saxl 1964, 93). According to Renaissance theories of the mind, which were very much a continuation of medieval theories such as Aquinas's,[59] the mind is a tripartite structure of faculties, each with different functions: vegetative, sensitive, and rational. The latter, distinctively human, is further articulated into the three faculties of reason, memory, and imagination, together constituting the activity of the mind.[60] Most Renaissance accounts of the mind are based on this topography,[61] and especially in the context of melancholy, an emphasis was given to "the intellect's ability to function properly in a melancholic system and melancholia's unsettling effects upon the internal visionary operation of the imagination" (Soufas 1990, 17). In other words, it was mostly the imagination that was held responsible for the alterations of judgment in the melancholic person.

If this topography of the mind is able to explain, within the frame of knowledge about melancholy available to Cervantes, Tomás's *locura* and *agudeza* as a state including delusion and sharpness, the novella provides further hints, which are missing from the medical accounts, as to the reason why a glass man should be not just sick, but

[59] Aquinas, *Summa*, 2:742-43.
[60] See Huarte, 206: "memoria, imaginativa y entendimiento."
[61] See for example Du Laurens, p. 73: "three special powers and faculties, which extol and advance man above all other living creatures […], the Imagination, Reason and Memory." See also Tommaso Garzoni, *L'Ospidale dei Pazzi Incurabili*: "che i maninconici abbiano solo l'immaginazione offesa, e non la cogitativa, nella memoria restando loro ingannati intorno alle cose viste, nelle quali cade l'errore della immaginazione, e non dell'altre due potenze" (35).

able to speak the bitter truth just about anything he is asked.

These clues regarding the coexistence of *enfermedad* and *agudeza* point to the material qualities of glass: "que el vidrio, por ser de materia sutil y delicada, obraba por ella el alma con más prontitud y eficacia que no por la del cuerpo, pesada y terrestre" (1965, 37). In the next paragraph, I will address the symbolic qualities entailed in the material culture of glass from the time perspective of the currency of the glass delusion. It is important that these qualities, as similar to our contemporary ones as they might seem, are understood in their historical context, in order to avoid the common pitfall of reading the novella under the metaphoric lens of glass for the contemporary reader. An overview and critique of these pitfalls is the subject of the rest of this section.

Most notable readings of the novella have focused on some of the plot elements I have briefly mentioned: Tomás's thirst for and pursuit of knowledge, and even more of a prestigious scholarly status; his disinterest in the things of the world, especially love; his metamorphosis into a satirist, more properly a cynic, who becomes wiser the more isolated he is from the social world.

One of the most articulate readings of Cervantes's novella, by Alban Forcione (Forcione 1982), has the defect of applying to the glass delusion a set of metaphoric meanings that are not the product of the culture which generated that figure, affirming that "the glass of his delusion is in fact symbolic of the keen insight with which he is gifted and the freedom of a man totally dedicated to the spirit" (Forcione 1982, 241). As a second strand to his reading, Forcione argues that "the scholar's fanatical devotion to the mind and the spirit is grotesquely caricatured in his removal from his body and in the terribly high price which, in his state of constant anxiety, he must pay for his knowledge"

(Forcione 1982, 242). These insights allow the critic to interpret Vidriera's glass delusion under the sign, on the one hand, of culmination, and on the other, of satirical retribution, or *contrappasso*—what in Dante's context signifies a starkly figurative version of a punishment for one's sins in the hyperbolically figurative atmosphere of the Otherworld. Forcione speaks in particular of the "grotesque *contrappasso* disclosing the isolation that he has imposed on himself from his awakening in '*soledad*' at the beginning of his pursuit of knowledge to his flight before the amorous advances of a woman" (243). The licentiate's delusion would be on the one hand an amplified actualization (by means of both disembodiment and fear of breaking) of his misanthropic *hybris*, on the other a punitive inversion of his attitudes: "his transformation into an object of curiosity and a cause of admiration is, of course, another example of the grim logic of satirical retribution, a fitting metamorphosis for a person who indulges his curiosity so relentlessly and who seeks so tirelessly the excitement of admiration in experiencing the novelties of the world" (Forcione 1982, 263).[62] The glass delusion is hence read by Forcione as a metaphor, be it of knowledge through the semantics of vision or of objectification and de-

[62] Forcione's argument is carefully constructed. He devotes some space to the investigation of the semantic field of sight in the narration of the student's travels to Italy, which leads him to define them as "a pilgrimage of curiosity" (Forcione 1982, 230). Within the scopic characterization of the actions of the character, he notes how "his search for knowledge is not directed toward its proper goal" (232), which should have been the case for the genre of knowledge pilgrimages (232); the novella would therefore stage the Classical-Christian paradigm of curiosity and thirst of knowledge as misleading drives. For him, "the glass licentiate's madness is in reality an exacerbation of tendencies already present in his personality and behavior" (273); "the symptoms of his mental disorder . . . symbolize the isolation, egocentricity, and misanthropy that result from a misguided intellectualism and a pursuit of knowledge for improper reasons" (275). Forcione is very accurate in placing the novella's themes within a cultural and intellectual context that gives account of the plot and the narrative strategies at play. Satire is, to be sure, an essential register of this tale, as he rightly points out, and indeed one tradition that may inform on a deep level the narrative of *El licenciado*: "One of the most traditional features of the tale as a satirical narration is its presentation of a shocking metamorphosis creating an unusual perspective from which the satirical wanderer can observe a panorama of abuses" (Forcione 1982, 241).

humanization through a certain understanding of the inorganic matter of glass.[63] The result might be fascinating for the contemporary reader, but it is highly anachronistic and de-contextualized, in spite of the convincing historicizing intentions of Forcione in bringing forth the historical tradition of criticism against cynicism.[64]

Several critics have repeated, with some variations, this reading of the glass delusion within *El Licenciado Vidriera*. For Rupp, "the particular affliction that the text describes has explicit associations with the transparency and keenness of satirical discourse," the licentiate being an "urban satirist" (Rupp 2005, 134). For Zimic, "his delusion suggests both the clarity and the precariousness of truth in society" (Zimic 1992, 137). Ruth El Saffar provides us with one more example of how, albeit along different lines of argument, literary metaphors forced unto texts become generative of their own meanings, instead of certain meanings finding a location in literary metaphors: "Tomás' trip through Italy becomes a travelogue in which his personality becomes totally insignificant. He becomes pure transparency, simply conveying reactions and impressions" (El Saffar 1974, 54). Similarly, the "metaphor of glass" for El Saffar "qualifies him for madness" but also "declares his absolute lucidity" (55). Relying entirely on this metaphorical network as sufficient to account for the meanings of the novella, El Saffar is able to conclude that the poison expedient is artificial. Yet another reading, by Sybil Dümchen, claims that Tomás's glass delusion is a "fantasy" of

[63] Forcione makes of Cervantes a follower of Erasmian humanism, which he sees as informed by civic Christian ideals, in contrast with "the free cultivation of individuality which, since Burkhardt and Michelet, we are accustomed to associate with the Renaissance view of man" and " the vision of man's divine potential as celebrated in the contemplative metaphysics of contemporary Florentine neo-Platonism" (258). Reading Vidriera as "one of the most bizarre members of a vast Renaissance literary family of misdirected scholars" (305), Forcione is able to brilliantly support his thesis about the glass delusion as *contrappasso*.

[64] It is historically more accurate to employ a different frame to read both the glass delusion and Cervantes's engagement with the "humanist" question. My claim is, unspectacularly, that instead of stark lessons in humanism and the ruthless art of *contrappasso*, Cervantes displays the fundamental tensions operating at the core of the glass-delusion as such.

"protection," which "saves him from having to take into account different aspects of life unrelated to rationalism" (Dümchen 1989, 119).[65]

By applying a metaphorical network that is not the product of the very discourse which generated the glass delusion, most critical literature on Cervantes's *Vidriera* seems to have failed to recognize dimensions that I have indicated are crucial to it, namely 1) the melancholic inscription of the graduate's madness; and 2) the embodiment of Vidriera's madness. The embodiment of Vidirera's *locura* seems to even disappear from those critical accounts, which is even more puzzling insofar as the text dwells quite significantly on the pain of Vidriera's fears of being broken—almost a phenomenology of physical pain.[66] Let's recall the description of Vidriera's reactions when people come close to him:

> The unfortunate young man imagined that he was all made of glass, and in this delusion, whenever anyone approached him, he would shriek, begging and pleading with coherent words and arguments, for people not to come near, because they would break him, because really and truly he was not as other men – he was made of glass from head to foot. (Cervantes 2013, 283)
>
> Imaginóse el desdichado que era todo hecho de vidrio, y con esta imaginación, cuando alguno se llegaba a él, daba terribles voces pidiendo y suplicando con palabras y razones concertadas que no se le acercasen, porque le quebrarían: que real y verdaderamente él no era como los otros hombres: que todo era de vidrio, de pies a cabeza. (Cervantes 1965, 36)

Further passages of the novella insist on the aspect of the fear of breaking: "when it thundered, he shook like a leaf, and went out into the countryside" (2013, 285); (*cuando*

[65] Other interpretations have opted for the evaluation of the historical elements of the story, but in rather circumstantial terms, as Heiple (in Dümchen 116), who points out how the name *Rodaja*, as well as *Rueda*, as the licentiate calls himself after having been the mad *Vidriera*, both refer to the wheel of fortune, the point being that 16th and 17th century representations of Fortune depicted the goddess as made of glass. See Speak 1990b, 196.

[66] See the interesting remarks by Forcione (1982, 315-316, fn 178), who claims for the disembodiment of Vidriera (!) and puts him, in the ideal balance between mind and body that he sees as quintessential to Humanism, all on the side of the mind.

tronaba, temblaba como un azogado; 1965, 38); when the *muchachos* throw rags and stones at him for mockery and provocation, "he shrieked so loudly and was so alarmed that he caused the men present to shout at the boys " (2013, 285); (*él daba tantas voces y hacía tales extremos, que movía a los hombres a que riñesen y castigasen a los muchachos*; 1965, 39).

Taking into account the embodiment of Vidriera's disease means first and foremost not forgetting that his being of glass is not just a metaphor for moral or more broadly cognitive meanings. Vidriera is a peculiar, probably rather rare, type of melancholic, and as such his symptomatology is inscribed in a cultural network of meanings pre-assigned to certain attitudes of the mind and behaviors. Above all, the body of Vidriera is not a metaphor: "the body is rather an expressive unity that we can only learn to know by taking it up, then this structure will spread to the sensible world" (Merleau Ponty 2013, 213).

§6. Brittle and transparent: the material attributes of glass

The meanings of the glass delusion produced in the literary narrative of the glass man couldn't have emerged and multiplied if they weren't circulating in the cultural network at large. In particular, it is on the level of the materiality of glass that the meanings creatively displayed by the literary text were produced.

In this paragraph I will address some more general elements of the cultural symbolism of glass, which have already been pointed out in the cultural history of the glass syndrome. However, these elements are not completely satisfactory, as they don't capture the specific historical relevance of the materiality of glass as it is actually

involved in the glass delusion. In the second part of the paragraph I will then introduce my findings, which I believe open up a much stronger historical interpretation of the meanings of glass and its connection to the melancholic syndrome of early modernity.

6.1. SYMBOLIC NETWORKS

A relevant cluster of meanings associated with the symbolism of the glass human has to do with the motif of the vessel. As Weinrich has rightly pointed out, in the Renaissance the body was thought to be a vessel of the soul.[67] The glass delusion more often than not entails the belief of being glass vases and vessels (often pitchers). Cervantes, in the novella, writes that Vidriera asked for some straw to cover *aquel vaso quebradizo de su cuerpo* (Cervantes 1965, 37), "that fragile vessel of his body" (Cervantes 2013, 285). In earlier documents one can find the comparable belief of being made out of clay, or of being clay vessels. The motif can be already found in Galen: "siquidem alius testaceum se factum putavit; atque idcirco occursantibus cedebat, ne confringeretur" (VIII, 190).[68] The complex of images involving the belief of being a vessel, and of being breakable, carries in it the dimension of vulnerability and breakability that proves central for the glass delusion. Further images, however, informed by different traditions, add to the complexity of the motives. The word *Vidriera*, in the referential system of Cervantes's times, indicated not just a window pane, but a glass urinal: that is, the bottle where urine was kept for diagnostic, but also "clairvoyant" purposes, since the flask could be used to

[67] Weinrich 1956, 51. I take the *topos* to be Biblical and then Pauline: see especially Romans 6: 7-10: "But we have this treasure in jars of clay to show that this all-surpassing power is from God and not from us. We are hard pressed on every side, but not crushed; perplexed, but not in despair; persecuted, but not abandoned; struck down, but not destroyed. We always carry around in our body the death of Jesus, so that the life of Jesus may also be revealed in our body."

[68] "Likewise another believed himself made of clay; and therefore yielded to everybody coming close, for fear of breaking." My translation. Also quoted in Weinrich 1956, 51.

determine a person's state of health *in absentia*.[69] A whole culture of bodily fluids and their symbolic functions and practical applications seems therefore activated in this image. Furthermore, the Biblical image of the broken jar to indicate foolishness or madness as opposed to wisdom (especially *Ecclesistes* 22.7) plays along with its antonymic image of the pitcher as a metaphor for wisdom, with that of man as a sinful, fragile vessel,[70] and the Pauline image of the body as a clay jar.[71]

As for the brittleness of glass, while it may seem an obvious quality, it is less obvious in its association to the human figure. To be a "man of glass" was probably a consolidated phrase already as far as 1363, when Giovanni Boccaccio was called a “man of glass” by a detractor pointing out his excessive sensitivity and proneness to feel offended. In his epistolary response to his accuser, Boccaccio, who was seriously outraged by the epithet of *uomo di vetro*, replied: “we are all glass men, subjected to innumerable dangers; the slightest touch would break us and we would return to nothing.”[72] In the glass man delusion, the pathological dimension of melancholy is translated in the quality of brittleness, the same quality that infuriated and shamed Boccaccio when called *uomo di vetro*.

Another cluster of meanings associated to the symbolism of glass involves the optical properties of glass, in the first place, its transparency. Unlike brittleness, transparency was positively associated with glass: "the transparency of glass was used by Spanish mystical writers, particularly, as a symbol for the soul’s purity" (Speak 1990a,

[69] Speak 1990a, p. 858. Interestingly, in the novella Vidriera is once addressed as "señor Redoma," "Mr. Flask."
[70] Speak 1990a, 856ff. and Speak 1990b, 196.
[71] Romans 6: 7-10.
[72] "...tutti siamo di vetro e, sottoposti ad innumerabili pericoli, per piccola sospinta siamo rotti e torniamo in nulla.” Letter to Francesco Nelli, priore at Sant’Apostolo in Certaldo, later serving for the Gran Siniscalco in Naples Niccolo’ Acciajuoli; Boccaccio 1972, 761. My translaton. On the Latin use of *vitreus* as referring to the fragility of fame or fortune see Engstrom 1970, 403.

855).[73] The question of the pertinence of transparency in the glass delusion, and especially in "El Licenciado Vidriera." is only answerable through clues that come from the broader cultural context of the glass delusion. A literary work, contemporary to Cervantes's novella, comes to help here.[74]

Thomas Tomkis's *Lingua* is an allegorical play from 1607, which enacts the battle between language and the five senses. Tactus is represented, in the play, as a glass man, who reveals his delusional nature to Olfactus in Act I, Scene 7: a clearly comical expedient, if we think that the sense of touch should end up fearing touch. Tactus recounts how he found out that he was made of glass by being exposed to direct sunlight: his fingers had then appeared to be made of glass, and his chest was like a window "through which I plainly did perceive my heart." Further into the transparency of his body, he was then able, in his heart, to see his own thoughts. Hearing this story, Olfactus cannot help laughing and exclaiming: "Momus himself can find no fault with thee/ Thou'st make a passing live Anatomie"—a quote from Plato's Republic (VI). A few lines later, Olfactus exclaims: "See the strange working of dull mellanchollie." Without venturing here into a more exhaustive analysis of the play, it will suffice to notice how the fantasy of transparency, and self-revelation, was recognizable as part of the glass delusion. Especially with the auto-scopic image of the window on the earth, the glass delusion proves, in Tomkis's text, to legitimately belong to the declinations of the myth of Momus—a myth of self-revelation, unthwarted communication, and mechanic perfection.

[73] References go from Santa Teresa to San Juan de la Cruz to Giordano Bruno. See Speak 1990a, 855, fn 22; Speak 1990b, 199, fn 25.
[74] The suggestion of the general melancholic photophobia is contained in Speak 1990b, 197-201.

6.2 MATERIAL HISTORY OF GLASS

Whereas these material-symbolic clusters of meaning all contribute to an understanding of the complexity of our subject, my research has identified a group of different sources, which put the glass syndrome in a sharper historical focus. In the following pages, I propose a material history for the glass delusion, one which ties together the material culture of glass as it is attested in a number of sources contemporary to Cervantes, and the historical descriptions of glass melancholics, from that of Cervantes to those appearing in the various anecdotic and medical texts. In presenting this specific material complex, I will connect it to the symbolic meanings attached to melancholy by early modern writers, in order to historically sharpen the connection between the complex of glass and that of melancholy.

In *Il Teatro de' Vari e Diversi Cervelli Mondani* (*The theatre of the many worldly brains*), a work of encyclopedic inspiration by Renaissance author Tommaso Garzoni, a section is devoted to melancholic brains ("de' cervellazzi menanconici e salvatici": not just melancholic, but also wild). Among the many entertaining anecdotes, dressed in a colorful popular style, Garzoni tells the story of a man who, "thinking he had become a piece of glass, went to Murano and threw himself in a furnace to be blown into the shape of a bottle" ("in foggia d'una *inghistara*"; Garzoni, 1993, 216).[75] This anecdote is particularly interesting for my present purpose, which is to show the kind of interaction that took place between early modern melancholy and early modern history of glass in at least two ways.

The first indication I take from the anecdote has to do with the fact that the man

[75] The whole passage reads: "è assai ridicoloso ancora quello [esempio] di colui che, parendoli esser divenuto un vetro, andò a Murano per gettarsi dentro a una furnace e farsi fare in foggia d'una inghistara." My translation.

Garzoni is writing about not only thinks he has become glass, but he intends to be further transformed, through the art of glassblowing, into a particular kind of glass vessel, the "inghistara" [*Angster*], a bottle endowed with a large round base and an elongated neck. This double transformation is an indication of the deeply metamorphic pattern that defines his imagination at large.[76]

The second point that Garzoni's anecdote raises, is that the circumstances surrounding the production of glass cannot be overlooked in the reconstruction of the glass syndrome. Murano, the destination of Garzoni's glass man, was the Venetian island where the production of glass had been established since the second half of the 13th century. In the middle of the 15th century, a new glass material was first crafted there by the skillful artisans who were forbidden to leave the island and spread the secret recipes. This material was the amazingly colorless, sparkling *cristallo*, an invention legendarily attributed to Muranese glassmaker Angelo Barovier, obtained by selecting, as raw components, the quartz pebbles from Ticino and the purest ashes from a plant growing only in the Mediterranean zone, known as *salicornia*, or glasswort (Page 2004, 6; Verità 2014, 55). In his technical handbook on the art of glass-making, entitled *L'Arte Vetraria* (1612), Antonio Neri provides an account of the various procedures that granted *cristallo* its outstanding qualities. Neri advises how to achieve a marvelous effect ("un cristallo meraviglioso e stupendo")[77] by working with ashes from the Mediterranean and with

[76] It is interesting to notice how the German word *Angster* derived from the Italian *inghistera* or *angastara* (from the Greek ἄγγος [vessel] and γαστήρ [belly]) indicates a vessel also known also as *Kuttrolf*, that particular bottle with more than one neck characterized by the property of producing a gurgling sound when a liquid was poured from it (for historical details regarding the *inghistera* see: Mentasti, Tonini 2014, 7). For a visual overview of some of the shapes of bottles of the time, between reality and fantasy, see the incredibly inventive work of Giovanni Maggi, *Bichierografia*, 1604 (in Fig.1, I have provided some relevant selections from this work).

[77] Neri 1612, Book I, Chapter VI [no page numbers printed].

pebbles from Ticino.[78] Several other technical innovations had come to form the secret recipe of Venetian *cristallo*, including the preliminary purification of the plant ash, with the elimination of coloring impurities such as iron residues (Verità 2014, 57-58). Even if it wasn't the only glass variety produced in Murano—where famous varieties included opaque, milky glass known as *lattimo*, decorative techniques such as the delicate, lacey *filigrana*, or the precious stone-like *calcedonio* and *venturina*, or the colorful *girasole*—the glass called *cristallo*, among the forms of what came soon to be designated as glass *à la façon de Venise*, was made using the most groundbreaking technique that had been developed by Muranese craftsmanship. Whatever the complexities of the production process, one thing is sure: the *cristallo* produced in Murano at that time was the purest, most transparent type of glass ever produced (Marachier 1967, 31). Its unprecedented thinness endowed it with an "incomparable elegance of line" (Marachier 1967, 41), but also, inevitably, with extreme fragility (Marachier 1967, 15).

Garzoni's anecdote about the glass man who wanted to be melted in a glass furnace shows us how the new objects produced in those furnaces, with their outstanding qualities of thinness and transparency, left their profound mark on the imaginations of those who witnessed their diffusion. When in 1626 French doctor Louis de Caseneuve reported on how a Parisian glassmaker had become convinced his buttocks were made of glass (see §4), he thereby provided us with something more than just another anecdote. By mentioning a man who, working with glass, started to conceive his body as made out of glass, he was hinting at the most direct link possible between the circumstances of the production of glass and those of the imagination of the glass men.[79]

[78] Neri, 1612, Book I, Chapter I; Chapter II [no page numbers printed].
[79] "Parisis vitriarius in Sancti Germani suburbia se vitreas habere nates existimans […]"(Caseneuve, 1626).

The passage from the clay body (*testaceum*-ὀστρακοῦς) of the Galenic tradition to the glass body is not to be understood merely as a substitution of materials. The introduction of glass didn't just provide a new raw material to a preexisting pattern of melancholic imagination that had been employing clay until then; rather, it *transformed* that pattern from within, in two crucial ways. First: as we have seen in Garzoni's anecdote, the body of the glass melancholic, not unlike that of clay, is breakable, extremely fragile, but also pliable, exposed to multiple changes of form. This element modifies the fear of traditional melancholic delusions in a way that is new and strongly informed by the material circumstances of glass-making (namely the transformative process of glassblowing). A look at the extraordinary iconographical repertoire of Giovanni Maggi's *Bichierografia* leaves no doubt as to the imaginative resources springing from the Venetian glassblowing craftsmanship (see Fig. 1). In these drawings, precious items from aristocratic collections are juxtaposed with fantastic items imagined by the author, without marking distinctions or borders between the two kinds of objects. Very elaborated shapes achieved by skilled craftsmen are mixed with imaginary human-shaped vessels (or glass men) not retrieved in archeological findings.

Second: the introduction of a body of glass in the melancholic spectrum of imaginations implies, on the basis of the thinness of *cristallo*, a new property attached to the melancholic body—not just fragile, but "subtle." This second material aspect of early modern glass intersects the melancholic complex in its crucial cultural significance. Unlike clay, glass can not just easily break, but is *subtle*. Its thinness, the astounding result of a treasured and protected craftsmanship, is the token of its exceptionality: it allows the soul to overcome the hindrances of the earthly cage of flesh, but still providing

a shelter to that soul, still constituting a body. Vidriera's thoughts are quick, ready, pointed; to all questions, he replies with the greatest sharpness of intellect (*con grandísima agudeza de ingenio*; 1965, 37). Vidriera's satire is first and foremost a work of ingenious puns and linguistic ambivalences. Once freed from its prison of flesh, Vidriera's *raro ingenio* is lifted to a higher degree of efficacy.

The idea is long-lived, and prominently revived in early modern neo-platonic thought. Tommaso Campanella, in his book *Del Senso delle Cose e della Magia* (1604) (The sense of things and magic), describes our body as opaque, its only transparent part (the eyes), impeded by the watery humor, hence unable to grasp spiritual realities.[80] In his treatise *De Anima et Vita* (1538), the Spanish humanist Juan Luis Vives (1492-1540), whose work was known to Cervantes, described the mind as encased in the body in the same way that a man is locked in a room with only one glass window:

> The mind is in fact locked in this body as somebody is locked in a room and has no other window but a glass one; and cannot see anything but what the glass allows him to see, that is, more clearly if the glass is clean and transparent, much less if the glass is covered with dirt or dust [...] And as for that man who is locked in a room and doesn't ignore the existence of the glass before him, through which he might see more or less clearly and openly, so is the mind in relation to the body: though guided by the senses, it is able to correct them.[81]

The clearer the glass, the better the mind can see; the dirtier and dustier the window, the less the mind will be able to see through it. In the metaphor built by Vives, the glass

---

[80] "[…] il corpo nostro è opaco, e solo ha trasparenti gli occhi, li quali han le cornee dure, e l'uvea, e l'umor acqueo, che ricevono la luce grossa ed alterata; però non potemo veder le cose spirituali […] ma uscendo l'anima da questo opaco antro (così pinge Platone il corpo, e lo stato nostro), vedrà l'aria, li venti, e gli Angioli, ed ogni cosa sottilissima […]": Campanella 2003, 142.

[81] "[…] mens enim est in hoc corpore, sicut qui clausus in cubiculo, non aliam habet fenestram, per quam foras prospiciat, quam vitream; is profecto nec alia potest, quam quae vitrum patitur, intueri, quod si nitidum sit, ac pellucidum, clarius: sin pulvere obductum, ac situ, obscurius cernit […] et quemadmodum conclusus cubiculo, non ignorant obstare sibi vitrum, quo minus res clarius cernat, ac apertius; ita mens nostra in corpore, quae, tametsi ducitur a sensibus, eos tamen ipsa corrigit" (Vives 1963, 286). My translation. In the work, Vives defines *ingenium* as "universa nostrae mentis vis," "the whole force of our mind."

window (*vitrea fenestra*) corresponds to the sensory apparatus of the body. A clearer, lighter, unimpeded body will allow a clearer, more effective guidance on the part of the mind. The protagonist of Cervantes's novella names himself "Vidriera," which means "glass window." Among the variations of the glass delusion we have reviewed so far, the imagination of this man has picked yet another glass object to represent his body: not a vase or a pitcher, but a window, the glass pane that opens an inside to an outside, and the function of which resides, primarily, in its transparency.[82] Further in the same treatise, Vives characterizes the reasoning of the melancholic as exceptionally agile: "if black bile is mixed with subtle and clear spirits, it provides agility of reasoning, of judgment, of prudence and wisdom; those who can go deep, create and invent many excellent things."[83] The outcome of this agility (*dexteritas*), paired with the depth of its reach (*descendunt alte*), would be the excellent creations and inventions of melancholic minds.

The glass body of Vidriera constitutes on the one hand a material impediment and a painful toll he pays to physically inhabit the social space. On the other hand, this body, which is subtle and delicate, allows the soul to operate with exceptional speed and agility, making Vidriera sharper and wiser than any other body of flesh. While precluding him from a wholesome social integration and in sanctioning his marginalization from the world, Vidriera's body of glass also reintegrates him in the social sphere as somebody whose mind works faster and better than others', and whose soul is in a privileged position to his body: somebody who ultimately can speak a higher truth. Vidriera thus embodies the type of the περιττός, the exceptional man—literally, "beyond"—that the

[82] As mentioned above in this paragraph, "vidriera" could also mean "urinal."
[83] "[…] si subtilibus et claris spiritibus admista sit nigra bilis, dexteritatem parit rationis, iudicij, prudentiae, sapientiae; hi enim descendunt alte, excuduntque atque inveniunt praeclare quam plurima" (Vives 1963, 294). My translation.

text of *Problems* once attributed to Aristotle had identified as the melancholic man. The neutral marker of exceptionality, which in the text of the *Problems* could in fact mean exceptional madness as much as exceptional insight, demarcates a space, a "beyond," as the Greek prefix περι indicates, that is both doomed and sacred, diseased and gifted.

As Panofsky, Klibansky and Saxl argued in their comprehensive study of melancholy, it was the Florentine Renaissance that first revived the theme of a positive exceptionality of the melancholic, mainly through the work of Marsilio Ficino.[84] In his *De Vita* (1489), Ficino drew a causal connection between intellectual activity and melancholy:

> […] because the pursuit of knowledge is so difficult it is necessary for the soul to remove itself from external things to internal things, as if moving from the circumference to the center. While one is looking at this center of man […] it is necessary to remain very still, to gather oneself at the center, away from the circumference. To be fixed at the center is very much like being at the center of earth itself, which resembles black bile. (Ficino 2012, 55)[85]

Whereas in the pseudo-Aristotelian text of *Problems* (composed by his pupil Theophrastus) the exceptionality of the melancholic descended from the thermic properties of black bile, which can become, like iron, either extremely cold or extremely hot, in Ficino intellectual absorption causes a split between mind and body and, through a sweeping analogical move, a moving closer to the center of oneself, hence of earth, hence of black bile.[86] Further emphasizing this dynamic of separation, Ficino claimed:

---

[84] Klibansky, Panofsky, Saxl 1964, 68. For an exegesis of Aristotle (1994, 2: 276ff.) see Klibansky et al. (1964, 17-41), especially the discussion on the exceptionality of the melancholics (31).

[85] "[…] ad scientias praesertim difficiles consequendas necesse est animum ab externis ad interna tanquam a circumferential quadam ad centrum sese recipere, atque dum speculator in ipso […] hominis centro stabilissime permanere. Ad centrum vero a circumferentia se colligere figique in centro maxime terrae ipsius est proprium, cui quidem atra bilis persimilis est."

[86] Ficino is repeating and reinventing a classical tradition of thought that associated strenuous studies with the insurgence of melancholy. See for example the case history in Rufus 2008, 69. Complementary to the pseudo-Aristotelian explanation, is the one given by Rufus, for whom excellent natures as predisposed to melancholy because they "move quickly and think a lot" (Rufus 2008, 47).

> Of all scholars, those devoted to the study of philosophy are most bothered by black bile, because their minds get separated from their bodies and from bodily things, they become preoccupied with incorporeal things, because their work is so much more difficult and the mind requires an even stronger will. To the extent that they join the mind to bodiless truth, they are forced to separate it from the body. Body for these people never returns except as a half-soul and a melancholy one. (Ficino 2012, 57)[87]

In Ficino, the formulation of the melancholic condition is rooted in the relation between body and mind of the scholar in ways that are consistent with, though not identical to, the thinning of the body experienced by the glass man of Cervantes's story. In Ficino, the outcome of an intellectually-driven overcoming of the impediments placed by the body on the soul was a forceful, often dangerous, separation of mind and body. In fact, the rest of Ficino's book is a collection of recipes and concoctions for the scholar to take care of his body, avoiding the detrimental effects of melancholy on health. In the case of the glass man, instead of separation we witness a radical metamorphosis of the body that allows the mind to operate at higher speeds, a bodily transformation that grants an epistemic reorganization of mind/body relations. The embodiment in glass appears then as a kind of solution to the dangerous separation of body and soul caused by melancholy, as a way to keep the potential dissociation in play by inscribing it on different conditions of embodiment.

However brilliant, this solution is necessarily also painful, and the glass man is constantly doomed to suffer any contact with the world around him. Once Vidriera's

[87] "Maxime vero litteratorum omnium hi atra bile premuntur, qui sedulo philosophiae studio dediti mentem a corpore rebusque corporeis seocantincorporeisque coniungunt, tum quia difficilius admodum opus maiori quoque indigent mentis intentione, tum qua quatenus mentem incorporeae veritati coniungunt, eatenus a corpore disiungere compelluntur. Hinc corpus eorum nonnunquam quasi semianimum redditur atque melancholicum." Ficino repeated the already pre-Galenic (i.e. apparently already in Rufus) distinction of black bile into a natural humor and an unnatural one, the latter being a product of combustion of humors, often referred to as *melancholia adusta*. He therefore distinguished between bad and good melancholy using this same distinction, and assigned to the natural black bile the "goodness," but only if in the perfect proportion in the blood, a mixture which, quite surprisingly, would be purple and gold in color (Ficino 2012, 62).

fame has spread around the country, he receives an invitation to court, and for the occasion he is wrapped and packed in straw and transported like those precious crystal objects that were much sought after by aristocratic circles of Castilla and Catalonia in the 16th and 17th centuries. The Iberian Peninsula had become one of the major centers of production of glass *à la façon de Venise* outside of Murano, and many Muranese emigrants had in fact settled in Spain (as already mentioned, the emigration of glassblowers was not allowed in the Venetian Republic).[88] And, just like a precious crystal object, once broken, the *licenciado* would have lost his value and his appeal. The ending of Cervantes's short story, with its unremarkable epilogue, points precisely to this material knot: as a body of glass, Vidriera had retained not only the fragility of his disease, but the value of his exceptionality.

A Hieronymite friar finally heals Vidriera, and after his healing the *licenciado* returned to exercise law as a man of flesh. When the crowd, having recognized him, started to follow him, not in order to ask for his satirical insights (which he wouldn't have been able to give anymore, given he was no longer a glass man), but instead to mock him, the *licenciado* has to leave the garb of lawyer and goes off to war, where he dies soon afterwards. The moment the *licenciado* becomes a body of flesh again, his glass body is shattered, and the exclusive space that he had occupied as a περιττός disappears with his re-transformation.[89]

---

[88] Domenéch 2004, 85. He specifies that "muranese cristallo glasses of harmonious proportions and refined ornamentation were indispensable table wares in Catalonia, and in aristocratic and cultured circles they became collectors' items as well as new symbols of prestige" (Domenéch 2004, 87). The popularity of Venetian glass, however, "began to decline in the last quarter of the 17th century […][when] its leading position was overtaken by French, Bohemian, and English glass" (de Rochebrune 2004, 146).

[89] Some importance has been ascribed by critical readers to the healing performed by the Hieronymite, the details of which are not provided in the novella. Forcione, in particular, has employed this final segment of the plot to give further evidence for his argument about the misanthrope, cynic *Vidriera*, punished by his author, Cervantes, for having betrayed the foundations of humanism: "the symptoms of his mental disorder

The double nature of melancholy—*melancholia est* duplex, as Ficino had put it[90]—plays along its history on several levels, haunting every aspect of its construction as a cultural complex: *naturalis* or *adusta*, good or bad, cold mixture or hot mixture, illness or intellectual gift, form of social exclusion or of social election. These ambivalences and contradictions pervade the history of melancholy at least until the radical reshuffling undergone by this notion with the advent of psychiatry. In the phenomenon of the early modern men of glass, these contradictory designations were displayed in the very materiality of the glass body. By providing a material inscription to the contradictory aspects of melancholy on the body, glass entered the history of melancholy, transforming its epistemic configuration.

. . . symbolize the isolation, egocentricity, and misanthropy that result from a misguided intellectualism and a pursuit of knowledge for improper reasons" (Forcione 275). According to Forcione, Cervantes was responding to cultural tendencies of his time, which especially focused on criticism of man and society (he mentions in particular the *desengañado* as a "dominant figure of Spanish literature of the seventeenth century," 294, to be found also in a work such as *Los antojos de major vista* by Rodrigo Fernandez, ca. 1625). Along similar lines, Sybil Dümchen reads the ending of the novella as an equal failure of the graduate to balance the relation between mind and body, exceeding on the side of the latter through an engagement in war ("through the strength of his arms"), whereby during his glass delusion the licentiate had disregarded his bodily dimension (she speaks of glass "symbol of virginity"; Dümchen 1989, 102). In fact, for Dümchen, the main narrative purpose of the novella, with its narrative non-integrated structure, is to show the disconnection of Vidriera's body from his mind (Dümchen 1989, 112). Later on: "The text itself, with its intentionally fragmentized structure, raises the thematic question about the relationship between a whole and its parts, which in Vidriera's case points to the non-existent communication between mind and body" (Dümchen 1989, 120). Oddly enough, the critic reduces the bodily dimension allegedly removed by Vidriera to that of sexuality, choosing to ignore the bodily dimensions (especially pain) that we have seen active in his disease.

[90] Ficino 2012, 58.

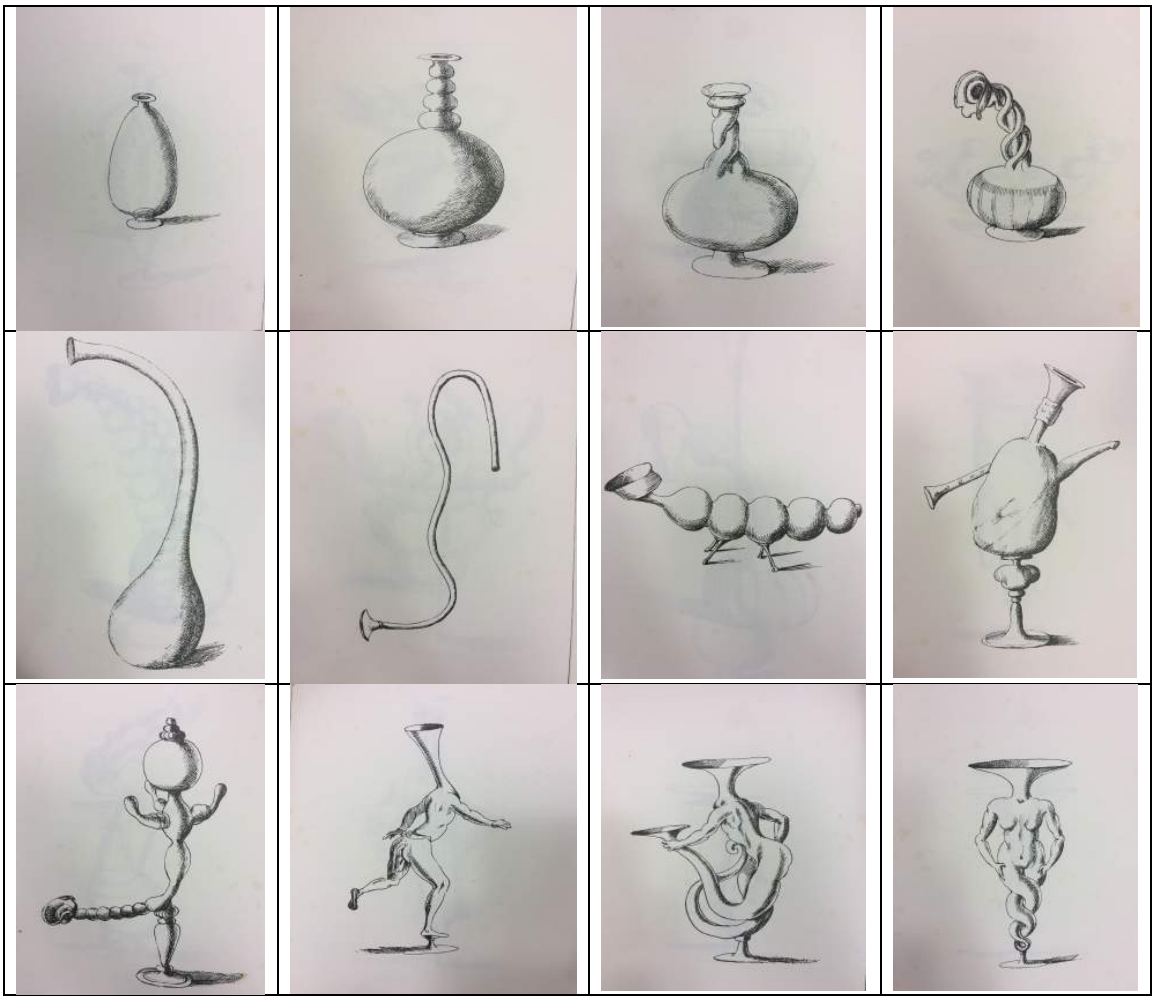

Fig. 1 Selected illustrations from *Bichierografia* by Giovanni Maggi, 1604.

§7. *Nolite tangere:* many meanings in one body

With the interpolation of the myth of Momus, a fantasy of a controllable, "surveillable" interiority, the figure of the glass man seems to veer away from the connotations of *enfermedad* towards those not only of a more efficient intellectual functioning, but of a more perfect human specimen, one which would virtually realize Momus's wish to see human thought exposed through the body. This suggestion introduces a tension with the embodiment of the glass delusion I have insisted on, and which hinges on the painful experience of the body, with its limitations and impediments unable to perform its functions and maintain its socially prescribed space. Having argued for the material historical conditions of glass as the ground of a possible coexistence of disease and exceptionality (*enfermedad y agudeza*), it may seem that the ambivalences in the glass syndrome are explained once and for all. And yet the entire extent of the painful embodiment of Vidriera has not been accounted for. As a way of proposing an epilogue to this chapter, I am suggesting to see in the embodied experience of Vidriera the main indicator of a possible epistemology of the early modern glass men. The body, in as much as it is the painful site of experience for the glass man, is the site of a cultural negotiation taking place along the coordinates of melancholy. The dimension of lived experience can in fact perform the negotiation of the tensions included by the index of melancholy by enacting their meanings in the life of an individual. Without this lived dimension, those tensions would remain too abstract to actually undergo a negotiation proper. The latter can occur when conflicts and contradictions find a meaningful distribution in the concrete, lived dimensions of someone's life.

Throughout this chapter, I have placed emphasis on the embodiment of Vidriera's

glass delusion, stressing how his being made of glass is not just a rhetorical fiction which conveys exterior, superimposed meanings, but a real experience of the body, through pain and altered perceptions. One day, we are told at a certain point of the novella, "a wasp stung him on the neck, and he dared not shake it off in case he broke, and yet he complained all the same" (Cervantes 2013, 303) (*Picáble una vez una vispa en el cuello, y no se la osaba sacudir, por no quebrarse; pero, con todo eso, se quejaba*; Cervantes 1965, 20). Vidiriera's reaction to pain is primarily informed by his greater fear of breaking, which forces him to endure the sting of the wasp. But the logic governing his pain is soon questioned: "Someone asked him how it was that he could feel the wasp, if his body was made of glass? To which he replied that that wasp must have been like a slanderer, since the tongues and beaks of slanderers were enough to crumble a body of bronze, let alone of glass" (*Preguntóle uno que cómo sentía aquella avispa, si era su cuerpo de vidrio. Y respondió que aquella avispa debía de ser murmuradora, y que las lenguas y picos de los murmuradores eran bastantes a desmoronar cuerpos de bronce, no que de vidrio*; Cervantes 1965, 20). Vidriera shows here, once more, his shrewd talent in literalizing metaphors towards satirical effects. But his shrewdness in this context is used to eschew the accusation of not making sense: that he shouldn't feel pain if he is made of glass. Ultimately, what Vidriera is here arguing for is the legitimacy of his pain in light of his being made of glass, the legitimacy of his being a body, though made of glass. Glass can be affected by pain, in his world of meanings, as the metaphor allows bronze to get crumbled by the beaks and tongues of slanderers. Vidriera's glass delusion is a discontinuous, selective context of meanings, where pain can apply to glass.[91]

[91] Forcione, once more, reads this scene as a striking caricatural scene of *contrappasso* "that brings to a climax the dramatic process by which his character unwittingly exposes himself as an impostor"; "the

In the glass delusion, insofar as it is a form of melancholy, we should seek therefore not just the stigma of exclusion, of a painful interruption of the relations with the social space, but also the suggestion of a productive separation from the social body in the direction of an individual creation of meanings.

At one point in the novella, Vidriera becomes furious at comments addressed against "a very fat clergyman" (*un religioso muy gordo*), and exclaims: "Let no one forget the words of the holy Spirit: Touch not mine anointed, and do my prophets no harm"; 2013, 303 (*Nadie se olvide de lo que dice el Espíritu Santo: Nolite tangere christos meos*; 1965, 20)—a formula to be found both in *Psalms* (104: 10-20) and *Chronicles* (1, 16:22). The Psalmic forbiddance is a warning Vidriera would demand for himself—as a prophetic figure, in the role of the satirist. Vidriera is asking not to be touched, lest he might break, his frailty becoming a sacred space where he is

---

fool's mask drops, and we watch him as he complains about the very pain that he continually inflicts on others" (Forcione 1982, 281). Interestingly, Shipley (2001) has objected to this reading of the novella, based on a fundamentally negative assessment of the licentiate's life as an individualist, self-involved scholar, by affirming the positive nature of Tomás Rodaja's friendships and interactions, lifting the weight of any *contrappasso* from the "inhuman" scholar depicted by Forcione and others.

In his Christian "handbook" *Enchiridion* a text widely referred to by Forcione, in chapter 1, Erasmus writes the following:

> Thy body is not alive if it feel not the pricking of a pin. And is thy soul alive which lacketh the feeling of so great a wound? Thou hearest some man use lewd and presumptuous communication, words of backbiting, unchaste and filthy, raging furiously against his neighbour: think not the soul of that man to be alive. (Erasmus 1905, 51)

The image employed by Erasmus here is the Scriptural image of the grave (*sepulchrum*) of the body, when the soul is sick (as opposed to the temple hosting a healthy soul). Most striking though, in this passage, is the reference to the pricking of a pin. Vidriera, as we have seen, is stung by a wasp, and feels the pain. If we take Erasmus's passage as a diagnostic guide for detecting the health condition of soul and body, we should infer that Vidriera's body is in fact healthy. More difficult is to establish the status of his soul: does Vidriera "rage furiously against his neighbor?" For Forcione he does, defining himself as a Cynic and, hence, a failed humanist. However, the passage of the wasp's sting precedes by few lines Vidriera's defense of the mocked clergyman. What I am trying to question here is the opportunity to read the glass delusion of Vidriera in the humanistic terms proposed by Forcione, with Cervantes becoming a defender of an Erasmian "humanist vision," Vidriera his negative hero, an anti-humanist. In relation to *Enchiridion*, Forcione limits himself to some aspects of the text which help support his humanist claim, without locating the text within its militantly Christian frame. For Forcione, *Enchiridion* is a humanist text before being a Christian text—an unusual perspective on a book conceived as a moral catechism for a good Christian.

untouchable, echoing the isolation of the creative genius inhabited by melancholic folly. Untouchable and sacred, the body of glass of the *licenciado* functions as a protected zone, carving a secure distance with whomsoever and whatsoever. The breakable body is, first and foremost, untouchable, reversing the paradigm of *metus et moestitia* into one of sacred exception.[92]

In the glass graduate, the melancholic indicators of fear and sadness, and of a deluded imagination, find an embodied reconfiguration in a glass body that, in its physical impediments, articulates the social significations of exclusion and estrangement from the social space. At the same time, the space of the disease becomes sacred, sanctioning the prophetic zone of the disease and transforming the fear of breakability into a taboo of untouchability. This double character of the disease attests to its productive role, within society, as a generator of meanings not exhausted in the possibilities of the "normal" and the "pathological."

Acknowledging the essential embodiment of the glass delusion is, against the posthumous superimposition of metaphoric meanings, the best available way, I argue, to approximate the cultural tensions inscribed in the disease in its historical context. As Merleau-Ponty writes:

> As a system of motor powers or perceptual powers, our body is not an object for an "I think": it is a totality of lived significations that moves toward its equilibrium. Occasionally a new knot of significations is formed: our previous movements are integrated into *a new motor entity*, the first visual givens are integrated into a new sensorial entity, and our natural powers suddenly merge with *a richer signification* that was, up until that point, merely implied in our perceptual or practical field or that was merely anticipated in our experience

[92] I am here loosely referring to Agamben's definition of *homo sacer* as absolutely killable but un-sacrificeable. The analogies however end here, as the issue of sovereignty exceeds in my view the extension of our topic (see Agamben 2005, 81-82).

> through a certain lack, and whose advent suddenly reorganizes our equilibrium and fulfills our blind expectation. (Merleau-Ponty 2013, 155)[93] [my emphasis]

The embodied mental disease is the place where the tensions active in a culture at any time renegotiate their relations. The glass delusion doesn't point at just one way early modern European societies conceived of health and sickness, wisdom and folly, but it rather enacts the tensions between social, medical, religious, and philosophical traditions in a body that, for the time of the glass delusion, constitutes "a new motor entity" and "a richer signification." The glass body of early modern melancholics therefore performs a fictional substitution of the conditions of human embodiment that becomes powerfully real in its experience, allowing the melancholic subject to navigate the predicaments of his life in a productive and meaningful way.

[93] Another relevant passage for the possible phenomenology of Vidriera's embodiment: "Moreover, even when it is cut off from the circuit of existence, the body never completely falls back on itself. Even if I am absorbed in the experience of my body and in the solitude of sensations, I do not achieve a complete suppression of every reference to the world that is included in my life; at each moment some new intention springs forth from me, whether it be toward the objects that surround me and fall before my eyes, or toward the instants that arrive and push back into the past that I have just lived through. I never fully become an object in the world; the fullness of being of a thing is always lacking for me, my own substance always runs away from me through the inside, and some intention is always sketched out. Insofar as it includes "sense organs," bodily existence never rests in itself. It is always tormented by an active nothingness, it continuously offers me some form of living, and natural time, in every instant that arrives, ceaselessly sketches out the empty form of the genuine event" (Merleau-Ponty 2013, 168).

CHAPTER 2

A TRANSPARENT HEART:

MECHANICS AND POETICS IN LAURENCE STERNE AND JEAN-JACQUES ROUSSEAU

During the middle decades of the 18th century, while Jean-Jacques Rousseau was writing his autobiography *The Confessions* (1765-1770),[94] Laurence Sterne was occupied with his fictional autobiography *The Life and Opinions of Tristram Shandy, Gentleman* (published between 1759 and 1767).[95] The two works, when read under the autobiographical genre, constitute a foil for each other: the earnestness of Rousseau's authorial confessions countered by the facetiousness of the fictional narration of Shandy's life. Both works are engaged, in different ways, with the reach of literature in accounting for someone's life, and both interrogate the means of novelistic discourse to achieve introspection, but with rather opposite results. Where Rousseau strives to prove his reliability and the success of the act of self-revelation, Sterne stages the constant defeat of truthfulness, honesty, and self-understanding in literary writing and life alike. At crucial points of this shared yet antithetical exploration of literature's mastering of truth and life, both Rousseau and Sterne draw on the image of a transparent heart as the hypothesis that can sanction literature's claim to capturing the true nature of its subject, and more to the point, penetrating someone's inner life and accounting for it.

In Sterne, the image works as a strictly narrative analogy. If only the narrator could see into a transparent chest—so reads the hypothesis laid out in the first volume of

[94] The two books were published only in 1782 and 1789.
[95] As to Rousseau's and Sterne's acquaintance with each other, the two never met but were certainly aware of each other also thanks to mutual friends. See Sterne, New 1978, II, 538; Cross 1909, 343. For the reception of Sterne in France at the end of the 19th century in relation to Rousseau, see Voogd 2004, 63.

Tristram Shandy—he would know everything about his characters. In reality, however, the narrator's knowledge is obstructed by the "wrapping of flesh" carried by any character as well as human being, and he is thus limited to choosing indirect, strategic ways to convey a portrait of his characters. In Rousseau, by contrast, the image of the transparent heart intersects with a series of analogous images (such as openness, purity, or immediacy) that define not just a narrative mode, but the writer's ethical stance more generally; Jean Starobinski has exhaustively accounted for the wider semantic field of transparency in Rousseau's entire work (Starobinski 1988).

As accords with the distinct intentions of each of these coeval works, the hypothesis of a transparent heart is subject to obstinate demonstration in Rousseau's confessional endeavor (he struggles to show how he is unquestionably endowed with a transparent heart), whereas it is quickly dismissed as false in *Tristram Shandy*, where its viability is restricted to the realm of science fiction.

In this chapter, I argue for the inscription of the hermeneutic figure of the transparent heart in the contemporary culture of the body, variously defined by medicine and aesthetics. I follow these contextual developments by presenting the relevant literary passages. The image of an optical beehive in *Tristram Shandy* opens up a review of Iatromechanism and of the currency of the picture of the man-machine in the 18th century; correspondingly, Rousseau's confessional passages hinging on the image of the transparent heart open up a review of the origins of the notion of sensibility within the discourse of Vitalism as an antagonizing principle to the scheme of the mechanical body. On the basis of these contextual coordinates, I suggest that Sterne's fantasy revolves around the fantasies of early modern scientists who represented the human body as a

complex organization of mechanical parts, but with parodying intents, whereas I claim that while Rousseau draws on a mechanical representation of the body, he is also trying to make the body accommodate a radically different physiology of human emotions, that of sensibility, thereby originating a tension that is indicative of the intrinsic predicaments of Enlightenment culture.

The journey of this chapter brings up the complexity of the figure of the transparent heart, which does not maintain a single, consistent meaning, but rather works to signal a number of epistemological tensions. In this sense, the metonymical transparent human conveyed by the figure of the transparent heart shares its epistemic agency with the other transparent humans of this research. By epistemic agency, however, I do not imply the ultimate arbitration of epistemic conflicts signaled and staged by the transparent human, but its function in indicating fictional strategies to articulate, represent, or reimagine the cultural tensions that inform the thinking about the conditions of being human. The figures evoked by these 18th century fantasies of humans with a transparent heart carry, for one, the imprint of a highly visual culture, but in their specific unfolding they show the impossibility of visually capturing an understanding of the human being, which ultimately exceeds the range of a scopic paradigm. Furthermore, these Momus-specimens embody the ambition of epistemic and moral exposure at the cost of an ironic loss of human features: in Sterne, the Momus-specimen is ultimately an extra-terrestrial creature (a Mercurian); in Rousseau, the figure approximates the fantasy of a hypothetical original human or, mirroring it, that of an automaton.

§1. Looking at the body: literature and medicine

My starting point in laying out the conceptual map for this chapter has been to ask what lies at the basis of the common image of the transparent heart in these competing yet somehow complementary forms of autobiography in the age of Enlightenment. Is it a mere coincidence that Sterne and Rousseau resorted to it, or is it rather a deeply motivated parallelism? What happened around 1760 to justify the relevance of the image of the transparent heart as a crucial figure for the interrogation of the reach and power of literature in disclosing its characters and their inner lives? My working hypothesis has been that a precise development in scientific discourse, involving medicine, physiology, and anatomy, sustains the relevance of this image in the metaphorical language of these authors, and my goal can be summarized as explaining why, and through which cultural discourses, this particular representation of the human came about around 1760.

By integrating the discourses of literature and medicine in such a fashion, I want to emphasize the dynamic relationship between scientific models of the body and literary poetics in the construction of the literary imagination. This way, I am in part taking a methodological stance on the heteronomy of literature: that is, on literature's permanent exposure to, and interaction with, other discourses that deeply shape its motives and its aims. In part I am simply acknowledging the strong, and historically distinctive, interaction between medicine and literature that emerged with particular vigor during the Enlightenment, and which can be measured, at the outset, in the "sheer amount of Enlightenment writing on medical topics: diet, climate, regimen, manners" (Neve 1993, 1525). Sergio Moravia has spoken of the "extraordinary philosophical and cultural success of medicine during the whole of the eighteenth century" (Moravia 1980, 253),

and Peter Gay, emphasizing how medicine was in fact, for the thinkers of Enlightenment, an "index to general progress" (Gay 1967, 375), has stressed the intellectual relevance of medicine for Enlightenment culture. Another critic, David B. Morris, has written that "like theology in the Middle Ages, medicine in the Enlightenment approached the condition of a master discourse" (Morris 1990, 297). The place of medicine in shaping Enlightenment thought is therefore not at all peripheral, but on the contrary crucial to the understanding of the literature of the time. In particular, "medicine and literature produced powerful versions of satire, when working together, as if satirical responses to material claims constituted the most intelligent way of displaying literature's relationship to medicine" (Neve 1993, 1525)—an interaction that is particularly evident in the case of Sterne. More than just a matter of the influence of science on literature (for one, easily proven by the familiarity of the literary authors under examination with scientific and medical texts, as we will see in detail),[96] the bridge I am building between these two fields of knowledge is based on the assumption that changes in the medical field, reorientations of debates, trends, and practices in medicine, signal, if not even facilitate, corresponding processes in intellectual production more generally.

As the image of the transparent heart evokes a certain picture of the body, my first task in this chapter will be to identify which representation of the body Sterne and Rousseau were relying on. The body, unsurprisingly used "as a metaphor or explanatory principle" (Vila 1998, 5), is thus the central field of inquiry for this chapter. The science of the body, composed by the discourses of anatomy, physiology, and medicine among others, is identified as a natural place to begin. In particular, the image of the transparent

[96] See also Barker-Benfield 1992, 15, who speaks of "[t]he flow of nerve ideas from scientists and diagnosticians into literature," referring in particular to Cheyne, Sterne, and Rousseau among others.

heart, and with greater evidence the complex digression on the transparent heart outlined by Sterne, evokes the picture of what at the end of the 17th century had become the common way of picturing the body: the mechanist schema of the human machine. The mechanist wave, with its different roots in England and Italy (Guerrini 1997), and its different paths—from Descartes's speculations to Malpighi's dissections—flooded Europe for almost a century (Giglioni 1997, 150ff.). By the time Rousseau and Sterne were writing, however, profound changes had occurred in the science of the body, many of which had explicitly or implicitly undermined and questioned the mechanist picture of the body (Brown 1974, 179). What is traditionally seen as the school of thought opposed to Mechanism, namely Vitalism, was a highly diversified field of mostly empirical knowledge that involved anatomy, physiology, and medicine, and which, from different angles, uncovered the simplifications and limitations of the mechanistic explanations of bodily processes. At the time of Sterne and Rousseau, the themes of Vitalism were becoming prominent; the picture of the body that was starting to emerge from this new wave of knowledge was far from envisioning the body as something through which one could look to discover a mechanism, a clockwork beneath the skin—the body was not transparent anymore.

Why then hold on to the picture of the transparent heart? What function did this metaphor have, at this point? As I will try to show by retrieving the discourses of Mechanism on the one hand and of Vitalism on the other, Sterne and Rousseau had thoroughly assimilated Mechanism; without the mechanical models of the body reviewed in the following pages, the image of an aspirational narrator looking at his characters by

metaphorically opening their chest (Sterne), or that of an autobiographer exposing the transparency of his heart to his readers (Rousseau), would not have even arisen.

On the threshold of the second half of the 18th century, however, Sterne and Rousseau were now exposed to the novelty of a different picture of the body—a picture that was not fully established yet, and therefore not completely available to them. Speaking of a "picture" of the body may become problematic at this point, because what the new Vitalist notion of sensibility introduced, as we will see, was the non-visual nature of the vital processes taking place in the body. As writers and novelists, Sterne and Rousseau were dealing with this transition at a different pace and with different aims. Sterne was strongly critical of the reductionist representation of the mechanical body, and tried to show its limitations by making fun of the mechanist medical discourse (among many other vicious scientific traps of his time). Rousseau, on the other hand, who took his confessional writing (and himself) very seriously, was greatly affected by the new Vitalist wave of "sensibility," and tried to picture himself as the sensitive man *par excellence*. In order to do that, he drew on something at odds with the science of sensibility as a product of Vitalism, namely, a mechanistic picture of the body: the image of the transparent heart. In so doing, he showed how the new discourse of the body was still in search of a visual representation, and he could only reuse what was already available, trying to bend it towards the new Vitalist meanings that were now being attached to the human body. This tension between old and new—old picture and new meanings—attests on the one hand to the visual yearning of "Enlightenment" authors, which is one of the cornerstones of the historiography of the Enlightenment (Jay 2003;

Stafford 1991), but on the other it undermines the solidity of this paradigm by showing how it is the result of a friction between different systems.

§ 2. The mechanics of the heart: Sterne's dioptrical bee-hive

I have a strong propensity in me to begin this chapter very nonsensically, and I will not balk my fancy.—Accordingly I set off thus.

If the fixture of Momus's glass, in the human breast, according to the proposed emendation of that arch-critick, had taken place,——first, This foolish consequence would certainly have followed, - - That the very wisest and the very gravest of us all, in one coin or other, must have paid window-money every day of our lives. And, secondly, That had the said glass been there set up, nothing more would have been wanting, in order to have taken a man's character, but to have taken a chair and gone softly, as you would to a dioptrical bee-hive, and look'd in, - - view'd the soul stark naked; - - - observ'd all her motions,—her machinations;—traced all her maggots from their first engendering to their crawling forth; - - - watched her loose in her frisks, her gambols, her capricios; and after some notice of her more solemn deportment, consequent upon such frisks, &c.——then taken your pen and ink and set down nothing but what you had seen, and could have sworn to: - - - But this is an advantage not to be had by the biographer in this planet,—in the planet Mercury (belike) it may be so, if not better still for him; - - - - for there the intense heat of the country, which is proved by computators, from its vicinity to the sun, to be more than equal to that of red hot iron,—must, I think, long ago have vitrified the bodies of the inhabitants, (as the efficient cause) to suit them for the climate (which is the final cause); so that, betwixt them both, all the tenements of their souls, from top to bottom, may be nothing else, for aught the soundest philosophy can shew to the contrary, but one fine transparent body of clear glass (bating the umbilical knot); - - - so, that till the inhabitants grow old and tolerably wrinkled, whereby the rays of light, in passing through them, become so monstrously refracted, - - - - - or return reflected from their surfaces in such transverse lines to the eye, that a man cannot be seen thro'; - - - his soul might as well, unless, for more ceremony, - - - or the trifling advantage which the umbilical point gave her, - - - - might, upon all other accounts, I say, as well play the fool out o'doors as in her own house. But this, as I said above, is not the case of the inhabitants of this earth;—our minds shine not through the body, but are wrapt up here in a dark covering of uncrystalized flesh and blood; so that if we would come to the specifick characters of them, we must go some other way to work.

Many, in good truth, are the ways which human wit has been forced to take to do this thing with exactness. […] (Sterne 1979, I, 82-84)

In this passage from Chapter XXIII, first volume of *The Life and Opinions of Tristram Shandy*, *Gentleman*, the narrator is building a complex digression to motivate his strategic approach to the description of characters: not upfront but, as it were, from the side, namely from external elements of behavior, or what in the novel is called "hobby-

horses" (Sterne 1979, 85). According to the narrator, a more direct description of the character, starting, so to say, from his/her inner motions and machinations, would be impossible for the simple reason that the "heart" of humans is "wrapt up in a dark covering of uncrystalized flesh and blood" (83). By mentioning the tale of Momus, the narrator locates his digressive hypothesis *per absurdum* in the dimension of fable, more exactly that of myth. Momus had reproached Zeus for failing to build a window on the human chest, that is, to provide humans with transparent minds or hearts (according to alternative versions of the myth).[97] To prolong the sense of this impossibility, against which Sterne's narrator propounds his own narrative strategy, a second digression follows, again *per absurdum* (read: let us imagine what it would be like not just to be provided with a glass window on the chest, but to be entirely made out of glass), which develops a fantasy about the inhabitants of Mercury as creatures vitrified by the scorching temperatures of their planet. The imagined "transparent body of clear glass" of the Mercurians (83) allows the soul to be fully visible on the outside, at least until the wrinkles on the aging glass bodies might start to refract and reflect the light to the point of blinding the onlooker, invalidating the very transparency of their bodies. This curious fantasy of a blinding, reflecting body of glass has the function of undermining the idealization fostered by the complementary fantasy of an entirely visible heart/soul: the narrator is warning that the transparency of the soul may well be an advantage for the onlooker, as long as it is not taken too seriously, in which case it may just revert into its opposite: blinding opacity.

This complex, ironical digression on the transparency of the heart is conducted through a double fantasy of the human body: in the first part, a body endowed with a

[97] See my *Introduction*.

window, or an opening into a dioptrical beehive, and in the second part, a non-human (Mercurian) body entirely vitrified. Ultimately, both fantasies are fictional, proving by means of their absurdity (they are, after all, "nonsensical"), how the transparency of the heart is simply a ridiculous claim.

Sterne's dioptrical beehive is however a more complex figure than just that of a transparent heart, or of a glass window on the chest. On the one hand, the qualifier "dioptrical" entails the magnifying action of a lens—a microscopy effect; on the other, the "beehive" conjures a peculiar structure for this mechanism: a living nest where the life of "maggots" would become visible thanks to the magnifying effect. Kate Tunstall has defined this image as "a deliberate textual staging of the vertiginous effects of microscopy" (Tunstall 2016, 208). Microscopy and Mechanism went hand in hand for at least some crucial part of the history of Mechanism (see for example the work of Malpighi).[98] Tunstall mentions the groundbreaking impact of Robert Hooke's 1665 *Micrographia*, an atlas of illustrations from microscopic observations; she however does not mention what I think might have been a direct source of inspiration for Sterne in this instance, that is, a passage from the *Micrographia* where a special kind of marine "beehive," with its peculiar generation of maggots of gnats (i.e. not bees), is described and illustrated (fig. 1).[99] As Meli has argued (2011, 177), Hooke had observed these insects (the gnats) through their transparent bodies, very much as William Harvey had done with the heart of shrimps from the Thames when he was researching the circulation of blood, leading to his great "discovery" of the heart pump. It is worth noticing, however, that the imagery of maggots also strongly evokes images of rotting flesh.

[98] On the importance of microscopy for Malpighi's anatomy, see Meli 2011, 42ff..
[99] Hooke 1665, 48.

Furthermore, as Tunstall observes, the action of "going softly" to open this mechanism introduces the idea of the danger of being stung, if one were to disturb the insects, which adds a layer of hazard to the whole eagerness to find out about the inner life of humans. There is a further way the image of the bee-hive challenges the aspiration to a mechanic transparency of the heart. As we will see later in the chapter when addressing the themes of Vitalism, once mechanistic models had become unsatisfactory, different models for the body were conceived in order to account for the specificity of the living body as opposed to other bodies. One of the leading voices of Vitalism in the 18th century, the French doctor Théophile de Bordeu, wrote in 1751, in his *Recherches Anatomiques sur la Position Des Glandes Et sur leur Action:*

> In order that we might grasp the particular action of each of its parts better, we compare the living body to a swarm of bees, which gather together in a cluster, and hang from a tree like a bunch of grapes […]; it is a whole glued to the branch of a tree by the action of a good many of the bees which need to act in unison in order to hold on […]. Applying [this metaphor] is straightforward: the bodily organs are joined together; they each have their own area and action. The relation between these actions, and the harmony that results, is what constitutes well-being […]. (Quot. in Gaukroger 2010, 400)[100]

The implications of this Vitalist image will become clear later, but for now suffice to say that the bee image encapsulated in the image of the "dioptrical beehive" conjures several further dimensions, adding to the idea of a soul to be observed "stark naked": this soul was not just a mechanism, but a peculiar organism as well. Sterne was not only suggesting the absurdity of the hypothesis of a transparent vision through a glass window on the human chest, but was giving us a glimpse into the structure of the soul, which, if

[100] Original passage in Bordeu 1751, 452: "Nous comparons le corps vivant, pour bien sentir l'action particulière de chaque partie, à un essaim d'abeilles qui se ramassent en pelotons, et qui se suspendent à un arbre en manière de grappe […] elle est un tout collé à un branche d'arbre, par l'action de bien des abeilles qui doivent agir ensemble, pour se bien tenir […]. L'application est aisée: les organes du corps sont liés les unes avec les autres; ils ont chacun leur district et leur action; les rapports des ces actions, l'harmonie qui en résulte, font la santé."

seen, would look like an industrious, in part disgusting, and somehow dangerous swarm of bees.[101]

The use of the body to carry out a theoretical and rhetorical statement about the narrator's knowledge of his characters is neither surprising nor the only one in a novel, such as *Tristram Shandy*, that is constantly concerned with the body and its diseases. As Judith Hawley has written, "medicine is a vital concern in the Shandy household. Generation and fetal development, anatomy and surgery, and practical medicine in the form of diet, regimen, and the rival merits of hot spirits and cold bathing, all find their place here" (Hawley 2009, 35). Sterne's knowledge of contemporary medicine has been extensively assessed, and traces of the medical discourse of his time can be found copiously in the novel.[102] Hawley remarks, in particular, on Sterne's familiarity with late 17th and early 18th century Iatromechanism.[103] In a contribution on the relevance of medicine for Sterne's work, Hawley underlines that "in the eighteenth century, Iatromechanists and Vitalists were replacing the old system of humors with new anatomies which could be exploited by novelists to describe and account for the feelings

[101] On microscopy as an aesthetic enterprise, see Stafford 1993, 105-106: "Was microscopy a scientific enterprise or an aesthetic one? What happens when moral concerns come into conflict with exploratory curiosity, or the desire just to see? In the case of a group of English investigators and one notable French researcher, the seer's task entailed not only the careful presentation of empirical observations but the sensational re-creation of the actual experience of witnessing them. In the absorbing illustrated narratives of Henry Baker, John Hill, and René-Antoine Ferchault de Réaumur, the diminutive picture functioned as an efficient image-storer for the violence of the macrocosmic world. Using the analogical method—supreme in the eighteenth century—these authors vied with their engravers in conveying the vivid impression that life down under the lens was even more bloody and rapacious than existence above it. Before Darwin, they showed nature to be red in miniature tooth and claw."

[102] For example in a famous passage about Shandeism: "True *Shandeism* [...] opens the heart and lungs, and like all those affections which partake of its nature, it forces the blood and other vital fluids of the body to run freely thro' its channels, and makes the wheel of life run long and chearfully round" (Sterne. New 1978, 401), modeled on James Mackenzie's *History of Health, and the Art of Preserving It* (1758); quoted in Hawley 2009, 42. For more details on the medical authors quotes by Sterne, see Hawley 2009, 45, fn 4.

[103] In particular with figures such as Archibald Pitcairne (1652–1713), Richard Mead (1673–1754), and Herman Boerhaave (1668–1738) (see Hawley 2009, 35). I will refer to some of these figures later in this chapter.

of their characters" (Hawley 1993, 85). The proximity of Sterne to the themes of mechanism might explain the prominent place mechanist representations hold in the novel. In fact, mechanics seems to govern the world of *Tristram Shandy* at the very level of its characters' behaviors: "Indeed, Tristram seems to hold that the operations of mind and body are largely mechanical. His father and uncle behave like a pair of clockwork toys, responding in programmed ways in conversation with each other" (Hawley 1993, 85). At the same time, as it can be expected from a consistently ironic work, the use of mechanistic theories is exposed to continuous parody and comical effects, intended to show contradictions more than to argue for an antagonistic stance, such as that of Vitalism against Mechanism.[104] At the end of the "dioptrical beehive" passage, the narrator concludes that he will describe the character of uncle Toby "by no mechanical help whatever" (85), and that at the same time he will also abstain from the empirical clinical practice of examining bodily "repletions" or "discharges." In a single move, mechanism and empiricism as diagnostic tools to understand and represent the human body/character are here dismissed.

In the novel, the body is indeed exposed as a machine, but as one working unexpectedly badly, and where disease is constantly at the center of the body's life. As Juliet McMaster has aptly remarked, the body:

[104] "*The Life and Opinions of Tristram Shandy* seems designed to demonstrate a series of paradoxes beginning with the magnificent conundrum that, despite the work opening with a coitus interruptus, Tristram is conceived; despite the many interruptions to the narrative, stories are told" (Hawley 2009, 45); and later on: "What is at stake here is not so much a direct opposition between the mechanical and the organic, nor between the fixed and the free. Moreover, there is no opposition between natural philosophy and theology. Just as the relationship between ancient and modern forms of writing and learning is complicated by the fact that both were combined in the curriculum of Sterne's day, and just as Sterne creates something new by absorbing and adapting his predecessors, so the minds of his characters are at once influenced by external forces, and determined to blaze their own trails" (Hawley 2009, 46). Thinking in stark oppositional terms, with an author like Sterne, may be extremely misleading, as indeed the reception of Sterne in Europe in the 20th century has shown, with Sterne labeled as a "sentimentalist," mostly thanks to his last work *A Sentimental Journey*, his aesthetics ascribed to sensibility. For a discussion of this mislead reception see Gurr 1999, 150ff..

> is insistently *there* […] for all the characters, and in our conception of them. Even though they are not visually realized for us through their physical appearance, we are constantly reminded that they exist in the body, that it determines their responses and limits or enables their actions. They think about it, they have theories about it, they are embarrassed or elated by it, they express themselves through it by their gestures and facial expressions, they live in a constant relation with it, at peace or at war. And their bodies impinge on other bodies. (McMaster 2002, 97)[105]

In a novel where "everything tends eventually towards a bodily and sexual inference" (McMaster 2002, 105), the reference to the "dark covering" of "flesh and blood" is therefore much more than just a casual image of the body: it fundamentally defines the relation of the narrator to its characters, entangled in their bodily existence and trapped in their bodily predicaments. The narrator's wish may be to look into his characters as if they were perfect mechanisms, or dioptrical beehives, but this turns out to be a ridiculous aspiration, the absurd consequences of which are carried out in the passage in question. As Katherine Kickel has claimed, "Sterne's subject is man rather than machine" (Kickel 2007, 91). In this sense, Sterne's endeavor is the opposite of that of the physicians who were describing the man-machine in those years, and that Sterne both cites and mocks in his novel.[106] As historian of medicine Roy Porter has claimed, Sterne "delights in the absurd paradox of man: such a tender piece of flesh, harbouring such dreams of knowledge, self-knowledge and physical perfection; and he burlesques the delusion of medical prometheanism […]" (Porter 1989, 69). Porter's reading of the novel focuses on the issue of embodiment: the inescapable, mutual interference of the mind over the body and vice-versa. Following Porter's suggestion, the bee-hive digression examined here could perhaps be seen as a variation on the theme of embodiment. The passage aims at

[105] "[…] animating a grotesque Rabelaisian body with a sentimental physiology, Sterne creates an anatomy as motley as but more benign than that of Frankenstein's monster" (Hawley 1993, 85).
[106] "Despite the fact that Sterne holds up mechanical ways of thinking to inspection by parodying them, he also demonstrates their explanatory effectiveness" (Hawley 2009, 45).

establishing the impossibility of transparency as a mode of knowledge applicable to human beings because of the wrapping of flesh that encases the human soul.

Sterne's use of the popular medical Mechanism of his time fits the larger project of his work as stated in the famous letter he wrote to his publisher Robert Dodsley in 1759, where he made very clear that his book intended to be a sweeping satire of contemporary scientific discourse: "The Plan, as you may perceive, is a most extensive one, - taking in, not only, the Weak part of the Sciences, in which the true point of Ridicule lies-but every Thing else, which I find Laugh-at-able in my way-" (Sterne 1935, 74). In the novel, it is especially Walter Shandy who embodies a blind faith in science, with ridiculous outcomes that end up sabotaging the scientific credo itself: "Walter is the figure used to satirize very perceptively the excesses of an enlightened belief in reason, science, and progress which were beginning to become obvious in Sterne's day" (Gurr 1999, 74). Furthermore, Sterne's particular take on embodiment is at odds with the dreams of introspection that saturated Enlightenment literature. The following passage from the Fourth Volume, Chapter XVII, of *Tristram Shandy*, a parody on Walter's inability to apply reasoning to practice, expands on the disbelief in the possibility and value of introspection:

> We live amongst riddles and mysteries, the most obvious things, which come in our way, have dark sides, which the quickest sight cannot penetrate into; and even the clearest and most exalted understandings amongst us, find ourselves puzzled and at a loss in almost every cranny of nature's works; […] (Sterne 1979, I, 350)

Though rhetorically framed in a highly ironic utterance, this passage in fact settles the question of transparent knowledge once and for all: there is no such thing as "penetrating" with sight the meaning of things, of nature's works—everything is

muddled, riddled, opaque: with *Tristram Shandy*, Sterne is parodying the epistemological program of the Enlightenment.

§ 3. The human machine

In the passage on the transparent body, Sterne, as we have seen, was borrowing from the imagery of Mechanism in order to mock it. As the historian of science Domenico Bertoloni Meli has effectively summarized, "[t]he second half of the XVIIth century was the golden age of mechanistic anatomy: an increasing number of anatomists sought to explain the operations of the body in terms of machines of varying nature and complexity" (Meli 2013, 53). Though the use of machine-models had always been a means for explaining physiological processes,[107] the idea of a thoroughly mechanic body had properly taken off in the second half of the 17th century. Its theoretical stakes were expounded by Descartes, in his *Discours de la Méthode* (1637) as well as in his *De homine* (1662).[108] In the latter work, Descartes had set out to describe not actual humans, but machines:

> I assume their body to be but a statue, an earthen machine formed intentionally by God to be as much as possible like us. Thus not only does He give it externally the shapes and colors of all the parts of our bodies; he also places inside it all the pieces required to make it walk, eat, breathe, and imitate whichever of our own functions can be imagined to proceed from mere matter and to depend entirely in the arrangements of our organs.
> We see clocks, artificial fountains, mills, and similar machines which, though made entirely by man, lack not the power to move, of themselves, in various ways. And I think you will agree that the present machine could have even more sorts of movements than I have imagined and more ingenuity than I have assigned, for our supposition is that it was created by God. (Descartes 1972, 2-4)

[107] See Grmek 1974, 181ff..
[108] First written in French, this work (which was one of the two remaining sections of Descartes' planned opus *Le Monde*) was published only twelve years after Descartes' death, and in a Latin translation. The French version, *L'Homme*, appeared in 1664 (see introductory notes to Descartes 1972, xxiv). In *Discours de la Méthode* Descartes had paraphrased part of the unpublished work.

Descartes was here describing a model, an abstract construct "imitating" man (23), but at the same time, he was assuming that this machine was built by God: he was in fact describing man as such. From the hydraulics of circulation and the mechanics of digestion to the particular movements of "animal spirits" through the brain, Descartes was subsuming the entirety of the operations of the body under mechanics.[109] While the analogy with automata was the expository device of the whole work, Descartes's mechanistic view of man was rooted in a corpuscular conception of the physical world.[110]

At the same time that Descartes was shaking the grounds of philosophy, anatomists were proposing mechanistic theories of the body, of its physiology and its pathology (French 1993, 95). As Anita Guerrini has observed, "Descartes's model of mechanical physiology was not the only or even the most influential one in this period. By the 1660s, Marcello Malpighi and several others had already begun to work out mechanical theories of function" (Guerrini 1997, 112). A prominent anatomist and microscopist of the second half of the 17th century, Italian doctor Marcello Malpighi (1628-1694) pictured the human body as a system of machines. In a belligerent answer to a colleague in Bologna, Domenico Sbaraglia, who believed medicine had to be an exclusively empirical science (Meli 2013, 61-62), Malpighi described the "machines of our body" in the following way:

> [they] are composed of ropes, wires, planks, levers, canvas, flowing fluids, tanks, channels, felts, valves, and similar machines. Man, examining these parts through

[109] Crucial to Descartes's contribution to the debate over the functions of the soul is his refusal of the multiple functions of the soul (of Aristotelian origin). For Descartes, the soul is exclusively the rational one, and it is not the cause of the life of the body (see the commentary by Thomas Steel Hall in Descartes 1972, 113-115, fn 158). At the same time, *The Treatise of Man* lays the foundations of the interaction between body and soul in the brain itself (see Hall, in Descartes 1972, xxxi).

[110] As Thomas Steele Hall has remarked, "to him the mechanics of the physiologist is the mechanics of very small things. It begins just below the level of vision and reaches downward to the level of elementary particles of matter" (Descartes 1972, xxix).

> anatomy, philosophy and mechanics, has learned their structure and their uses, and proceeding a priori, has formed models of them, through which he can visualize the causes of certain effects, and explain them a priori, and thanks to these, helped by discursive faculty, understanding the way nature operates, he founds physiology, pathology and later the art of medicine. (Malpighi 1967, 513)[111]

Malpighi provided very concrete examples of such machines of the body, for example the *camera obscura*: a mechanic model of human sight, the physiological and pathological functioning of which could be demonstrated *a priori* by observing the optical model itself. The machine-model "reveals *a priori* the way of nature" (Malpighi 1967, 514) also in the case of blood circulation, the skeletal apparatus, respiration, digestion, and so on (Malpighi 1967, 513-514).[112] Where a model-machine cannot always reproduce the actual phenomenon (because the latter often occurs at the microscopical level), "the intellect, trained in mechanics, can get there through reasoning" (Malpighi 1967, 514).[113] Malpighi, as it appears clearly in his letter to Sbaraglia, was a fierce enemy of an empirical approach to medicine that refused the importance of mechanistic principles on which to base clinical practice.[114] From another perspective however, his approach was strongly empirical, for example with regard to anatomy, where his microscopic

---

[111] My translation, unless otherwise noted. Here the original text: "queste sono composte di corde, di filamenti, di travi, di leve, di tele, di fluidi scorrenti, di cisterne, di canali, di feltri, di crivelli, e di somiglianti machine. L'uomo, esaminando queste parti con l'anatomia, con la filosofia e con la meccanica, si è impossessato della struttura e dell'uso di esse, e procedendo anche a priori, è arrivato a formarne modelli, con i quali pone sotto l'occhio la causalità di quell'effetto, e ne rende la ragione a priori, e con la serie di queste, aiutato dal discorso, intendendo il modo dell'operare della natura, fonda la fisiologia e patologia, e successivamente l'arte della medicina."

[112] On the meaning of "a priori" for Malpighi, see Meli 2013, 66: "By *a priori* Malpighi meant a medicine based on the study of the causes rather than based empirically on the effects: those causes could be investigated by mechanical devices."

[113] "[L]'intelletto, pero', esercitato nelle meccaniche, con il discorso vi giunge."

[114] "Empirical medicine is an heresy or scisma," Malpighi 1967, 511. Interestingly, this standpoint didn't translate completely in the medical practice; as a matter of fact, Malpighi, in his clinical activity, still employed many of the traditional humoral medicine remedies (Guerrini 1997, 118). This split between the praxis and the theory of medicine may be understood as a consequence of the belonging of anatomy to the field of natural philosophy more than to that of medicine: anatomy was in fact not yet mandatory training for aspiring physicians (Guerrini 1997, 119). More in general, medical practice and research career were clearly distinct routes: "The physician remained separate from the natural philosopher, even when these two identities occupied the same skin" (Guerrini 1997, 128).

observations were the basis of his anatomical theory.

Describing the various mechanisms of the body, Malpighi also took the opportunity to affirm how the kind of motor that moves the machine is ultimately irrelevant, therefore marking his distance of method from that of Descartes:

> A clock or a mill is equally moved by a lead or a stone pendulum, or by an animal, or by a man; in fact, if an angel moved it, it would move the same way with the change of sites, as if moved by an animal. Thus, since I do not know the mode of operation of the angel, but [I know] the exact structure of the mill, I would understand this motion and action; and if the mill went out of order, I would seek to repair the wheels and their faulty arrangement, neglecting to investigate the mode of operating of the moving angel. (Malpighi 1967, 512-513)[115]

The body, for Malpighi, was subject to the laws of nature, which were the laws of mechanics; thus the doctor, "through the laws of movement and the variety of figures, deducts a priori the structure of these machines and the composition of those fluids."[116]

A student of Malpighi, Giorgio Baglivi (1668-1707), stressed the same deductive structure of mechanism with regard to the medical knowledge of the body:

> Whoever examines the bodily organism with attention will certainly not fail to discern pincers in the jaws and teeth; a container in the stomach; water mains in the veins, the arteries and the other ducts, a piston in the heart; sieves or filters in the bowels; in the lungs, bellows; in the muscles, the force of the lever; in the corner of the eye, a pulley, and so on. So let the chemists continue to explain phenomena in complex terms such as fusion, sublimation, precipitation, thus founding a separate philosophy. It remains unquestionable that all these phenomena must be seen in the forces of the wedge, of equilibrium, of the lever, of the spring, and of all the other principles of mechanics. In short, the natural functions of the living body can be explained in no other way so clearly and easily as by means of the experimental and mathematical principles with which nature herself speaks. (Baglivi 1727, 78)[117]

In the context of this argument for deducting the mechanics of the body from

[115] Translated in Meli 2013, 60.
[116] Malpighi 1967, 516-517: "con le leggi del moto e della varietà delle figure, deduce a priori la struttura di dette machine e la composizione di quei fluidi."
[117] My translation.

mathematics, Malpighi, in the letter already quoted above, brings up the practical example of a peculiar machine built by Salomon Reisel (1624-1701).

Reisel, a German doctor first at the service of the Counts of Hanau, and later of the Duke of Würtenberg, wrote in 1674 to the Imperial Academy of Sciences, which had been recently founded (in 1652) with the name *Academia Naturae Curiosorum*. The publications of the Academy had started in 1670 with the title *Ephemeriden* or *Miscellanea Curiosa*,[118] and had released some of the most significant scientific results of the time. In 1678, an account by Reisel of the machine called *Statua* appeared, along with illustrations (see fig. 2) and detailed instructions about its materials and structure:

> Thus our statue is to be formed not according to Polykleitos canon, which is a norm for the artists; but according to the very archetype of the human body, of which it will have to express the beauty, indicate the tricks, list the parts, describe the actions, teach the passions, indicate their appearance: the ocean may well dry up before this could be done appropriately. But our aim here is nothing else but to show the mechanics of the circulation of blood, chyle, and serum […]. (Reisel 1689, 8)[119]

The statue was a model based on the actual functioning of the human body, and not on its abstract ideal. This doesn't mean it wasn't, in fact, a simplified model of the mechanics of the body (Reisel had drastically simplified the processes to be represented: see fig. 3).[120] The *Statua,* however, was operating properly, and in the words of his maker, it "lived": "So our standing statue shows the circulation; it pulsates, urinates, secretes, breathes,

[118] In 1687 the Academy was called Leopoldina after Leopold I, who had officially recognized it in 1677. For a more detailed account of Reisel's biography, see Bröer 1996.
[119] The translation from the Latin text here and later on is mine. The original is the following: "Iam igitur statua nostra formanda est, non ad Polycleti regulam, quae norma est artificum; sed ad ipsum humani corporis archetypum, cujus totius pulchritudinem exprimere, artificia notare, partes enumerare, actiones describere, passiones docere, habitum signare qui praesumit, citius oceanum exhauriet, quam ut haec faciat pro dignitate. Verum quoniam hic loci scopus noster non est alius, nisi circulationem sanguinis, chili et seri mechanice mostrare […]."
[120] See also Bröer 1996, 57.

emits sounds, talks, bends, and lives" (Reisel 1680, 20).[121] The movement was allowed by a system of siphons: "almost all operations consist in some kind of syphon which is distributed among various pipes and arms but which works continuously,"[122] provided that a fluid had to be regularly filled up (in other words, a pump was not necessary).

Under Reisel's instructions on how to build this mechanism, the heart had to be built of glass (or alternatively of metal or leather), and the brain had to be a glass sphere, at the center of which the pineal gland, in the shape of a crystal, was to hang from a silk thread (fig. 4). Besides the fact that Reisel was clearly embracing Descartes's mapping of the soul as physically located in the brain, and more precisely in the pineal gland,[123] his representation of the mechanics of the heart and brain through the glass material is crucial for further reasons that we will see in a moment.

A first point that can be drawn from the different mechanistic theories and practices presented so far is that Malpighi's observations, as well as Reisel's mechanic model, are significant not so much because they employ mechanistic explanations, but because they do not merely constitute models, that is, explanatory analogies with didactic purposes. As Bertoloni Meli rightly emphasizes, these machines "do not simply constitute cases in which abstract analogies could be established between machines and the body in relation to disease; rather, they provide instances of machines that had been actually built and used with the objective of investigating disease and therapies" (Meli 2013, 68). In other words, the body does not just work in ways similar to those of certain machines, but

[121] "Sic igitur statua humana nostra erecta circulatur; pulsat, mingit, excernit, respirat, fonat, loquitur, flectitur, sic vivit."
[122] "[T]ota fere operatio consistit in siphone quodam variis tubis et cruribus diffracto sed continuato."
[123] On the pineal gland, see Descartes 1972, 86, especially fn 135.

it operates as a machine: the body *is*, ultimately, a machine. The difference is subtle but decisive.

This coincidence between the machine and the body is posited in perhaps an even stronger way in the work of Giovanni Alfonso Borelli (1608-1679), who had been a colleague of Malpighi in Pisa, where they had dissected and vivisected together (Guerrini 1997, 113), and who is usually acknowledged as the leading figure of Italian Iatromechanism.[124] Though not a physician himself, Borelli's work, *Delle Cagioni delle Febbri Maligne della Sicilia negli Anni 1647 e 1648* (1649), had quickly become a iatromechanical manifesto (Guerrini 1997, 112). In his *De Motu Animalium*, written by 1675 but published posthumously in 1680-81, Borelli described the human body in mechanical sequences that again involved levers, weights, and forces. Here too, the body was not explained *like* a machine as much as it was *being* a machine (Borelli 1989, 60; 399).[125]

Georges Canguilhem has connected the historical success of Mechanism with the kind of machines that were technologically available at the time these various mechanist models were developed. For Canguilhem, even Descartes was "a tributary […] to the

[124] It is however important to highlight that the tradition of Iatromechanism presented consistent variations, both geographically and individually, from doctors to anatomists. As Brown has argued, the London College of Physicians, which had accepted Iatromechanism by 1700 (Brown 1970), advocated for a very different kind of Mechanism than the Italian one. Mainly, anatomy was not the basis of English Mechanism, as it was considered too empirical a foundation for medical science (Guerrini 1997, 124). The leading figure of Mechanism in England, doctor Archibald Pitcairne (1652-1713), was in fact not even trained in anatomy, and proposed mathematics instead of anatomy as the foundation of mechanistic medicine (Guerrini 1997, 124). In other words, simply recurring to the common denominator of "Mechanism" does not seal the hiatus between motivations and aims of different mechanistic theories and practices. Not only did the most strenuous mechanists often continue to apply traditional "empiricist" medicine in their therapeutic practice (the speculative dimension of Mechanism and the practice of medicine remained two parallel practical and social dimensions; see fn 114), but different schools of Mechanism emphasized in some cases the merely theoretical representation of the body as governed by mechanics, and in other cases the concrete, mechanic structures of human anatomy.

[125] It is worth noticing that Borelli was critical of Descartes because he deemed Descartes's machines to be arbitrary and not mathematically deduced, unlike the ones he wanted to describe (Guerrini 1997, 114).

technical forms of his age: of the existence of clock and watches, water mills, artificial fountains, pipe organs, etc…" (Canguilhem 2008, 80). More generally, "the mechanical explanation of the functions of life historically presupposes […] the construction of automatons, whose name signifies at once the miraculous character and the apparent self-sufficiency of a mechanism transforming an energy that is not—at least not immediately—the effect of a human or animal muscular effort" (Canguilhem 2008, 78; Solla Price 1964, 9). In other words, only a motor machine developed through technological means could lead to the development of the theoretical model of the machine-organism.

A paradoxical proof of the interdependence of mechanical models of the body and the technological fashion of automata is the fate of Reisel's *Statua Circulatoria*. After its construction, the machine was located in the "Wasserspiele" of the Schlosspark in Stuttgart, as the figure of Cupid (Bröer 1996, 54).[126] Through this relocation, the *Statua* joined the world of automata, which reached peak production in the 16th and 17th century, in particular with the type of the 'android' automaton (Bedini 1964, 31).[127] The crafting of automata culminated with the models built by Jacques Vaucanson (1709-1782), whose flute player, first exhibited in 1737, launched his fame, followed by what is probably his most famous creation, the excreting duck (Bedini 1964, 37).[128] The legendary rumor that Descartes himself in his youth had fantasized and perhaps managed to build an automaton (Solla Price 1964, 23) indicates a deep connection between the

[126] It is Reisel himself to attest this in the Appendix to his contribution in the *Ephemeriden*, see Reisel 1685, 464.
[127] The first of which had been allegedly built by Hans Bullmann in Nurenberg already in the 16th century. On clock-making tradition in Nurenberg and Augsburg, see Solla Price 1964, 22.
[128] Some of the most successful and to date best conserved automata from the 18th century are the figures made by the Swiss clockmakers Pierre-Jacquet Drosz and his son Henri-Louis; they included a writer, an artist, and a musician, all life-size figures performing their respective activities (Bedini 1964, 39).

fantasy of a mechanical body and the representation of the human body as mechanical.

Reisel's mechanic model is particularly relevant for the purpose of this chapter because it translates, visually and materially, the mechanistic conception of the body. In its actualization, the mechanic body not only has to work as a machine, but it has to be visible in its mechanic operations—hence the use of glass in displaying the operations both of the heart and of the brain. In other words, the mechanistic conception of the human body implies a strong emphasis on the mechanism itself, which is aesthetically emphasized in the representation. If this is not so much the case of android automata, which are built to delude the audience about their humanity, it is certainly the case of Reisel's *Statua*, which intends to reduce the mechanics of the body to that of a machine, therefore displaying emphatically a machinery of pistons, syphons, and levers.

If Reisel's *Statua* epitomizes the hopes and theoretical reach of Mechanism, a philosophical work traditionally (and partly erroneously) ascribed to Mechanism shows the shortcomings of the theoretical intentions of Mechanism. French physician Julien Offray de La Mettrie (1709-1751), just few years before Sterne's novel, had written that man was a watch constructed with skill and ingenuity:

> I am not mistaken; the human body is a clock but so huge and cleverly constructed that if the cog which tells the seconds happens to stop, the one which tells the minutes goes on turning, in the same way as the cog for the quarters continues to move, and so do the others, when the first ones are rusty or out of order for some reason and stop working. (La Mettrie 1996, 34)[129]

This theoretical metaphor was taken quite literally by La Mettrie, for whom a good doctor had to treat the body as a machine:

[129] "Je ne me trompe point, le corps humain est une horloge, mais immense, et construite avec tant d'artifice et d'habileté, que si la roue qui sert à marquer les secondes vient à s'arrêter, celle des minutes tourne et va toujours son train; comme la roue des quarts continue de se mouvoir, et ainsi des autres, quand les premières, rouillées ou dérangées par quelque cause que ce soit, ont interrompu leur marche" (La Mettrie 1960, 190).

> If we compare two doctors, the best and most trustworthy is always, in my opinion, the one who knows the most about the physics or the mechanics of the human body and who, forgetting the soul and all the worries which this figment of the imagination causes in fools and ignoramuses, concentrates solely on pure naturalism. (La Mettrie 1996, 34)[130]

Written in 1748, *L'Homme Machine* is often regarded as a manifesto of Mechanism, but its claims are not as unequivocal as this reputation may suggest. La Mettrie, an irregular figure in the landscape of French medicine in the first half of the 18th century (Wellmann 1992, 6ff.; 34ff.), was a student of Hermann Boerhaave, probably the most famous physician of the century, and a real cult figure for generations of medical students trained in his headquarters in Leiden (Wellmann 1992, 83-84).[131]

The most interesting aspect of La Mettrie's contribution to Mechanism, is that the claim that man was a machine was for him a statement in materialistic ontology against any metaphysical allegiance: "La Mettrie's emphasis is not on the mechanical nature of man but rather on his fundamental materialist premises that even the most complicated intellectual functions can be explained physiologically and, even more importantly, man is no exception to the uniformity nature" (Wellmann 1992, 181). In no way, then, should La Mettrie be seen as a follower of Descartes, which has been a common historiographical misunderstanding based on the positive remarks he makes on Descartes in *L'Homme Machine*, which should be rather understood ironically (Wellmann 1992, 183). The conclusion of this idiosyncratic, somewhat unstructured and deeply ambiguous

---

[130] "[D]e deux médecins, le meilleur, celui qui mérite le plus de confiance, c'est toujours, à mon avis, celui qui est le plus versé dans la physique ou la mécanique du corps humain, et qui, laissant l'âme et toutes les inquiétudes que cette chimère donne aux sots et aux ignorants, n'est occupé sérieusement que du pur naturalisme" (La Mettrie 1960, 191). In spite of this statement, however, La Mettrie's clinical practice often boiled down to an incredible amount of prescription of bleedings (Wellmann 1992, 93ff.).

[131] Though mostly a non-dogmatic, reconciliatory voice between opposite medical schools, Boerhaave was mainly regarded as a mechanist, though with a strongly empirical inclination (Wellmann 1992, 69; 73)."[…][I]n his view even the working of those parts of the body that could not be seen had been explained not by indemonstrable occult qualities but by the physical laws of mechanics" (Wellmann 1992, 74-75).

work was: "Let us then conclude boldly that man is a machine and that there is in the whole universe only one diversely modified substance" (La Mettrie 1996, 39).[132] The ultimate goal of La Mettrie's mechanic philosophy was the integration of Mechanism in a materialist theory of the human. By relying on mechanistic images to pursue a fundamentally different project—that of materialism—La Mettrie was bending Mechanism, a highly recognizable and accepted language, towards a different view of the human body.[133]

[132] "Concluons donc hardiment que l'Homme est une Machine, et qu'il n'y a dans tout l'Univers qu'une seule substance diversement modifiée" (La Mettrie 1960, 197).
[133] See George Makari's enticing account of La Mettrie's work within the frame of the historical development of Vitalism (Makari 2015, 242-245): "Man was a weird, organic, alive kind of machine. Thus, older conceptions of mechanics needed to be revised into more dynamic models to explain human beings. Man was a 'machine that winds its own springs'" (244).

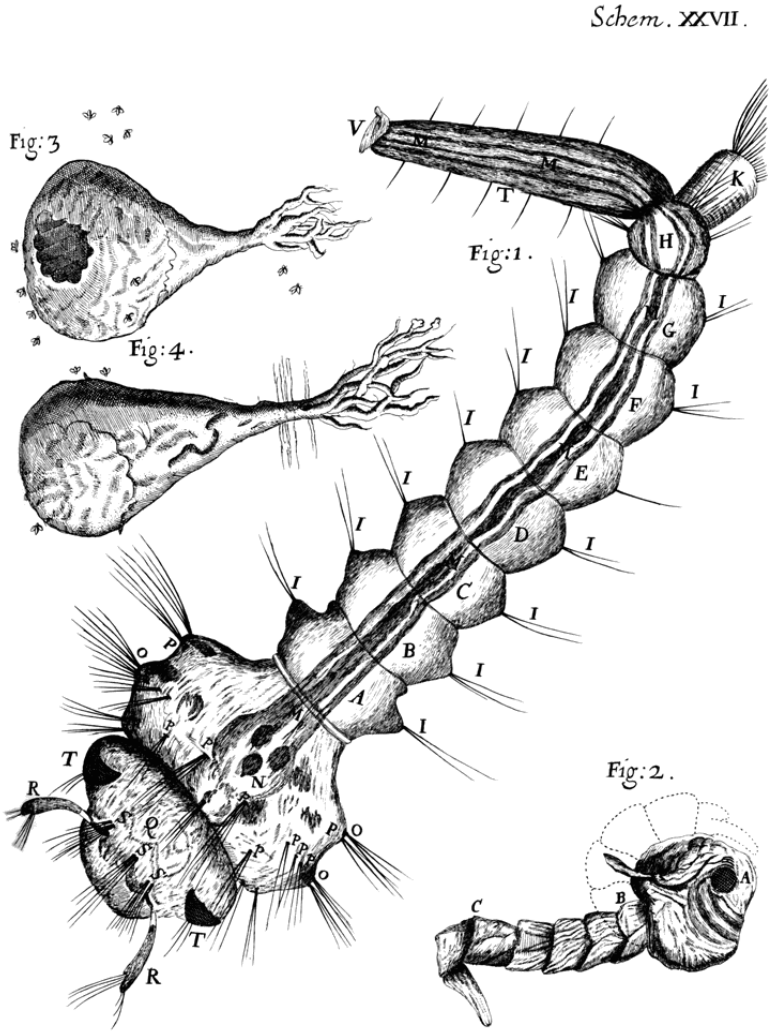

Fig. 1 Robert Hooke, *Micrographia*, 1665. "Apiarium Marinum"

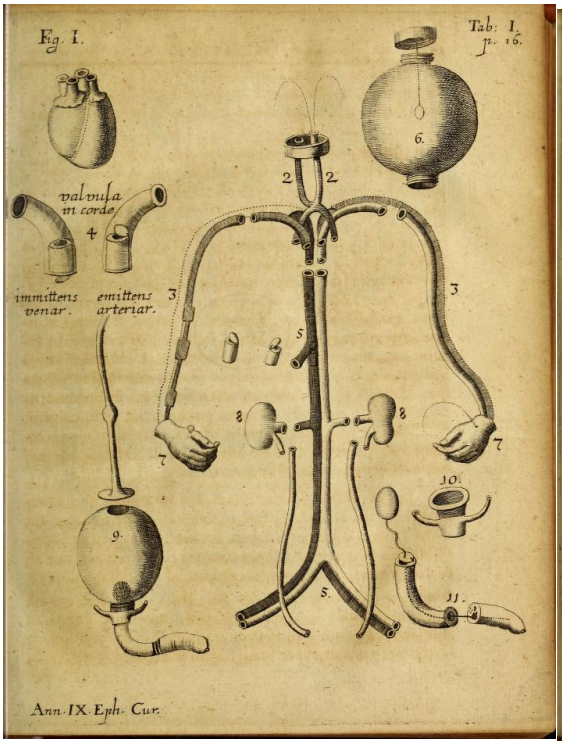

Fig. 2

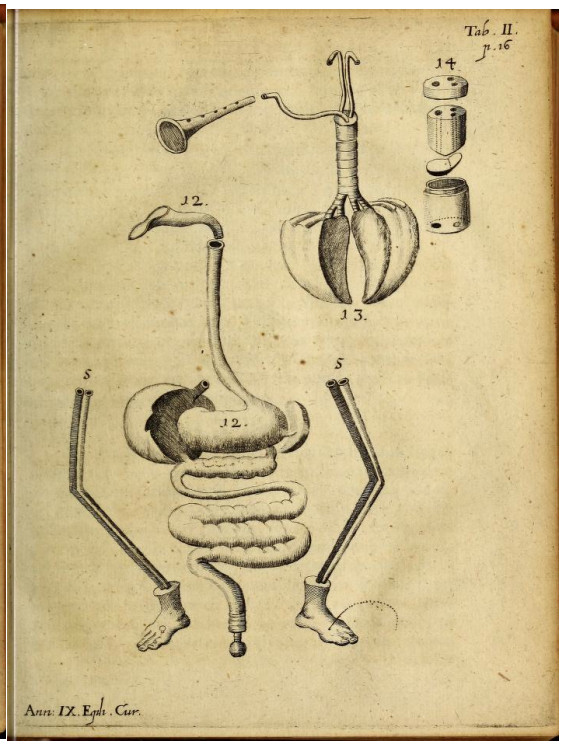

Fig. 3

Salomon Reisel, *Statua Humana Circulatoria*, 1678

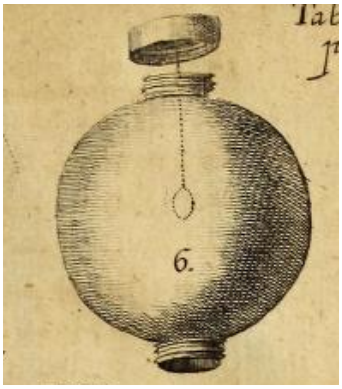

Fig. 4

Salomon Reisel, *Statua Humana Circulatoria*, 1678. Detail of the brain glass sphere with the pineal gland hanging within.

§ 4. Doctors against the machine

> Instead of the analogy of a succession of political regimes or scientific theories, each triumphing on the ruins of its predecessor, imagine new stars winking into existence, not replacing old ones but changing the geography of the heavens.
>
> Peter Galison, Lorraine Daston, *Objectivity*[134]

Iatromechanism was not the only path of medicine in the crucial years of the 18th century we are dealing with. In historiographical terms, the problem has often been translated into the sheer antagonism between Mechanism and its counterparts (Kiernan 1973, 13), namely, what has come to be known as the "sciences of life." The opposition has too easily become that between the "champions of the primacy of nature" (whose laws would govern man as much as any other existing thing) and "the upholders of the primacy of man" (Kiernan 1973, 14), but the genealogy of this division is not unanimously agreed upon for the historiography of science. While some claim a distinct genesis for the sciences of life, some emphasize their hybrid origin, pointing for example to the influence of Leibniz and Newton in shaping anti-Mechanist, Vitalist theories of the body informed by the notion of forces immanent to the body (Brown 1974, 188; Moravia 1978, 49).

What was definitely shared by all of the opponents of Mechanism was the growing dissatisfaction, already appearing towards the end of the 17th century, with the explanatory range displayed by Mechanism in accounting for the human body. The failure of Mechanism was that it was not able to answer all the physiological issues involving the body: in the first part of the 18th century, physiological research

[134] Daston, Galison 2007, 18.

highlighted processes that were not ascribable to a mechanical functioning of the body. For Jacques Roger, one of the prominent historians of Vitalism, the Mechanist conception of life was destined to clash constantly against simple facts available to observation (Roger 1963, 164),[135] and Canguilhem is of the same opinion when he underlines the incapacity of Mechanist theories to account, for example, for embryological development (Canguilhem 2008, 90).[136] Mostly though, Mechanism was under attack for not being empirical enough: "the fundamental *vitium* of the seventeenth-century science of man lay precisely here: that is, in admitting acritically the principle that what is valid for a certain order of phenomena (for example, heavy bodies of physics and their movement) can and must be valid for another order of phenomena (in our case, for human phenomena)" (Moravia 1980, 250). A unifying frame of understanding for the "foes of mechanism" could then be perhaps identified in a broad concern with life and its extraordinary functioning within the physical world.

The transition from mechanistic representations of the body to Vitalist models of the human was completed between the 1740s and the 1770s (Vila 1998, 16), when a new image of man, antagonistic to the one of man-machine, emerged: that of a sensitive man, whose living functions were not reducible to those of a mechanism.[137] Vitalism shifted the representation of the body from one of a transparent mechanism to one of sensibility, thereby making the mechanical representation of a transparent human both unattainable and desirable. This shift was not to remain isolated within the discourse and practice of

[135] "Née d'un impérieux besoin de clarté, très satisfaisante pour l'intelligence qui voit les choses de haut, une conception mécaniste de la vie est destiné è se heurter, à chaque instant, à des faits révélés par l'observation, et dont elle ne peut rendre compte."
[136] For a concrete example of the limits of mechanistic physiology, see Brown 1974, 194; 186-187.
[137] "Unlike the machine and the statue, the living organism does not lead a life which is exclusively determined by the external environment and its modifications" (Moravia 1978, 58; see also Menin 2012, 105).

medicine, but would widely spread its tenets in the various fields of contemporary culture.

One key place to look for the interaction of medical and philosophical and aesthetic discourses in the 18th century is Diderot's and D'Alembert's *Encyclopédie*. In the late 1740s and 1750s, a group of physicians from Montpellier, who studied at intervals in Paris with Diderot, d'Holbach, and Rousseau at the Jardin Royal (Williams 2003, 147), started to form what is known as the Vitalist movement.[138] Within the variety of research produced in Montpellier, its unifying feature was a shared concern with the distinctive qualities of living matter:

> The Montpellier doctors recognized that there must be an active force in living matter, something that did not just react, but contained the power to act. The body, the Montpellier theoreticians would argue, was a composite of living parts that, in sum, created something qualitatively new, This challenge to reigning theories would be called vitalism. (Makari 2015, 246)

A collaboration began between these Montpellier Vitalists and the Encyclopedists' circle, which continued until the end of the 1760s, yielding a vast amount of medical entries in the *Encyclopédie*.[139] In particular, Théophile de Bordeu's entry "Crise" (concerning the already Hippocratic issue of the critical days in the course of a disease), and Venel's

[138] For a detailed account of all the different contributions to Montpellier Vitalism, see William's comprehensive study (William 2003). As Elizabeth Williams has shown, these figures were on the one hand associated with forms of Protestantism, and on the other with a "shared attempt to overcome the rigid dichotomies of body and soul, reason and passion, law and spontaneity that characterized classical Cartesianism and that had left so bedeviled a legacy to students of medicine" (Williams 2003, 83). Another European center for Vitalist thought had been, since at least the 1720s, the Northern town of Halle in Germany. Here the figure of Georg-Ernst Stahl had been refusing Cartesianism and its mind-body dualism in name of a "holistic organism" directed by a soul (*anima*), whence the label of "animism" assigned to Stahlian doctrines. The animism of Stahl was the point of departure for the Montpellier doctor François Boissier de Sauvages to elaborate a different vitalist theory that still relied on the soul's organizing power. For Williams "it was Sauvages who first moved to undermine the basic principles of Iatromechanism and in so doing to foster a sense of the variability and autonomy of vital phenomena" (Williams 2003, 104).

[139] On the reasons for the end of this alliance see Williams 2003, 147-148. For a lively narrative reconstructing the scientific and biographic adventures between Paris *philosophes* and Montpellier doctors, see Makari 2015, 245-266.

article "Chymie," came to be seen as "a kind of vitalist manifesto" (Williams 2003, 161). Later, another Montpellier doctor, Paul-Joseph Barthez, became a key contributor to the *Encyclopédie*. In the entries drafted by the Montpellier physicians one could trace the basic elements of Vitalism: "emphasis on variability over uniformity, the singularity of the human and, with it, the art of medicine" (Williams 2003,162). After the suspension of the *Encyclopédie* in 1759, the next phase of publication saw a second generation of Montpellier doctors involved again in the enterprise. Whereas Bordeu was dismissive of Rousseau, the second generation of Montpelliers Vitalists (Henri Fouquet and Menuret de Chambaud) saw in him an ally in the propagation of some of the Vitalist battles, as for example that of hygiene, which often played out as an accusation against city life and luxurious living (Williams 2003, 224).

In the *Encyclopédie* entry dedicated to semeiotics ("Séméiotique"), that is, the medical reading of signs, one can find a dialectical presentation of some of the issues involved in the rise of Vitalism and its relation to Mechanism:

> There is no part in the human body that cannot furnish some sign to the enlightened observer; all of the actions, all of the movements of this marvelous machine are to his eyes like so many mirrors, where the internal dispositions—be they natural or counter to nature—are reflected and depicted; he alone [the enlightened observer-physician] can direct a penetrating gaze into the most hidden recesses of the body, distinguish therein the state and the disorders of the various parts, recognize through external signs the illnesses that are attacking the internal organs, and determine the particular character and seat of those illnesses. It seems, judging from the easiness with which he understands what happens inside the body, that this is *a transparent machine*; but if one looks from higher above, so to say above man, the physician knowledgeable in semeiotics can look farther: the mysterious veil that hides the knowledge of the future from frail mortals tears open before him; he sees with a confident eye the different changes that must occur in health or illness; he holds the chain that connects all events, and the first links that come into his hands reveal to him the nature of those that will come after because Nature varies only in her external appearances: deep down, she is always uniform, and always follows the same course.[140] [my emphasis]

[140] "Il n'y a point de partie dans le corps humain qui ne puisse fournir à l'observateur éclairé quelque signe;

In this passage, the transparency of the body is described as the ideal achievement of the semeiotic analyst—the skilled physician—who achieves a vision of the body as transparent by unfolding the body's hidden creases on the surface of a transparent model of its functions. The most interesting part of the passage, however, comes with the next image. By elevating himself above the human, the physician versed in semeiotics does not see merely the transparent body any longer; his focus has changed: he sees the future of the disease, and the hidden chains of causation that led to it. In other words, the transparent body is not the ultimate focus, or the ultimate picture, that medical semeiotics aims at, and it is destined to be overcome by a fuller kind of vision: a vision from above, a birds-eye view of nature as a whole. Still within a highly visual paradigm of medicine (after all, the entry is devoted to the observation of signs), the image of a transparent human is now insufficient. This image will be dismissed even more decisively with the introduction of the new Vitalist medical paradigm that is repeatedly represented in the *Encyclopédie* itself.

Vitalism generated and developed ideas that made their way to the anthropologies embraced by Rousseau and Sterne respectively. In particular, it attended to the

---

toutes les actions, tous les mouvements de *cette merveilleuse machine* sont à ses yeux comme autant de miroirs, dans lesquels viennent se réfléchir et se peindre les dispositions intérieures, soit naturelles ou contre nature; il peut seul porter une vue pénétrante dans les replis les plus cachés du corps, y distinguer l'état et les dérangements des différentes parties, connaître par des signes extérieurs les maladies qui attaquent les organes internes, et en déterminer le caractère propre et le siège particulier. Il semble, à la facilité avec laquelle il est instruit de ce qui se passe dans l'intérieur du corps, que ce soit une machine transparente; mais s'élevant plus haut et presque au-dessus de l'homme, le semeioticien instruit porte plus loin ses regards: le voile mystérieux qui cache aux faibles mortels la connaissance de l'avenir se déchire devant lui; il voit d'un œil assuré les changements divers qui doivent arriver dans la santé ou les maladies; il tient la chaîne qui lie tous les événements, et les premiers chaînons qui sont sous sa main lui font connaître la nature de ceux qui viennent après, parce que la nature n'a que les dehors variés, et qu'elle est dans le fond toujours uniforme, toujours attachée à la même marche" (Diderot, d'Alembert 1765 (XIV), 937; most of the translation is in Vila 1998, 53, the rest is integrated by my translation).

elaboration of the notion of sensibility, which provided the "missing link" between the body and the mind.[141] The notion of sensibility, as we will see next in the chapter, introduced a radically alternative model to that of a mechanic body. Furthermore, it extended beyond medicine to become extremely productive in aesthetics and literature.

§ 5. Sensibility between medicine and poetics

> I can now proclaim to all the world that there is no difference at all between a doctor awake and a philosopher dreaming.
>
> Diderot, *D'Alembert's Dream*[142]

In his 1752 treatise *Dissertation on the Sensible and Irritable Parts of Animals*, Swiss scientist Albrecht von Haller (1708-1777), another student of Boerhaave, laid the foundations for the subsequent dissemination of the notion of sensibility that pervaded Europe in the 18th century, one in which sensibility became "the term generally accepted by eighteenth-century thinkers to designate this all-encompassing vital property" (Vila 1998, 15-16). Against Boerhaave's theory of muscular contraction, which implied the passivity of the muscle moved by the nerves, through his experiments Haller advanced the theory of muscular fiber as the source of movement: irritability was "the capacity to contract, and to do so independently of the dictates of the will" (Vila 1998, 23). This shift carried huge implications:

---

[141] The expression is by George Makari (2015, 257), who insists on the crucial function of sensibility in overcoming both Mechanism and Animism: "Theories of sensibility opened the door for an embodied mind. Perhaps man did not reduce down to a ticking contraption, but rather the very idea of the body must be expanded to possibly include complex, dynamic functions, including wanting, thinking, and choosing" (257-258).

[142] Diderot 2011, 170; "Je puis donc assurer à présent à toute la terre qu'il n'y a aucune différence entre un médicin qui veille et un philosophe qui rêve."

> Haller shifted the focus of physiological thinking from hydraulic forces to immanent forces, and from the vessel to the fiber […] In the process, he effectively remapped the living body, replacing the hierarchical Boerhaavian topology of solid and fluid parts with a decentralized topology of sensible and irritable fibers and organs. (Vila 1998, 20)

In his medical dissertation from 1752, Haller starkly distinguished irritability from another property, which would soon after eclipse that of irritability: the property of sensibility, which defined the reaction of pain induced by a certain kind of stimulation of bodily parts. Haller defined both properties as follows:

> I call the irritable part of the human body that part which becomes shorter when any foreign body touches it somewhat forcefully; if the exterior touch is steady, the irritability of the fiber becomes all the greater as it gets even shorter […] I call the sensitive fiber of man that which, when touched, transmits the impression of this contact to the soul. (Haller 1755, 4)

Sensibility, measured by degrees of pain, was a measure of nervous stimulation. Irritability and sensibility were therefore opposite properties, the first referring to movement alone, the second to pain, the first independent from the soul and will, the second a manifestation of the soul (Vila 1998, 25).[143]

Théophile de Bordeu (1722-1776), perhaps the most prominent figure of the Montpellier School of medicine and a major contributor to the *Encyclopédie*, elaborated a notion of sensibility that differed from Haller's (see also Huneman 2008, 617). For Bordeu, sensibility was the ability of the body to respond to stimulations of the nerves by means of an adapted response of the organs involved. The sum of the responses of single organs came to constitute what Bordeu and doctors after him designated as the "animal economy" (see Gaukroger 2010, 400ff.), which was epitomized by Bordeu's comparison

[143] For Haller, "the nerves are the satellites of the soul" (quot. Vila 1998, 27). See Vila 1998, 26-27, on La Mettrie's appropriation of Haller's irritability and Haller's disagreement.

of the body to a swarm of bees.[144]

Bordeu appears as one of the protagonists of Denis Diderot's fictional dialogue *Le Rêve de d'Alembert*, which features Bordeu and Mademoiselle d'Espinasse conversing in the vicinity of a half-sleeping d'Alembert. In this work, the Vitalist doctor exposes a theory of sensibility as *the* vital property; "a sensitive, living molecule" (Diderot 2011, 167) ("la molécule sensible et vivante"; Diderot 1964, 45) is announced as the unit of life as such. In this dialogue, the physiological system outlined by Bordeu (the 'spokesperson' of Diderot) consists in the identification of a raw, fundamental substance of life, i.e. sensibility ("life and sensitivity […] almost identical qualities"; Diderot 2011, 219) ("la vie et la sensibilité […] deux qualities presque identiques"; Diderot 1964, 88). Sensibility is organized in a network, or web (*réseau*) of threads (*fils-brins*), structured in bundles (*faisceaux*), which communicate sensations from the periphery of the body to its center in the brain. The ontology descending from this physiology is starkly anti-Cartesian and anti-dualistic: there is only one matter, endowed with sensibility, and structured with variable degrees of organization.[145] The way sensibility is here described is non-visual, and sensation (as an effect of sensibility) is defined through non-visual properties:

> If this great diversity of tactile sensations did not exist, we should know we were feeling pleasure or pain, but should have no idea what to relate them to. We should have to rely on sight, and that would no longer be a matter of sensation, but of experience and observation. (Diderot 2011, 188)[146]

---

[144] "In order that we might grasp the particular action of each of its parts better, we compare the living body to a swarm of bees, which gather together in a cluster, and hang from a tree like a bunch of grapes […] it is a whole glued to the branch of a tree by the action of a good many of the bees which need to act in unison in order to hold on […]. Applying [this metaphor] is straightforward: the bodily organs are joined together; they each have their own area and action. The relation between these actions, and the harmony that results, is what constitutes well-being […]" (quot. in Gaukroger 2010, 400).

[145] See in particular the first "Entretien" between Diderot and d'Alembert, 14. Also: "Il n'y a plus qu'une substance dans l'univers, dans l'homme, dans l'animal" (19).

[146] "Si cette infinie diversité de toucher n'existait pas, on saurait qu'on éprouve du plaisir ou de la douleur, mais on ne saurait où les rapporter. Il faudrait le secours de la vue. Ce ne serait plus une affaire de sensation; ce serait une affaire d'expérience et d'observation" (Diderot 1964, 53).

This non-visual characterization of sensibility doesn't imply that the highly visual paradigm of the body machine is completely abandoned (it is, for one, employed to some extent also in *Le rêve de d'Alembert*, where it is pronounced by Mademoiselle d'Espinasse in one of her pragmatic, concrete interventions), but it is certainly perceived as insufficient and problematic. In the *Encyclopédie*, the entry "Œconomie Animale," written by another key figure of Montpellier Vitalism, Ménuret de Chambaud (1739-1815), traces the insertion of the motives of Vitalism on the scaffolding of Mechanism precisely through sensibility:

> […] the human body is a machine of the kind of those called static-hydraulic, composed of solids and fluids, its first elements, common to plants and animals, being living atoms, or organic molecules: let's picture the marvelous assemblage of these molecules in the way anatomic observations show them to us, in the body of an adult man, once the solids have abandoned the mucous state to assume a more solid consistence, more proportioned to the use of each part; let's picture all the interior organs, all well placed, the vases free, open, filled with the right humor; the nerves distributed throughout the body, communicating in one thousand ways; finally all parts in the healthiest possible state, but without *life*; **this machine formed in this way doesn't differ from the living man but for movement and sentiment, the main phenomena of life probably reducible to one single primitive phenomenon; one can observe, even before life begins, or short after it has ceased, a singular property, the source of movement and sentiment attached to the *organic* nature of the principles that compose the body, or rather depending on *that* union between the molecules, which Glisson has first discovered and called *irritability*, which is actually nothing else but a mode of sensibility**. See Sensibility.[147]

[147] […] le corps humain est une machine de l'espèce de celles qu'on appelle *statico hydraulique*, composée de solides & de fluides, dont les premiers éléments communs aux plantes & aux animaux sont des *atomes vivants*, ou *molécules organiques:* représentons nous l'assemblage merveilleux de ces molécules, tels que les observations anatomiques nous les font voir dans le corps de l'homme adulte, lorsque les solides ont quitté l'état muqueux pour prendre successivement une consistance plus ferme & plus proportionnée à l'usage de chaque partie: représentons nous tous les viscères bien disposés, les vaisseaux libres, ouverts, remplis d'une humeur appropriée, les nerfs distribués par tout le corps, & se communiquant de mille manières; enfin toutes les parties dans l'état le plus sain, mais sans *vie*; **cette machine ainsi formée ne diffère de l'homme vivant que par le mouvement & le sentiment, phénomènes principaux de la vie vraisemblablement réductibles à un seul primitif; on y observe même avant que la vie commence, ou peu de tems après qu'elle a cessé, une propriété singulière, la source du mouvement & du sentiment attachée à la nature *organique* des principes qui composent le corps, ou plutôt dépendante d'une union *telle* de ces molécules que Glisson a le premier découverte, & appelée *irritabilité*, & qui n'est, dans le vrai, qu'un mode de sensibilité.** *Voyez* Sensibilité. (Diderot, D'Alembert [1765], XI, 360; my

The machine described in the first part of the quote is devoid of life. To define life, the focus has to shift from the mechanistic description of the body to the phenomena of "movement" and "sentiment," which both depend upon the underlying and more fundamental phenomenon of sensibility. At the end of the entry, the specific entry "Sensibility" is indicated as further reference. In the *Encyclopédie*, "sensibility" appears under both the rubric of medicine and that of morals. The medical entry, written by the Montpellier physician Henri Fouquet (1727-1806), defines sensibility as follows:

> SENSIBILITY, SENTIMENT (Medicine). The faculty of feeling, the sensitive principle, or the sentiment of the parts, the basis and conservative agent of life, animality par excellence, the most beautiful, the most singular phenomenon of nature, etc.
> Sensibility is in the living body a property that some parts have to perceive the impressions left by external objects, and to consequently produce movements in proportion to the degree of intensity of this perception.[148]

Beyond the definition of sensibility as the faculty of feeling, what is relevant in the entry is the definition of sensibility as the "conservative agent of life," or "animality as such." Sensibility was the ultimate vital property, a product of Vitalist thinking as much as its founding principle. As Dominique Boury has emphasized, the novelty that the notion of sensibility introduced in the medical representation of the human body was in the emphasis on the unique finalistic organization of the living being as opposed to the machine and its extrinsic ends:

> The radical difference introduced by the notion of sensibility compared to all the mechanistic models is the place devoted to a specifically vital interest. The

---

translation; my emphasis in bold).

[148] SENSIBILITÉ, SENTIMENT, (*Médecine*) la faculté de sentir, le principe sensitif, ou le sentiment même des parties, la base & l'agent conservateur de la vie, l'animalité par excellence, le plus beau, le plus singulier phénomène de la nature, *&c*. La *sensibilité* est dans le corps vivant, une propriété qu'ont certaines parties de percevoir les impressions des objets externes, & de produire en conséquence des mouvements proportionnés au degré d'intensité de cette perception (Diderot, D'Alembert [1775], XV, 38; my translation in the text).

> activity of an automaton is directed to the end for which it is built. The mechanism may be complex but it always fulfills its task in the same way following the program that is imposed on it. The principle of vital reaction lies in the organ's adaptation to the perpetual variation in its conditions of activity as it pursues its own advantage. (Boury 2008, 528)

The second article on sensibility in the *Encyclopédie*, written by the chevalier Louis de Jaucourt (1704-1779), addressed sensibility as a moral notion:

> SENSIBILITY (Morals). Delicate and tender disposition of the soul that makes it easily moved, touched. The sensibility of the soul, as the author of Les Moeurs accurately puts it, imparts a kind of wisdom about propriety, and it goes farther than the penetration of the mind alone. Exuberance may prompt sensitive souls to make mistakes that men of reason would never commit; but they gain so much through the abundance of goodness they generate. Sensible souls get more out of life than others; good and bad multiply to their benefit. Reflection can make a man of honor; but sensibility makes a man virtuous. Sensibility is the mother of humanity and of generosity; it increases worth, it helps the spirit, and it incites persuasion.[149]

In its moral definition, sensibility allows the soul to be moved and touched, actions that result in a deeper effect—so goes the claim—than the one achieved by the mere power of penetration of the spirit. This "deeper" property adds a dimension of existence to those who dispose of it: it grants "more of existence than the others have"—a claim that is certainly less socially innocuous than it may seem.[150] The medical and moral notions of sensibility appear connected by the assumption that where the reactivity of the body to stimuli is stronger, the effects of this deeper capability to feel will affect cognitive, emotional, and moral aspects of life. The expansiveness of sensibility's effects results in

[149] SENSIBILITÉ, (Morale.) disposition tendre & délicate de l'âme, qui la rend facile à être émue, à être touchée. La sensibilité d'âme, dit très bien l'auteur des mœurs, donne une sorte de sagacité sur les choses honnêtes, & **va plus loin que la pénétration de l'esprit seul**. Les âmes sensibles peuvent par vivacité tomber dans des fautes que les hommes à procédés ne commettraient pas; mais elles l'emportent de beaucoup par la quantité des biens qu'elles produisent. **Les ames sensibles ont plus d'existence que les autres**: les biens & les maux se multiplient à leur égard. La réflexion peut faire l'homme de probité; mais la sensibilité fait l'homme vertueux. La sensibilité est la mère de l'humanité, de la générosité; elle sert le mérite, secourt l'esprit, & entraîne la persuasion à sa suite. (Diderot, d'Alembert [1775], XV; my emphasis in bold; translation by Christelle Gonthier, in Diderot, d'Alembert, 2017).

[150] From a different but related perspective, on sensibility as a gender-marker, see Barker-Benfield 1992.

an overall enhancement of the existential dimension of life: "*plus de vie*." The interconnectedness of the two notions, the physical and the moral, or more precisely, their common origin, is declared by Diderot-Bordeu, not without critical intentions, in *Le rêve de D'Alembert*:

> But what is a sensitive being? One who is a prey to the vagaries of his diaphragm. If a touching word strikes his ear or a strange sight his eye, then at once he is thrown into an inner tumult, every thread in the bundle is stimulated, a shudder runs through him, he is overcome with horror, his tears begin to flow, he is choked with sobs, his voice fails him, and in fact the central point of the network doesn't know what is happening to it; all calm, reason, judgment, instinct, resourcefulness have fled. (Diderot 2011, 212)[151]

Here Diderot-Bordeu is disparaging the cult of sensibility, opposing the extreme sensibility of "mediocre beings" to the greater control over one's sensibility of the "grand homme." At the same time, however, he is asserting their interdependence.

The variety of sensibility's fields of application was the mark of the disciplinary collaboration that took place between medicine and philosophy in the intellectual climate of the Enlightenment. In the words of Stephen Gaukroger, "a distinctive feature of mid-eighteenth century thought is the way in which questions of cognition, morality, and civic responsibilities come to be grounded in sensibility" (Gaukroger 2010, 402).

For the historian of medicine Georges Rousseau, sensibility was already a product of the late 17th century, especially of the medical work of Thomas Willis and of the philosophy of his pupil John Locke (G. Rousseau 1973, 141-142). Georges Rousseau ties the discovery of the nerves as vectors of the brain's impulses (Willis) to the spread and

[151] "Mais qu'est-ce qu'un être sensible? Un être abandonné à la discrétion du diaphragme. Un mot touchant a-t-il frappé l'oreille? Un phénomène singulier a-t-il frappé l'œil? Et voilà tout à coup le tumulte intérieur qui s'élève, tous les brins du faisceau qui s'agitent, le frisson qui se répand, l'horreur qui saisit, les larmes qui coulent, les soupirs qui suffoquent, la voix qui s'interrompt, l'origine du faisceau qui ne sait ce qu'il devient; plus de sang froid, plus de raison, plus de jugement, plus d'instinct, plus de ressource" (Diderot 1964, 80).

growth of sensibility as a very broad property defining at the same time perception and morals (G. Rousseau 1973, 151-152). For this historian of medicine, it was the physiology of the nerves that yielded the aesthetics of sensibility through a sequence of connections, and he has recorded these connections in the form of a series of syllogistic statements that are worth quoting here in their entirety, as they suggest one way to look at the cross-boundary nature of sensibility:

> (a) the soul is limited to the brain; (b) the brain performs the entirety of its work through the nerves; (c) the more 'exquisite' and 'delicate' one's nerves are, morphologically speaking, the greater the ensuing degree of sensibility and imagination; (d) refined people and other persons of fashion are usually born with more 'exquisite' anatomies, the tone and texture of their nervous systems more 'delicate' than those of the lower classes (e) the greater one's nervous sensibility, the more one is capable of delicate writing. (G. Rousseau 1973, 152)

This sequence of analogical connections can explain the overlapping of sensibility over the medical, social, moral, and aesthetic realms. For Georges Rousseau, the "cults" of sensibility that exploded in the second half of the 18th century and that produced a proper "genre" of novels, owed their aesthetics not so much to the contemporary scientific debates about sensibility (Haller), as to the previous ones concerning the brain and the nerves, what he refers to as a "revolution in brain theory." According to this historian, these latter works laid the foundations for the paradigm of sensibility, upon which the scientifically crucial work of Albrecht von Haller's rests. On the contrary, Anne Vila has indicated, in the ambiguous status of sensibility in Haller's physiology, the reason why sensibility could spread and circulate in different fields (Vila 1998, 26; 28). For Vila, it is on this scientific ground that J.J. Rousseau could "invent" his *morale sensitive*: that is, his ethics based on sensibility (Vila 1998, 182). Acknowledging sensibility as the main source of human action, Rousseau's ethical recipe consisted in controlling sensibility's

powers: materialism with a moralist twist (Vila 1998, 184).[152]

In agreement with some of the inferences made by Georges Rousseau in the passage quoted above, J.J. Rousseau's work repeatedly claims that it is in the acute sensibility of Jean-Jacques that the source of his virtue can be found (see also Menin 2012, 95-96). As we will see in the paragraphs to follow, sensibility became the main foundation of Rousseau's anthropology—a foundation that, in its medical premises, inscribed in Vitalist medicine, was fundamentally at odds with the image of Jean Jacques's "transparent heart."[153]

§ 6. Rousseau and the poetics of the heart

6.1 THE SENSIBLE HEART

Rousseau's *Confessions*, a unique and unrepeatable exercise in self-revelation, open with a declaration of primacy: "I have entered upon a performance which is without example, whose accomplishment will have no imitator. I mean to present my fellow-mortals with a

[152] Though consistently critical of medicine in his work (see Menin 2012, 86ff.), Rousseau was in close exchange with his compatriot, Swiss doctor André David Tissot (Vila 1998, 188). Rousseau saw medicine as dangerous except for medicine intended as hygiene. In *Émile*, he writes: "la seule partie utile de la médecine est l'hygiène; encore l'hygiène est-elle moins une science qu'une vertu" (quot. in Menin 2012, 89; Rousseau 1969, IV, 271). This contradictory relation to medicine has been summarized by Menin in the following way: "Malgré le fait qu'il soit possible de trouver des développements originaux dans l'œuvre de Rousseau, ce lien entre l'organisation physique et l'ordre moral peut être considéré comme sa contribution intellectuelle la plus significative envers le vitalisme" (Menin 2012, 108).

[153] It is important at this point to recall the relevance of the discourse of sensibility in Sterne's *Tristram Shandy* as well, exposed as it is to subtle irony: "vignettes of felt benevolence and emotionally fragmented syntax; wordless recognition of sympathetic mutuality and consolatory exchanges of tears; a pathology of nervous response and disorder, debilitating in the face of grief; above all, an understanding of virtue, and of personal identity and human society, that places the capacity for exquisite feeling at the very center" (Keymer 2009, 80; on this ambivalence see also 90). It is also necessary to recall that Sterne's early fame was linked to his work *A Sentimental Journey to France and Italy*, which more or less ironically elected him to a writer of "sensibility" (see Keymer 2009, 79ff.).

man in all the integrity of nature; and this man shall be myself" (Rousseau 2012, 12).[154] The uniqueness of the enterprise rests upon the uniqueness of the subject, that is, the uniqueness of Jean-Jacques Rousseau, as it is concisely expounded in the second paragraph of the book: "I know my heart, and have studied mankind; I am not made like any one I have been acquainted with, perhaps like no one in existence; if not better, I at least claim originality, and whether Nature did wisely in breaking the mould with which she formed me, can only be determined after having read this work" (Rousseau 2012, 12).[155] The author bases the claim of his unrivaled singularity on two distinct and interrelated properties: the feeling for his own heart ("je sens mon cœur"), and his knowledge of human beings ("je connois les hommes"). As far as the latter anthropological claim goes, Rousseau put in epigraph to his work a *captatio benevolentiae* where he defined his work as unique and useful: "un ouvrage unique et utile" (Rousseau 1969, I, 3), which could serve as the milestone for a yet to come study of man ("prémiére piéce de comparaison pour l'étude de l'homme, qui certainement est encore à commencer"; Rousseau 1969, I, 3). The opening rhetorical claim of the first book—the full disclosure of the author's nature—is established on the basis of this double foundation: sensibility and anthropological knowledge. In the *Confessions*, soon after the early account of his birth, Rousseau defines his *cœur sensible*, inherited by his parents: "of all the gifts it had pleased Heaven to bestow on them, a feeling heart was the only one that descended to me; this had been the source of their felicity, it was the foundation of

[154] "Je forme une entreprise qui n'eut jamais d'exemple et dont l'exécution n'aura point d'imitateur. Je veux montrer à mes semblables un homme dans toute la vérité de la nature; et cet homme ce sera moi" (Rousseau 1959, I, 5).

[155] "Moi seul. Je sens mon cœur et je connois les hommes. Je ne suis fait comme aucun de ceux que j'ai vus; j'ose croire n'être fait comme aucun de ceux qui existent. Si je ne vaux pas mieux, au moins je suis autre. Si la nature a bien ou mal fait de briser le moule dans lequel elle m'a jetté, c'est ce dont on ne peut juger qu'après m'avoir lu" (Rousseau 1959, I, 5).

all my misfortunes" (Rousseau 2012, 15).[156] The legacy of a sensible heart is here blamed as the main source of unhappiness in Rousseau's life. The sensible heart is therefore at the same time both the source of Rousseau's unique ability for self-revelation, and the source of his unique suffering. The early characterization of his sensibility in the *Confessions* is carried on with reiterative insistence: he declares his sensibility to be prior to his thought ("Je sentis avant de penser"; Rousseau 1959, I, 8).[157] Along the same line of argument, he confesses: "An infinity of sensations were familiar to me, without possessing any precise idea of the objects to which they related—I had conceived nothing—I had felt the whole" (Rousseau 2012, 16).[158] The unique, and exceptional qualities of Jean-Jacques are those related to his heart: "a heart too affectionate, too ardent, which, for want of similar dispositions, is constrained to content itself with nonentities, and be satisfied with fiction" (Rousseau 2012, 54).[159]

Rousseau's invocation of sensibility is not limited to the account of his own sensibility. In his pedagogical work *Émile* (1762), he declares: "To exist is to feel; our feeling is undoubtedly earlier than our intelligence, and we had feelings before we had ideas."[160] Rousseau relied on a cognitive theory that was rooted in the correlate notion of sensibility, that of sensations, and he faithfully echoed Condillac's account of the artificial birth of his Statue from its sensations. In his *Traité des Sensations* (1754), Etienne de Condillac (1715-1780), whose person and work Rousseau was familiar

---

[156] "De tous les dons que le Ciel leur avoit départis, un *cœur sensible* est le seul qu'ils me laisserent; mais il avoit fait leur bonheur, et fit tous les malheurs de ma vie" (Rousseau 1959, I, 7; my emphasis).
[157] The somehow misleading English translation has: "We suffer before we think; it is the common lot of humanity" (Rousseau 2012, 15).
[158] "Je n'avais aucune idée des choses, que tous les sentiments m'étaient déjà connus. Je n'avais rien conçu, j'avais tout senti" (Rousseau 1959, I, 8).
[159] "[U]n cœur trop affectueux, trop aimant, trop tendre, qui, faute d'en trouver d'existans qui lui ressemblent, est forcé de s'alimenter de fictions" (Rousseau 1959, I, 41).
[160] "Exister pour nous, c'est sentir; notre sensibilité est incontestablement antérieure à notre intelligence" (*Œuvres complètes* IV, 600).

with,[161] proposed an experiment in which the soul is gradually observed forming in a mechanical body, namely a statue (a sort of counter-experiment to Descartes's mental experiment of a mechanical body "without a soul"):

> I want to emphasize that it is very important to put oneself in the place of the statue we are going to observe. It is necessary to start existing together with the statue, to start having one sense only when it has one; to acquire the ideas that it is acquiring, to take on the habits that it is taking on; in one word, one has to be what the statue is. The statue will not judge things the way we do before having acquired all our senses and our experience; and we will not be able to judge the way it does before supposing to be deprived of all what the statue lacks. I think that readers who will be able to put themselves in the place of the statue will find no difficulty in understanding this work; the others will put up endless obstacles. Not everybody has understood yet that I intend to just observe the statue, and this warning will appear to them undoubtedly misplaced: one more reason to repeat it and not forget about it. (Condillac 1984, 9)[162]

In summarizing his work in the "Extrait raisonné," which was added as a coda to the treatise, Condillac clarified the role of the soul in relation to the senses:

> The main object of this work is to show how all our knowledge and all our faculties stem from the senses, or, to be more precise, from our sensations: because truly the senses are just the occasional cause. They do not feel, but it is the soul that feels upon the occasional cause of the organs; and the sensations modify the soul, and from them the soul draws all of its knowledge and all of its faculties. (Condillac 1984, 235)[163]

The soul is the mediator, or perhaps the medium (Condillac speaks of it being "modified") that elaborates the information sent from the senses. Condillac's

---

[161] Thiel 2015, 265; Makari 2015, 277.

[162] My translation. "J'avertis donc qu'il est très important de se mettre exactement à la place de la statue que nous allons observer. Il faut commencer d'exister avec elle, n' avoir qu'un seul sens, quand elle n'en a qu'un; n'acquérir que les idées qu'elle acquiert, ne contracter que les habitudes qu'elle contracte: en un mot, il faut n'être que ce qu'elle est. Elle ne jugera des choses comme nous, que quand elle aura tous nos sens et toute notre expérience; et nous ne jugerons comme elle, que quand nous nous supposerons privés de tout ce qui lui manque. Je crois que les lecteurs, qui se mettront exactement à sa place, n'auront pas de peine à entendre cet ouvrage; les autres m'opposeront des difficultés sans nombre. On ne comprend point encore ce que c'est que la statue que je me propose d'observer; et cet avertissement paraîtra sans doute déplacé: mais ce sera une raison de plus pour le remarquer, et pour s'en souvenir."

[163] My translation. "Le principal objet de cet ouvrage est de faire voir comment toutes nos connaissances et toutes nos facultés viennent des sens, ou, pour parler plus exactement, des sensations: car dans le vrai, les sens ne sont que cause occasionnelle. Ils ne sentent pas, c'est l'âme seule qui sent à l'occasion des organes; et c'est des sensations qui la modifient, qu'elle tire toutes ses connaissances et toutes ses facultés".

sensationalist philosophy was bridging the dualism of body and soul by identifying bodily sensations as the source of the soul's content.

Rousseau embraced the Encyclopedists' account of a double sensibility: physical and moral (Rousseau 1959, I, 805), both of which he believed he possessed in great amount (Rousseau 1959, I, 807; 810). Adopting the general theory of sensibility meant for him to veer the theory towards an idiosyncratic, personalized version that, in the context of his confessional writing, served mostly the function of a self-apology. In the third book of the *Confessions*, Rousseau makes one of many confessions: he reveals the slowness of his thought, his incapacity to react quickly and with agility to the turns of a conversation:

> Two things very opposite, unite in me, and in a manner which I cannot myself conceive. My disposition is extremely ardent, my passions lively and impetuous, yet my ideas are produced slowly, with great embarrassment and after much afterthought. It might be said my heart and understanding do not belong to the same individual. *A sentiment takes possession of my soul with the rapidity of lightning, but instead of illuminating, it dazzles and confounds me; I feel all, but see nothing*; I am warm, but stupid; to think I must be cool. What is astonishing, my conception is clear and penetrating, if not hurried: I can make excellent impromptus at leisure, but on the instant, could never say or do anything worth notice. (Rousseau 2012, 132)[164] [my emphasis]

In the passage, the effect of "sentiment" is described as a blinding force, and an antithesis between sight and feeling is established: "Je sens tout et je ne vois rien." Given the mutually exclusive forces portrayed here (feeling as opposed to seeing, sensations as opposed to cognitions), it is even more striking that Rousseau in his quest for self-

[164] "Deux choses presque inalliables s'unissent en moi sans que j'en puisse concevoir la manière: un tempérament très ardent, des passions vives, impétueuses, et des idées lentes à naitre, embarrassées et qui ne se présentent jamais qu'après coup. On dirait que mon cœur et mon esprit n'appartiennent pas au même individu. *Le sentiment plus prompt que l'éclair vient remplir mon âme; mais au lieu de m'éclairer, il me brule et m'éblouit. Je sens tout et je ne vois rien.* Je suis emporté, mais stupide; il faut que je sois de sang-froid pour penser. Ce qu'il y a d'étonnant est que j'ai cependant le tact assez sûr de la pénétration, de la finesse même, pourvu qu'on m'attende: je fais d'excellents impromptus à loisir, mais sur le temps je n'ai jamais rien fait ni dit qui vaille" (Rousseau 1959, I, 113) [my emphasis].

representation, resorted to a very different image than that of a sensible heart: the image of his heart/soul as transparent, perfectly visible, unashamedly exposed to the view of the reader.

6.2 The Transparent Heart

> Son cœur transparent comme le cristal ne peut rien cacher de ce qui s'y passe; chaque mouvement qu'il éprouve transmet à ses yeux et sur son visage.
>
> Rousseau, *Juge de Jean Jacques*[165]

If one were to conduct an examination of metaphors in Rousseau's work, they would be struck by the pervasive recurrence of the image of the "heart." The heart can be respectively the site of the soul, of emotions, of morality—a truly powerful organ, if we were to stay on the literal side of the metaphor. In fact, we could certainly read most of Rousseau's references to the heart in terms of Ernst Robert Curtius's "corporal metaphors": that wide family of *translata*, which, from at least the Bible onwards, confer spiritual properties to certain parts of the body (Curtius 2013, 135-137). Adding to Curtius's indications, we could perhaps be more specific and conceive of Rousseau's "heart" as a metonymy: that particular kind of metaphor that attributes the quality of a totality to a part. In *Émile* the heart is metonymically postulated as the moral *tabula rasa* of human existence in its beginnings: "Let us lay it down as an incontrovertible rule that

[165] Rousseau 1959, I, 860.

the first impulses of nature are always right; there is no original sin in the human heart, the how and why of the entrance of every vice can be traced."[166]

If the image of the transparent heart has solidified as a distinctive mark of Rousseau's poetics, this is however in large part due to Jean Starobinski's comprehensive hermeneutic reading of Rousseau's work. Starobinski's critical merit, in his seminal book dedicated to Rousseau, *Transparency and Obstruction* (1957), has been to gather a variety of semantic fields perused by Rousseau under the unifying, visually captivating, and polysemic image of transparency. Starobinski grasped the efficacy of a visual expression such as that of transparency over a more abstract notion as immediacy, which at closer inspection seems to be the actual matrix of all the semantic fields gathered by the critic under the label of transparency.

Whereas the notion of transparency as such is not ubiquitous in Rousseau's work, his writings are filled with images of visibility and concealment. One crucial use of these categories refers to the dynamic of concealment that affects civilization as opposed to the state of shameless exposure characteristic of primitive humanity. In a sentence from the *Discourse on the Arts and Sciences*, significantly quoted and italicized by Starobinski, Rousseau writes:

---

[166] "Posons pour maxime incontestable que les premiers mouvements de la nature sont toujours droits: il n'y a point de perversité originelle dans le cœur humain; il ne s'y trouve pas un seul vice dont on ne puisse dire comment et par où il y est entré" (Rousseau 1969, IV, 322). Right after this passage, follows the famous definition of the *amour de soi* as opposed to the *amour propre*: "La seule passion naturelle à l'homme est l'amour de soi-même, ou l'amour-propre pris dans un sens étendu. Cet amour-propre en soi ou relativement à nous est bon et utile ; et, comme il n'a point de rapport nécessaire à autrui, il est à cet égard naturellement indifférent ; il ne devient bon ou mauvais que par l'application qu'on en fait et les relations qu'on lui donne. Jusqu'à ce que le guide de l'amour-propre, qui est la raison, puisse naître, il importe donc qu'un enfant ne fasse rien parce qu'il est vu ou entendu, rien en un mot par rapport aux autres, mais seulement ce que la nature lui demande; et alors il ne fera rien que de bien" (Rousseau 1969, IV, 322). The passage condenses many of the claims of the work hinging on the opposition between *homme naturel* and *homme civil*.

> When man was innocent and virtuous, he liked to *have the gods as witnesses to his actions* and lived in common huts. But now that he has grown wicked, he finds spectators inconvenient […] *Differences in behavior revealed differences in character at a glance*. Human nature was not fundamentally better; but men found security in the ease with which they *could see into one another's heart*. (Quot. in Starobinski 1988, 11-12)[167]

For Rousseau, visibility as exposure is the natural state of existence, and defines a condition of transparency, accordingly called by Starobinski "primal transparency" (Starobinski 1988, 15; 18), or "primordial transparency" (Starobinski 1988, 24). The image of a transparent heart, a clear repetition of the myth of Momus and of the window on the human heart, is the image that Starobinski places at the center of Rousseauian semantics, so that transparency becomes the legitimate terminological reference for a number of conceptual variations within that system. This image seems to return consistently throughout Rousseau's work, up to his old age correspondence. As Starobinski reminds us, Rousseau used to open his letters with the lines "What poor, blind creatures we are!/Heaven, unmask the impostors/And force their barbarous hearts/To open to the gaze of man" (quoted in Starobinski 1988, 227).

Sometimes it is difficult to assess whether a certain attribution of transparency by Starobinski is a lapse in meaning or a legitimate expansion of a certain semantic field. If one could argue, for example, that "primordial transparency" consisting in total exposure is, in fact, immediacy rather than transparency, one could also detect other semantic fields intercepting the one of transparency in Starobinski's account. One of these would be the field of light and clarity. Through a sort of transitive property of semantics, in Starobisnki's critical investigation what is immediate and transparent can become luminous and bright, and vice versa. For example, childhood—which for Starobinski is

[167] The original passage is in Rousseau 1964, III, 22; 8. To "see into one another's heart" is, in the French text, "se pénétrer reciproquement" (8).

Rousseau's age of total transparency—is actually defined by Rousseau as "limpidity of a brighter world" (Starobinski 1988, 10). In Starobinski's book, transparency constantly blurs, overlaps, and blends with distinct concepts that share with it analogic qualities.

Another example of this slippage is Starobinski's analysis of *La Nouvelle Heloïse*, where Julie's profession of faith evokes "an immediate communication" after life—a communication "similar to that by which God reads our thoughts in this life, and by which, reciprocally, we shall read his in the other life, because we shall see him face to face" (Starobinski 1988, 118). The Pauline "face to face" reference constitutes for Starobinski the "triumph of immediacy in its most absolute form," and at the same time a form of "true transparency" (Starobinski 1988, 118). One might argue, however, that the otherworldly, unmediated vision, unobstructed by the opacity of the glass through which we look (also in Corinthians II), is not transparency anymore, since transparency is a medial notion, defined by the "invisibility" of the medium of vision. The "face to face" vision, in contrast, elides the medium entirely, suggesting the abolition of any residual medial interference, even the most transparent.

With a similar interpretative attitude, in an analysis of the feast scene in *La Nouvelle Heloïse*, Starobinski provides a brief theory of theatrical representation in Rousseau's thought. Rousseau here opposes to the darkness of the theatre the lightness of the open-air festival, the enclosure of the public in the theatre to the openness of the festival gathering, the constraint of the spectacle to the lack of representation in the festival:

> If nothing is represented, then space is a free vacuum, the optic medium of transparency: mind is directly accessible to mind without intermediary. And if nothing is represented, then everyone can represent himself and see the

> representations of others. *Nothingness* (as the object of representation) is strangely necessary if subjective *totality* is to emerge. (Starobinski 1988, 96)

The hermeneutic skillfulness of Starobinski allows him to connect this representational ideal of an anti-theatrical, immediate representation, to the differently representational matter of the *Social Contract*:

> The festival expresses, in the 'existential' realm of emotion, what the *Social Contract* formulates in the theoretical realm of law. In the rapture of public joy every man is both *actor* and spectator […] Similarly, the *Social Contract* postulates a simultaneous alienation of wills, in which each person ultimately receives back from the collectivity whatever he voluntarily cedes to it. (Starobinski 1988, 96- 97)

If Starobinski's definition of transparency overlaps with concepts of immediacy or clarity, why does he use the specific metaphor of transparency to subsume all of Rousseau's work? The list of all explicit occurrences of the metaphor of transparency in Rousseau's provided at the end the book (Starobinski 1988, 254ff.), shows how all of the relatively few explicit occurrences of transparency proper are variations and repetitions of the same image: a transparent heart, or a heart made of crystal.

Starobinski, in the remarkable effort to bring together every textual element from Rousseau's life and work, finds in the *Institutions Chimiques*, and particularly in passages devoted to the chemical process of vitrification, the material source of meaning for Rousseau's notion of transparency, and at the same time the material coincidence of transparency and immediacy. The mention, in Rousseau's writings on chemistry, of "water and liquids among whose parts their transparency shows an immediate union" (quoted in Starobinski 1988, 256), leads Starobinski to conclude that "in the physical world immediacy and transparency are correlative notions. Light can pass through certain substances because those substances possess the perfection of immediacy. The hypothesis

may be ‘chemical’, but it expresses a psychological necessity" (Starobisnki 1988, 256). For Starobinski, fluidity is therefore identified by Rousseau himself as the physical cause of transparency, and on this basis the critic, with a sweeping retrospective gesture illuminating his whole study, concludes that "if fluidity is the cause of transparency, the relation between the metaphors ‘crystal’ and ‘clear water’ is closer than we might have thought. In both cases, it is inner unity that permits light to pass" (Starobisnki 1988, 257).

While Starobinski's hermeneutic analysis remains a milestone of rhetorical analysis and literary criticism, my interest in the image of the transparent heart in Rousseau's work is motivated by a distinct intention. Where he tries to find homogeneity in the choice of images and distill their common denominator in the all-encompassing property of transparency, my far less ambitious aim is to show the dissonance in the imagery employed by Rousseau. Where Starobinski is putting the pieces together, I am looking for the missing link—not in order to fill it, but to emphasize the breakage in the system of thought.

The main point of friction that I want to show here is that between the language of sensibility and that of transparency. As we have seen in the previous paragraphs, sensibility sprang from medical experiments focused on the nervous system, and is defined either by the reaction of pain in the body (Haller), or by the coordinated system of perceptions between parts of the body (Bordeu and Fouquet). The *Encyclopédie* defined sensibility in its moral meaning as the property to exist at a different depth, overcoming the visual boundaries of understanding, something that both a good doctor (see the entry "Observation") and a virtuous man (as stated in the entry "Sensibility") shared. In other words, sensibility was a non-visual property, defined variously by tactile

or nervous functions of the body. The Swiss physician Albrecht von Haller had conducted gruesome vivisections, inflicting pain reactions on animals, to achieve a notion of sensibility.[168] Outside of the torture room of the anatomic theatre, however, sensibility was not measurable. Claiming one's sensibility was not easily proven, and this might explain why Rousseau was so insistent to reiterate it in his autobiography. For somebody obsessed with the public reception of his persona, however, insisting on his sensibility was not necessarily a successful strategy, as there were no concrete ways to demonstrate his claims. The public would ultimately want to witness Rousseau's innocence and virtue incontestably, and with their own eyes: Rousseau needed to show something, to make himself visible. His constant concern with disclosing himself is linked to a pervasive fear of accusation:

> In pursuance of the resolution I have formed to enter on this public exhibition of myself, it is necessary that nothing should bear the appearance of obscurity or concealment. I should be continually under the eye of the reader, he should be enabled to follow me in all the wanderings of my heart, through every intricacy of my adventures; he must find no void or chasm in my relation, nor lose sight of me an instant, lest he should find occasion to say, what was he doing at this time; and suspect me of not having dared to reveal the whole. I give sufficient scope to malignity in what I say; it is unnecessary I should furnish still more by my silence. (Rousseau 2012, 76)[169]

From the perspective of this concern with publicity, one can easily see the trope of transparency being deployed as a rhetorical device serving the purpose of guarding the

[168] See Haller 1755, 6: "I took living animals of different kinds, and different ages, and after laying bare that part which I wanted to examine, I waited till the animal ceased to struggle or complain; after which I irritated the part, by blowing, heat, spirit of wine, the scalpel, lapis infinalis, oil of vitriol, and butter of antimony. I examined attentively, whether upon touching, cutting, burning, or lacerating the part, the animal seemed disquieted, made a noise, struggled, or pulled back the wounded limb, if the part was convulse, or if nothing of all this happened."

[169] "Dans l'entreprise que j'ai faite de me montrer tout entier au public, il faut que rien de moi ne lui reste obscur ou caché; il faut que je me tienne incessamment sous ses yeux; qu'il me suive dans tous les égaremens de mon cœur, dans tous les recoins de ma vie; qu'il ne me perde pas de vue un seul instant, de peur que, trouvant dans mon recit la moindre lacune, le moindre vide, et se demandant: Qu'a-t-il fait durant ce tems-là, il ne m'accuse de n'avoir pas voulu tout dire. Je donne assés de prise à la malignité des hommes par mes récits, sans lui en donner encore par mon silence" (Rousseau 1959, I, 59).

confessant from the confessor's mistrust and disbelief. Rousseau needed to show his uniqueness: that is, to show his unique sensibility—to make apparent and visible something that was intrinsically invisible.[170] In the passage from the *Confessions* that I have analyzed at the end of the previous paragraph, sensibility was described as un-representable dazzle and inescapable blindness: "A sentiment takes possession of my soul with the rapidity of lightning, but instead of illuminating, it dazzles and confounds me; I feel all, but see nothing" (Rousseau 2012, 132). The function of the image of the transparent heart was supposed to locate in the heart the property of sensibility, in order to make it visible with the help of the well-known device of a glass of Momus. The struggle for Rousseau, however, was real, and a metaphor alone couldn't protect him from his fears. This is why, in the passage from the *Dialogues* I quoted in epigraph to this paragraph, he stretched the metaphor of the transparent heart towards the field of Physiognomics: "His heart, transparent as crystal, cannot hide anything that happened; every movement he feels is transmitted to his eyes and face."[171] If the "movements" of sensibility (recall the *Encyclopedia* definition of sensibility as what touches and moves the soul) actually translated on the facial features, then sensibility could actually become visible. Physiognomics was the most superficial link possible between the body and the soul. The personal doctor of Louis XIV and fervid sustainer of Physiognomics,[172] Marin Cureau de La Chambre (1594-1669), in his treatise *Art de connaître le hommes* (1660) wrote:

> He was wrong, that man who complained once that Nature hadn't placed a window on the heart so that one could see thoughts and plans of humans. Not only

[170] On the rhetorical complex of transparency, visibility, and readability, see de Man 1979, 192-193.
[171] "Son cœur transparent comme le cristal ne peut rien cacher de ce qui s'y passe; chaque mouvement qu'il éprouve transmet à ses yeux et sur son visage" (Rousseau 1959, I, 860).
[172] See Stafford 1991, 85ff..

> these are things that the senses cannot perceive, and even assuming that the eyes could actually see the bottom and the inner folds of the heart, they would not draw any knowledge from that. But even more than that, Nature actually provided the means to discover all this, and means that are much more reliable than this strange opening that Momus had imagined. (La Chambre 1660, 1-2)[173]

For La Chambre, the human face revealed the thoughts and intentions of its owner, and it did so mechanically: every muscle moved in a certain way when reacting to certain drives. While rejecting the idea of a window on the heart, La Chambre conceived of the Physiognomics of the face as a plastic, mechanical representation of the soul.

The epistemological concerns of Physiognomics, in the first place its preoccupation with unmasking deceit, were deeply grounded in the cultural landscape of the late 17th and 18th century. To understand Rousseau's use of the image of the transparent heart one should start from here. In fact, Rousseau radicalized the accusation against mystification and deceit shared by Physiognomics (in the *Dialogues*, the passage just quoted is followed by a digression on dissimulation; Rousseau 1959, I, 861) by proposing something completely different from the "reading of a face." For him, it was not the face that could be read, since it had already been disfigured by social conventions. To find the truth of human nature, it was necessary to dig deeper—indeed, to reinstall a window on the heart. Through this claim, Rousseau was advocating a mechanic representation to fulfill a task that Mechanism had been keeping out of its reach, namely the representation of the soul. Doing so, Rousseau was juggling conflicting systems and incompatible vocabularies in the attempt to build his own idiosyncratic aesthetics—

[173] My translation. Here is my (modernized) version of the French text: "Celui-là n'avait pas raison, qui se plaignait autrefois, de ce que la nature n'avait pas mis une fenêtre au devant du Cœur, pour voir les pensées et les desseins des hommes. Non seulement parce que ces sont des choses qui ne tombent pas sous les sens, et que quand les yeux verraient tous le fonds et tout le replis du cœur, ils n'y pourraient rien remarquer qui leur en donnât la moindre connaissance. Mais encore parce que la Nature a pourvue à cette découverte, et a trouvé des moyens plus certains pour la faire, que n'eut été cette étrange ouverture que Momus s'était imagine."

something he indeed managed to do, albeit at the cost of his exclusion and disjunction from more than one intellectual circle (be it the French philosophes, the Encyclopedistes, the English entourage surrounding Hume, and so on).[174]

Unlike what Starobinski wanted to prove, there was no intrinsic consistency and homogeneity in Rousseau's call for the transparency of the heart—only the strenuous endeavor to legitimize his autobiography and publicize his persona while holding onto a picture of himself that had nothing visual about it: that of the sensible soul. The appeal to the old trusted image of the glass of Momus could shelter his self-representation from feared accusations and resonate with the public as something more than the repetition of an ancient myth.

The transparent body had now been in vogue as a model of the human body for at least a full century, and only recently had the mechanic picture of the body started to be contested by the advocates of Vitalism. Rousseau had intercepted the new wave and played a major part in the spreading and reproduction of one of its main notions, that of sensibility, but he was also bound to the visual paradigm championed by Mechanism for reasons that included fashion, intellectual credibility, and paranoia. Rousseau's image of the transparent heart is therefore fed by the complex of the medical debates of the 18th century no less than by the author's entanglements with the construction of his literary persona amidst the vertiginous production of ideas in the age of Enlightenment.

[174] For a lively review of Rousseau's social misadventures, see Makari 2015, 275-297; for the English misadventures of Rousseau, see Edmonds, Eidinow 2006.

§ 7. An end for transparency

Looking for a common denominator to the image of the transparent heart shared by the coeval narratives of Laurence Sterne and Jean-Jacques Rousseau, this chapter has traced this link back to the medical discourse of the time. The middle years of the 18th century had seen the consolidation of Vitalist medical research against the medical discourse that had been prevalent in the 17th century, with a long coda into the 18th—Mechanism. Mechanist medicine had relied on the assumption that the body was perfectly decipherable and understandable if considered as a machine, and had provided accounts of the physiology of the body based on the idea of its transparency. In the anatomical-physiological model of the German physician Salomon Reisel (1680), I have identified a visual epitome of the Mechanist representations of the body. The *Statua Humana Circulatoria* was a machine working through siphons, reproducing the main physiological processes of human life in a simplified way—its heart was made of glass, as well as its brain: a glass sphere with the pineal gland as a crystal hanging within.

When Sterne, in *Tristram Shandy*, criticized tics and pitfalls of Mechanism, he used the image of the transparent heart to dismiss the pretenses of a mechanistic knowledge of the human being, advocating for its baffling elusory nature, which could be visualized, if at all, only in terms of opacity. On the contrary, when Rousseau invoked at several points of his work the transparent quality of his heart, he was championing the possibility to know the human being as the myth of Momus would have had it: seeing through his soul clearly, without mistake or deception. Only—Rousseau was at the same time promoting an ethics of sensibility as the measure to establish his personal and authorial uniqueness. Sensibility, a scientific offshoot of Vitalist medical research, was

destined to become an all-encompassing notion for the 18th century, grounding its aesthetics as much as its ethics. Looking at the medical history of this thriving notion demonstrates how the new "science of sensibility" was actually at odds with the picture of a transparent human. Based on the research on irritability and pain, sensibility conceived the human body as an invisible network of sensations and feelings, and the aesthetic outcome of such a notion didn't invalidate these profoundly non-visual presuppositions. Rousseau's insistence on the perfect, mechanistic visibility of his own sensibility was therefore a highly oxymoronic gesture, signaling a tension both in the aesthetic system of this author, and in the culture of the Enlightenment at large.

The picture of the transparent human delivered by the narratives of Sterne and Rousseau, in different ways, is one that approximates its end. Proclaiming its aspiration to grasp, capture, and draw a model of the human being, this picture doesn't hold off the affront of sensibility and of the Vitalist, non-visual representation of the human. The mobilization of the image of the transparent heart in two of the most significant autobiographies of the 18th century signals a fundamental negotiation at play between concurrent philosophical and medical representations of the human being, with their repercussions on the literary imagination. The visual paradigm of the scientific rhetoric of the Enlightenment failed where the knowledge of the human was shaped as knowledge of a particular individual. The autobiographical task of rendering the life of the single individual posed an insurmountable challenge to the anthropological project of the Enlightenment, one that Rousseau thought could arise from his confessional endeavor; the transparent human became a chimera, and the only available knowledge was now hinging on invisible feelings, blinding emotions, and the burdensome flesh of the body.

CHAPTER 3

A HUMAN IN A GLASS BOTTLE:

GOETHE'S HOMUNCULUS AND ROMANTIC EMBODIMENT

A little man trapped in a bottle, endowed with wit and clairvoyance, eager to be freed from his glass cage and rejoice humankind becoming flesh. The tale of Homunculus told in Goethe's *Faust II* (1832) pieces together motives from folklore and fairytales with motives of artificial creation theorized in early modern alchemic texts, while at the same time establishing its own allegorical scheme in the structure of the tragedy of Faust.

Homunculus appears in the second part of the tragedy, in the Second Act, and accompanies Faust in his immersive travels in time and space to the classical Greece of myth. From the laboratory where he first appears to the Aegean Sea where he ultimately disappears, Homunculus has a brief life on the stage, but his tale constitutes a hallmark of the play, his function being that of leading Faust to the fulfillment of his own wishes and of concentrating in his own plot some of the essential threads of the tragedy as a whole.

Homunculus's existence is bound to the glass vessel that constitutes the artificial womb of its alchemic creation, which allows it a mode of existence of a unique kind: ingenious, shrewd, clairvoyant. The price this little fictional character has to pay for his powerful gift is his isolation in the glass of the retort, and more importantly his lack of a body thoroughly human, for which he is ready to sacrifice his existence in the bottle.

Homunculus represents a peculiar incarnation of a transparent human, first because his humanity is incomplete (both in the designation he receives, "Männlein," and in his self-perception), and second because his transparency has a medial status that is

distinct from the one shared by the different transparent humans analyzed in the present work. The transparency of Homunculus is a function of the bottle (a vial) that constitutes his medium to the world; a condition of his own embodiment, it bestows on Homunculus a transparency of both his body and his vision that associates him to the other transparent humans in the present research.[175]

In this chapter, I will follow the clues that make this little character a crucial figure in the cultural history of transparent humans, trying to detect the cultural negotiations entertained by this historical hybrid—part history of alchemy part folklore—with the cultural meanings performed by Goethe in *Faust II*. A key figure in the complex plot of the second part of the tragedy, Homunculus can only be understood within the frame of the dramatic and aesthetic dimensions of Goethe's work.

As for any figure in Goethe's work, Homunculus has stirred a vast number of interpretive attempts to define the dramatic function of this figure in the general design of the tragedy,[176] but in particular in relation to the character of Faust and that of Helena (Müller 1963; Mommsen 1992). Cultural historical readings of Homunculus have assigned it to its proper context, that of alchemy, which was greatly familiar to Goethe, and where Homunculus as such was first imagined (Gray 1952). Linked to this alchemic-historical interpretation is the strand of interpretations, descending from C.G. Jung's reading of *Faust*, and distilled in a talk he delivered in Zurich in the October of 1949, that reads Homunculus's tale in psychological, symbolic ways (Jung 1949; but also Kerényi

[175] We will however see, later in the chapter, how Paracelsus's description of the Homunculus assigns him also a transparency of first degree, that is, a transparency of his body; the implications of this kind of transparency, however, are different than the glass transparency conferred by the vial.

[176] I use the generic indication of "tragedy" employed by Goethe himself from now on, with the implication that Goethe was well aware of the irregular nature of his tragedy. In a letter to Zelter from October 31, 1831, he admitted: "Ich bin nicht zum tragischen Dichter geboren, da meine Natur conciliant ist; daher kann der rein-tragische Fall mich nicht interessiren [sic]." Goethe, SW [MA], 20.2, 1564. On Goethe and tragedy see Hilgers 2002, 223-4.

[1941] 1992; Gerber-Münch 2009; Sahlberg 1996). The high suggestiveness of the figure of Homunculus has inspired readings of this figure from the standpoint of the theory of evolution (Osten 2007), of human cloning (Campbell 2010) or, even more ambitiously, in light of models of Artificial Intelligence (MacLennan 2012).[177]

In this chapter, I will take into account a number of indications coming from a diverse spectrum of critical interests in order to eventually pinpoint the nature of Homunculus as a transparent human, that is, fulfilling that essential function of transparent humans that I have defined in the course of this work—the rethinking of the conditions of being human through the fictional experiment of replacing the human embodiment in flesh with a transparent body. Homunculus, by eventually embracing the limiting corporality of a human being against the instrumental, transparent nature of his artificial embodiment in glass, makes an exemplary choice in choosing flesh over spirit, at the cost of replacing one kind of limitation (in Goethe's own words, "Beschränkung") with another. His plot displays the stakes of this choice "in the making," that is, showing the conditions of a glass-embodied life and spiritual existence, their wondrous epistemic effects (a thoroughly transparent knowledge), the forces that work against them (fragility, enclosure, but also the restless longing for a body of flesh), and their final overcoming. A laboratory figure rooted in the alchemic tradition, Homunculus doubles its experimental function in Goethe's play by performing the master experiment of incorporation—the taking up of a body of flesh. While Goethe elaborates a subtle and complex transition

[177] The series goes on. As Drux has observed (Drux 2005, 95), the "Bedeutungsspektrum" of Homunculus in Faust II spans from the contemporary chemical discovery of synthesis of organic compounds to the parody of the contemporary literary scene, especially the idea of a Universal-Poesie always "im Werden" propounded by Friedrich Schlegel (but never, for Goethe, actualized beyond theoretical statements).The latter reading has been advanced in a thorough but contested study by Otto Höfler (1972).

from artificial life to natural life, he leaves the positive description of the new life of flesh of Homunculus untold; Homunculus will disappear from the stage a moment before having broken the glass vial against the waves of the Aegean Sea, his transformation being eventually announced as upcoming in the future tense. What matters most, then, in Homunculus's tale, is not so much the meaning of the completed process of embodiment in flesh, but that of the transition yearned all along his brief life on the stage. In that transition, in that liminality, Homunculus consumes its existence and purpose as a fictional experiment, as a transparent body.

§1. A creature of light: Homunculus enters the stage

WAGNER

Am Herde

Die Glöcke tönt, die fürchterliche,
Durchschauert die berußten Mauern.
Nicht länger kann das Ungewisse
Der ernstesten Erwartung dauern.
Schon hellen sich die Finsternisse;
Schon in der innersten Phiole
Erglüht es wie lebendige Kohle,
Ja, wie der herrlichste Karfunkel,
Verstrahlend Blitze durch das Dunkel.
Ein helles weißes Licht erscheint!
O daß ich's diesmal nicht verliere! –

WAGNER *(at the hearth)*

The terrifying bell reverberates
and sends a tremor through these soot-black walls.
The end has come of the uncertainties
attendant on my solemn hopes.
The shadows have begun to be less dark,
and in the inmost vial
something is glowing like a living ember
and, like a glorious carbuncle,
irradiates the darkness with red lightning flashes.
A clear, white light can now be seen!
If only, this time, I don't lose it! -

The appearance of Homunculus in Goethe's *Faust II* is described as an event of light occurring within the space of the glass vial, held in his hands by the alchemist, and Faust's former servant, Wagner, at work in his laboratory. Act II of *Faust II* opens in this space, a medieval-style laboratory with bulky and extravagant tools (the stage directions specify: "A medieval alchemist's chamber filled with cumbersome apparatus designed for various fantastic purposes"—"Laboratorium im Sinne des Mittelalters, weitläufige unbehüfliche Apparate zu phantastischen Zwecken"). Here, in front of the alchemist's furnace ("*am Herde*"), Wagner presents to the public the contents of the vial, in the verses just quoted above. The expressions "hellen sich die Finsternisse" ("The shadows have begun to be less dark"; 6823), "erglüht es wie lebendige Kohle" ("something is glowing like a living ember"; 6825), "Karfunkel" ("like a glorious carbuncle"; 6826), "verstrahlend Blitze durch das Dunkel" ("irradiates the darkness with red lightning

flashes"; 6827), "ein helles weißes Licht" ("A clear, white light can now be seen"; 6828), are all contributing to the definition of the semantic field of light; as numerous as insistent, they leave no doubt as to the powerful light effect of the event taking place in the vial, and generating the first *chiaroscuro* effect of Act II. After pondering the encouraging phenomena of light produced by his experiment, in the same first scene of the act, Wagner welcomes Mephistopheles inside the laboratory, and reveals to him the nature of the event taking place in the vial:

Ein herrlich Werk ist gleich zustand gebracht.	6833
[…]	
Es wird ein Mensch gemacht.	6835

Something tremendous is just about completed.	6833
[…]	
A human being's being made.	6835

Wagner announces that he is trying to create human life artificially, which he proceeds to explain to Mephistopheles as the act of providing humanity with a nobler origin ("höhern Ursprung"; 6847) than the one afforded by the biological standards of conception ("Behüte Gott! Wie sonst das Zeugen Mode war,/Erklären wir für eitel Possen"; "God forbid! Old-fashioned procreation is something we reject as folly"; 6838-6839). Once again, the birth of Homunculus is announced and prepared by luminous phenomena taking place in the dimness of the laboratory: "Es leuchtet! Seht!" ("It brightens! See!";

6848); "Es wird! Die Masse regt sich klarer!" ("The mass is clearer!"; 6855); "Es steigt, es blitzt, es häuft sich an" ("It rises: flashes, there's expansion"; 6865).

The fabrication of Homunculus is staged so as to convey the dramatic action of the laboratory experiment, a setting that openly and intentionally recalls that of alchemic work: the sparkles and fires of the chemical cookeries performed by the alchemist, shining through his glass equipment—a *topos* of alchemic iconography.[178] Alchemy is also conveyed, as far as the stark light effects of this scene are concerned, insofar as the contrast between light and darkness is a tenet of the symbology expounded by alchemic texts (see Gray 1952, 102), and the stages of the process leading to the obtaining of the Philosophers' Stone follow a chromatic spectrum that goes from black (*nigredo*), to a rainbow of colors (the so-called peacock's tail or *cauda pavonis*), to white (*albedo*), and finally red (*rubedo*) (Principe 2013, 124). The significance of this contrast could also be viewed in relation to Goethe's theory of colors in *Zur Farbenlehre* (1810), which is built on this same foundational opposition.

The dialectical semantics of the contrast between darkness and light that dominates the entire Act II, while serving the purpose of the *mise en scène* of alchemic experimentation, extends further to the *chiaroscuro* effects of the whole work, where Mephistopheles's presence is often signaled and accompanied by dimness and obscurity. For example, the conversation between Homunculus and Mephistopheles over the opportunity of carrying a still-sleeping Faust to the classical Greek Walpurgis Nacht, provides the occasion to display the dialectic of obscurity and luminosity enacted by the two figures: "Im Düstern bist du nur zu Hause" ("you only feel at home where gloom

[178] See Principe 2013, 86; in particular Plate 2. On the material importance of glass for alchemy, and how they are historically interrelated, see Beretta 2009.

prevails"; 6927)–Homunculus rebukes Mephistopheles; afterwards, Homunculus appoints himself to leading the way lending his own light: "Ich leuchte vor" ("I'll go ahead and light the way"; 6987). The following third scene of the Second Act, the "Klassische Walpurgis Nacht," is also punctuated by reminders of Homunculus's luminous nature, as, for example, when Mephistopheles suggests that they should meet again, after first each going their own way, at the blinking signal of Homunculus: "Laß deine Leuchte, Kleiner, tönend scheinen" ("our little friend must let his lamp shine bright and resonate"; 7067). Homunculus, at Mephistopheles's proposal, responds by reminding him that he can also signal through the sound of the glass vial: "So soll es blitzen, soll es klingen" ("This is the way it will flash and ring"; 7068). The stage indications accordingly specify: *das Glas dröhnt und leuchtet gewaltig—The vial resounds and emits a strong light.* The visual effects of light are here complemented by the auditory reminders of Homunculus's encasement in the glass vessel. The physical limitations of Homunculus, and his desire to break free, are sustained by these important synesthetic clues, which serve to conjure up a motive, for Homunculus, to pursue his quest for *Entstehung*, "generation" (see paragraph 5: *Der Knabe da wünscht weislich zu enstehen*). With a further contribution to building the field of light for Homunculus, Mephistopheles exclaims, once they meet again in the course of the Walpurgis Nacht: "Ein Licht, das gar bescheiden glüht/wie sich das alles fügen muß" ("an unpretentious light is moving. How nicely things work out"; 7826-7).

Homunculus's radiant nature, then, has not simply to do with the setting's characterization (the alchemist's laboratory) nor with the dramatic contrasts of the play (his opposition to the northern darkness of Mephistopheles). Homunculus's light appertains to its very nature, and is one with his talent, what Mephistopheles calls his

"Gabe" ("your talent"; 6902). Homunculus's talent (*Gabe*), which Mephistopheles propels him to show while they are still in the laboratory, consists in the ability to see through what is usually hidden; in the specific case, to read Faust's mind during his dream. In a passage of Eckermann's *Gespräche* dated December 16, 1829, Eckermann defines Homunculus as a being that can see "through the present": "As a being to whom the present is perfectly clear and transparent, the Homunculus sees into the soul of the sleeping Faust" (Eckermann 2011, 198).[179] While hovering over Faust and casting light on his sleeping body, as the stage directions indicate, Homunculus reveals the contents of Faust's dream: a mythological scene depicting Leda bathing right before her encounter and mating with the king of the swans-Zeus—in other words, the scene of the conception of Helena. The most interesting element in the scene, however, is that the scene itself is described in terms semantically contiguous with Homunculus's light: Leda dips her foot "into the bright transparence" ("durchsichtige Helle"; 6908); her body is metaphorically designated as a "living flame" ("Lebensflamme"; 6909), which she cools off in "the water's pliant crystal" ("Kristall der Welle"; 6910). It is as if Homunculus's vision were an extension of his own physical properties, as if his being made of light cast light onto the very images of his vision, and the transparency of his sight through the vial projected a transparent sheen onto what he saw. Joachim Müller has defined this process as one of medial identification: "In a manner of medial identification, homunculus pictures Faust's dream; to the transparent spiritual being himself is the interiority of Faust transparent" (Müller 1963, 17).[180] Homunculus's "Gabe," then, is not just clairvoyance, but a peculiar

[179] "Als ein Wesen, dem die Gegenwart durchaus klar und durchsichtig ist, sieht der Homunculus das Innere des schlafenden Faust […]" (Goethe, SW, XII, 364).
[180] "In einer Art medialer Identifizierung schildert homunculus Fausts Traum; dem selber transparenten Geistwesen ist Fausts Inneres transparent" (my translation).

osmotic continuity to the objects of his vision, a transformative nature blending his own attributes with those of the world around him. Mephistopheles calls him "Phantast," a word that alludes not just to Homunculus's inclination to fantasies and dreams, but to the transformative action of these clairvoyant visions: Homunculus makes things transparent by looking at them. His transparent embodiment is the condition of his transparent relation to the world, a goal shared by other fantasies of transparent bodies. More than the transparency of the human body as such, what is at stake is the possibility of establishing the epistemic conditions for a transparent vision of the world.

Once Homunculus and Mephistopheles with the sleeping Faust as their baggage have taken off to Greece to attend the "Klassische Walpurgis Nacht," Mephistopheles, according to the stage indications, turns to the audience with a revelation:

Am Ende hängen wir doch ab
Von Kreaturen, die wir machten. 7004

The fact is, we remain dependent on
the creatures we ourselves have made. 7004

Mephistopheles is revealing that his role in the fabrication of Homunculus was more than accidental. The dependency of Homunculus from Mephistopheles's intervention is confirmed in the same conversation between Eckermann and Goethe quoted above (December 16, 1829). First, Goethe reportedly explains to Eckermann the similar nature of Homunculus and Mephistopheles, the latter showing a "disadvantage" in terms of

spiritual clarity (Eckermann 2011, 198).[181] This similarity is further elaborated by Goethe as a shared demonic nature, unimpeded by the obfuscations and limitations of human nature:

> for such spiritual beings as this Homunculus, not yet saddened [*verdüstert*] and limited [*beschränkt*] by a thorough assumption of humanity, were classed with the demons, and thus there is a sort of relationship between the two. (Eckermann 2011, 198)[182]

Goethe here allegedly provided a number of relevant considerations to understanding Homunculus's nature: a spiritual being ("geistiges Wesen"), belonging to the ranks of demons, whose main characteristic is to be not fully human and therefore not darkened (*verdüstert*) nor limited (*beschränkt*) by their humanity. In these few lines a possible explanation of Homunculus's transparent vision is provided, as precisely that ability granted by its incomplete humanity. Interestingly enough, this unimpeded vision is here also defined as lack of limitation, whereas the play constantly provides Homunculus with reminders of his confinement in the glass cage.

More to the point of Mephistopheles's role in the creation of Homunculus, however, the passage from the conversation with Eckermann emphasizes their relation and affinity in belonging to the species of demons. Shortly afterwards, in the same conversation, Eckermann asks Goethe about the apparently subordinate role of Mephistopheles in the scene,[183] which alone would make it difficult for him to accept Mephistopheles as the creator of Homunculus: "yet I cannot help thinking that he has had a secret influence on the production of the Homunculus" (Eckermann 2011,

[181] "[I]n Nachteil […] an geistiger Klarheit," Goethe, SW, XII, 365.
[182] "Denn solche geistige Wesen, wie der Homunculus, die durch eine volkommene Menschenwerdung noch nicht *verdüstert* und *beschränkt* worden, zählte man zu den Dämonen, wodurch unter Beiden eine Art von Verwandtschaft existiert" (Goethe, SW, XII, 365) [my emphasis].
[183] Eckermann 2011, 198; "untergeordnete Stellung," SW, XII, 365.

198).[184] To this point, Goethe allegedly replied by considering the opportunity to make Mephistopheles's participation in the text unequivocal: "I have doubted whether I ought not to put some verses into the mouth of Mephistopheles as he goes to Wagner, and the Homunculus is still in a state of formation, so that his co-operation may be expressed and rendered plain to the reader (Eckermann 2011, 198).[185]

Homunculus would then appear to be both a Mephistophelic creation, and at the same time a dialectical, dramatic counterpart to Mephistopheles (the contrast light-darkness being one of its most prominent features). Mephistopheles's contribution to Homunculus's generation, in the drama, is possibly of a magical kind (he only needs to enter the laboratory to apparently make the "miracle" happen), whereas alchemical generation in itself is not magical, based as it is on the laws of nature. Contrary to Mephistopheles's intervention, Wagner has been at work on the process for some time with determination and conviction ("Es wird ein Mensch gemacht"; "A human being's being made"; 6835), and plausibly considers the result his own achievement.

The creation of artificial life in the alchemist's laboratory was not just theorized, but also illustrated by means of concrete recipes in early modern alchemical texts. These texts were known to Goethe, who had familiarity with the corpus of early modern alchemy and its symbology, and for whom alchemy played an important role in the construction of his scientific and aesthetic system. The fact that in 1828 the chemist Friedrich Böhler had synthetized the organic compound urea starting from inorganic

[184] "Allein ich kann mich des Gedankes nicht erwehren, daß er zur Entstehung des Homunculus heimlich gewirkt hat" (SW, XII, 365).
[185] "[I]ch habe schon gedacht, ob ich nicht dem Mephistopheles, wie er zu Wagner geht und der Homunculus im Werden ist, einige Verse in den Mund legen soll, wodurch seine Mitwirkung ausgesprochen und dem Leser deutlich würde" (SW, XII, 365). On further, more radical aspects of Mephistopheles's possible intervention in the generation of Homunculus, see Snow 1980, 71ff.. On some further clues on Homunculus as mephistophelic creature also Arendt 2006, especially 268.

substances, and that Goethe certainly had knowledge of this event through his chemist acquaintances, may indicate a further motive for the beginnings of the plot of Homunculus.[186]

§2. Goethe and alchemy

In his comprehensive study on *Goethe and Alchemy* (1952), Ronald Gray has documented Goethe's early interest and involvement with alchemical texts and laboratory experiments. Goethe's alchemical readings can be partly tracked and partly inferred, but they constitute a wide corpus that includes key figures of early modern alchemy such as Paracelsus, van Helmont, and Starkey. Gray's work, even if burdened by the long-lasting historiographical fallacy that has often conflated alchemy with its later occultist reinterpretations, has the benefit of proving alchemy's persistent role in Goethe's system, alongside other kinds of scientific and aesthetic inquiries pursued by Goethe over his lifetime.[187]

In Goethe's time, alchemy was undergoing the first modern "revival" following its relative decline during the time of the Enlightenment: in Germany, the decades of the 1770s and 80s saw a peak in the publication of alchemical texts (Principe 2013, 90-91). In Goethe's own account in *Dichtung und Wahrheit*, he had spent the winter of 1768 reading alchemical texts together with a Pietist friend of his mother, Fräulein von

[186] See Arendt 2006, 261-262.

[187] In light of Lawrence Principe's recent historiographical reassessment of alchemy (Principe 2013), one can see how Gray's study incorrectly projects on early modern alchemy (or *chymystry*, as Principe suggests to call it in order to overcome the inaccurate disjoining of chemistry and alchemy in the early modern period; see also Newman, Principe 1999) late 19th-century's revivals of alchemy inspired by distinct occultist fashions. Gray, for example, often confuses magic with alchemy, or attributes to alchemy the same quality of occultist inquiries, not to mention that he does not always credit with a precise meaning the secretive recipes of alchemists, which Principe on the contrary has shown can be reproduced in modern chemical laboratories with due accuracy and intuition (see Principe 2013, 137ff.).

Klettenberg—an experience that sparked, in Goethe's own words, his "secret love" for alchemy, lasting at least until 1770.[188] Goethe recounts how he and von Klettenberg read, among others, Theophrastus Paracelsus, Basilius Valentinus, Helmont, Starkey, and he mentions the great influence exerted on him by the hermetical text *Aurea Catena Homeri* (by Anton Josef Kirchweger, 1723), which portrayed Nature as thoroughly interwoven: "in which nature, even though perhaps in a phantastical manner, is represented in a beautiful interlacing" (Goethe, SW, XIV, 373).[189] Together with Fräulein von Klettenberg, Goethe started setting up his own alchemic experiments, and engaged especially in the production of "Kieselsaft" (Liquor Silicum) (SW, XIV, 374-375).

Goethe's subsequent interests in the natural world veered in the years around 1775 towards the study of Linnaeus's classifications and a first-hand engagement in anatomy. The latter occupied Goethe intensely, leading him to discover the inter-maxillary bone in the human jaw in 1784.[190] Meanwhile, Goethe's interest in alchemical texts never disappeared: in 1785, he was studying a piece of alchemical experimentation, the *Arbor Martis* (or *Arbor Dianae*) of the iatro-chemist Louis Lemery (1677-1743), a phenomenon whereby certain metal compounds transform into plant-like shapes, and that for Lemery proved the sympathy between minerals and plants.[191] In 1786, Goethe read the 1616

---

[188] See Gray 1952, 54ff..

[189] "[W]odurch die Natur, wenn auch vielleicht auf phantastische Weise, in einer schönen Verknüpfung dargestellt wird."

[190] This "discovery" (which was actually a re-discovery, since Vesalius had already known it two centuries before) had the function of reintegrating the alleged exceptional anatomy of humans, supposedly devoid of this bone, into that of the whole vertebrate animal world. Goethe's enthusiastic reaction to his own discovery, documented in his correspondence, consisted in the disclosure that "man was no longer a special creation from the hand of God, but one facet of a great whole, which might manifest itself in countless forms" (Gray 1952, 59).

[191] Lemery observed several kinds of crystallization that were plant-shaped. A distinct, crucial topic in alchemical tradition, the so-called "philosophers' tree" was supposedly part of the process to obtain the philosophers' stone for those alchemists defined as "mercurialists." Lawrence Principe has experimentally demonstrated the process that leads to the actual chemical reaction leading to a perfectly tree-shaped substance following the instructions provided by Starkey (Principe 2013, 162-166).

book *Die Chymische Hochzeit des Christian Rosencreutz*,[192] which contains a well of symbologies of mixed alchemical and hermetical origin, the importance of which for the Homunculus will become clear in the next paragraph.

As Gray aptly argues, the common denominator of Goethe's alchemical interests and his 'other' scientific inquiries (where this split should be greatly softened) was to detect "some all-embracing law" (Gray 1952, 61) that could grant nature a universal unity. Goethe's botanical studies, for example, which began to take shape around 1787, resulting in his 1790 *Versuch, die Metamorphose der Pflanzen zu erklären*, headed in the same direction. Though absent from the published work, the key term of his quest in botanical work had been the "Urpflanze," or "original plant," which attests to the eagerness to isolate the most fundamental unit of the vegetable kingdom as key to grasping the unity of nature.[193]

Alchemy provided Goethe with an historical record for attempting to reduce nature to its basic elements, which recombined would have yielded the possibility of obtaining substances and transmuting them constantly. The symbology employed in alchemical texts as protective secrecy offered Goethe a figurative language deeply embedded in the actual, concrete experimental activity of understanding nature as a unified system to be decoded.

[192] Goethe wrote about this book to Charlotte von Stein (28 June, 1786). See also Gray 1952, 64; 164.
[193] See Gray 1952, 71ff..

§3. Making a Homunculus

The history of alchemy has assessed the Western origins of the Homunculus in the recipe provided by the German iatrochemist Theophrastus Bombastus von Hohenheim, known as Paracelsus (1493/94-1541), in his vernacular work *De Natura Rerum* (1537).[194] In a chapter significantly dedicated to the generation of natural things ("Liber primus de generationibus rerum naturalium"), Paracelsus writes:

> We must by no means forget the generation of homunculi. For there is something to it, although it has been kept in great secrecy and kept hidden up to now, and there was not a little doubt and question among the old philosophers, whether it even be possible to nature and art that a man can be born outside the female body and [without] a natural mother, but that is indeed possible. But how this should happen and proceed—its process is thus—that the sperm of a man be putrefied by itself in a sealed cucurbit for forty days with the highest degree of putrefaction in a horse's womb, or at least so long that it comes to life and moves itself, and stirs, which is easily observed. After this time, it will look somewhat like a man, but transparent {durchsichtig}, without a body {o[h]n[e] ein corpus}. If, after this, it be fed wisely with the Arcanum of human blood, and be nourished for up to forty weeks, and be kept in the even heat of the horse's womb, a living human child grows therefrom, with all its members like another child, which is born of a woman, but much smaller. (Paracelsus 1996, 317)[195]

The somehow-gruesome operations described above should appear quite reasonable if seen from the perspective of the early modern view of life as always beginning with putrefaction:

> The possibility of producing life in the laboratory did not appear problematic for medieval and early modern thinkers. The spontaneous origin of life from nonliving matter was considered a matter of course—a rotting bull carcass produced bees, and putrefying mud generated worms and insects. (Principe 2013, 132)

Likewise, alchemical texts, and *De natura rerum* by Paracelsus ostensibly, dealt extensively with the process of *palingenesis*, like for example the rebirth of birds from

[194] First published in 1572 by the physician Adam von Bodenstein; see Newman 1999, 326.
[195] Translation into English by Newman 1999, 328-329. Original German expressions in the graph brackets added by me.

their own ashes if mixed with rotting substances and heated in a *venter equinus* (a carcass) (see Newman 1999, 327). The belief, which would last long afterwards, that the male semen was a miniaturized human needing the passive female womb to mature (the so-called theory of preformation), explains the plausibility of such an imaginary process (Amartin-Serin 1996, 32). Nonetheless, Paracelsus defines the possibility of this artificial creation a "mystery" ("eine der höchsten und größesten heimlichkeiten"; "geheimnis") and a miracle ("mirakel") operated by God.[196]

Paracelsus's sources, according to Newman, go back not so much to the somehow-similar medieval legends of the Jewish golem created from soil, but to the Arabic literature on the creation of artificial animals, and in particular to the pseudo-platonic "Book of Laws," also known in the Latin Middle Ages as *Liber Vaccae*, which provides an even more gruesome recipe for the fabrication of an artificial human through successive mixtures of organic matter and mineral powders, the aid of some precious stones, and even more crucially, the womb of a cow (Newman 1999, 330-333).[197]

Beyond the bizarre instructions provided, the creature thereby generated was described as an incredibly useful instrument of knowledge and clairvoyance. Indeed, in Paracelsus's text, these Homunculi are characterized as special kinds of creatures. According to Paracelsus, the Homunculi themselves can yield (though it is not clearly stated through what sort of process) all kinds of wondrous people, "wunderleute," including dwarfs, nymphs, giants, and other creatures of the forest ("sylvestres") (Paracelsus 1996, 317). Like all these other creatures, the Homunculi can be used as instruments and tools ("werkzeug und instrument"), because they know all kinds of secret

[196] I am maintaining the original script of the facsimile edition of Paracelsus 1996.
[197] On Paracelsus's sources, see also Mesh-hadi 1979, 185.

things unknowable to ordinary humans ("alle heimlichen und verborgne ding wissen, die allen menschen sonst nicht möglich sein zuwissen"; Paracelsus 1996, 318). The author then proceeds to explain these exceptional qualities suggesting the following theory: because they came to life through art, their bodies and their flesh are a product of art, hence they cannot learn from anybody, but can only teach. Finally, the author concludes, their powers and actions ("Kräften und Taten"; Paracelsus 1996, 319), make them comparable not so much with humans, but with spirits ("Geistern"; 319).

The Paracelsian alchemic recipe and description of the Homunculus identifies in it a distinct set of capabilities that descend from its being artificial, a product of art. Homunculi in Paracelsus are described as little transparent bodies, or better, as transparent entities without a body. Shortly afterwards in the text, however, homunculi are described as endowed with flesh and blood, something which is at odds with the previously affirmed lack of body. More than just a contradiction, this ambiguity may hint at the extraordinary and complex kind of embodiment of the Homunculus. Homunculi carry the imprint of a human shape (as we will see in a moment, the "mold"), and yet, they are *Geister* rather than *Menschen*. They do share this nature with other wondrous creatures, and like those—and unlike humans—they know secrets inaccessible to human beings. Homunculus is however made by humans, dependent on humans, and his exceptional nature is, ultimately, instrumental to humans. This latter element plays an essential role in understanding the dramatic function of Homunculus in *Faust II*, where, as seen earlier, Homunculus is used by Mephistopheles to read Faust's dream, and to lead the way to his most suitable place: the classical Walpurgis Nacht ("Bringt ihn zu seinem Elemente!"; "Transport him to his proper element!"—exclaims Homunculus in 6943).

As far as Goethe's sources are concerned, Goethe hadn't read the text by Paracelsus on the generation of homunculi, but knew about the "recipe" and the general speculation about the fabrication of homunculi through other texts, for example the polemical, anti-Paracelsian book from 1666 by Johannes Prätorius, "Anthropodemus Plutonicus" (Müller 1963, 16).

As mentioned earlier, however, Goethe had read, in 1786, the 1616 German book *Chymycal Wedding of Christian Rosencreutz* by the Lutheran theologian Johann Valentin Andreae, which might constitute a more probable source for the Homunculus of *Faust II*.

The allegorical tale of the *Chymycal Wedding*, structured over seven days, hints at the process of metallic transmutation through a language and a symbology that are highly distinctive of traditional alchemic imagery. The transmutation of metals is here represented through the image of a wedding, which was the habitual way to encode the alchemic work of mixing metals and letting them react (Newman 1999, 321). For example, the text of the *Rosarium Philosophorum*, an illustrated florilegium from the 13th century, published accompanied by woodcut images in 1550 (Principe 2013, 74-75), explicitly aimed at illustrating the process of obtaining the philosophers' stone (that is, the agent of metallic transmutation), but still employed a highly coded representation of the steps necessary to the task, starting with the disguise of the marriage between Sol (Sun) and Luna (Moon), that is, the mixture of mercury and sulfur:

> Sexual intercourse and reproduction are common elements of alchemical imagination, both textual and graphic. But given that alchemy is fundamentally a generative and productive practice […], comparisons to procreation are actually appropriate. […] The idea or sight of two substances reacting and combining to form a third easily suggests the image of a marital couple to an imaginative mind practiced in drawing metaphors. (Principe 2013, 75; 77)

In the *Chymical Wedding*, the allegorical wedding—followed by the spouses' decapitation, and a subsequent complex series of transformations involving blood, eggs, and ashes of birds—alludes to the alchemic operations of transmutation. In the text however, this process does not end with the production of the philosophers' stone, as one would expect from such a book, but proceeds to further operations whereby the humid ashes of the bird previously fed by the beheaded spouses' blood are put into molds that, once heated, yield a couple of homunculi.[198] These additional operations have posed a problem of interpretation for historians and readers. William Newman suggests that the production of these Homunculi is "an allegory of spiritual regeneration with the aim of charming the reader rather than teaching him to be Frankenstein" (Newman 1999, 322).

Even though Andrae's source seems to have been Paracelsus (Newman 199, 322), there are significant differences in the way the Homunculi are generated and how they look in Paracelsus's passage and the *Chymical Wedding*:

> We finally opened our little molds, and there were two beautiful, bright and almost transparent little figures, as never man's eye saw before, a male and a female, each of them only four inches long. And what surprised me most was that they were not hard, but white and fleshy, like any other human. But they had no life, so that I actually believe that the image of Venus was also made in such manner. (Andreae 1978, 104)[199]

After removing them from the molds, the two radiant and transparent figures, who look as fleshy as actual humans, are not yet alive. After being fed with drops of the blood of the bird, these figures grow in size, maintaining a perfect shape: "If only painters had

[198] Though not named as such in the text, philological research has identified annotated manuscripts that bear this definition on the margins (see Newman 1999, 321; Gray 1952, 208).
[199] "Endlich öffneten wir die Förmlein; da waren es zwei schöne, helle und beinahe durchscheinende Gestalten, dergleichen Menschenaugen niemals gesehn haben, ein Knäblein und ein Mägdlein, jedes nur vier Zoll lang. Und was mich am höchsten in Staunen vesrsetzte, war, daß sie nirgends hart, sondern weiß und fleischern waren wie sonst irgend ein Mensch. Leben aber hatten sie keines, so daß ich bestimmt glaube, der Frau Venus Bild sei von gleicher Art gewesen." My translation.

been there, they would have been ashamed of their own art in front of these creations" (Andreae 1978, 105).[200] The two figures grow further until reaching the size of actual humans, with a superlative degree of beauty: "the picture of Venus was nothing, compared to them" (Andreae 1978, 105).[201] The tale continues, ultimately showing the rebirth of the two figures by means of operations involving fire (which is said to transfer a soul into the bodies), and eventually reappearing as the Queen and King of the beginning, though somehow transformed.

It seems preposterous, when reading the whole text of the *Chymical Wedding* with the awareness that it is a coded description of alchemical operations, to attribute further symbolic meanings to the tale of the fabrication of these two figures: the account of their birth and transformation is in fact perfectly consistent with the secretive disguise that all other alchemical operations have undergone in the text. This text, however, in the long history of its reception, has been widely read beyond its alchemical instructions, feeding a rich interpretive tradition that has looked in it for both enigmas and their solution (suffice it to think of Rudolf Steiner's interpretation of Christian Rosenkreuz as "Geistsucher," and the sixth day of the book, with the creation of the Homunculi, read as the time when the protagonist finds out the way to convert the dead powers of knowledge into supernatural intuition).[202] While I would advocate that the homunculi sequence in the *Chymical Wedding* is a prosecution of the chymical processes illustrated throughout the text, and not a change in allegorical register and purpose (as Newman seems on the

[200] "Mit Fug hätten alle Maler zugegen sein sollen, da hätten sie sich ihrer Kunst angesichts dieser Geschöpfe der Natur schämen können."
[201] "[D]as geschilderte Bild der Venus war nichts, verglichen mit ihnen."
[202] Steiner, in Andreae 1978, 156ff.: "In den Erlebnissen des sechsten Tages werden in Einzelnen die Imaginationen beschrieben, welche in der Seele des Christian Rosenkreuz anschaulich machen, wie sich die toten Erkenntniskräfte, die der Organismus auf dem gewöhnlichen Wege seines Lebenslaufes ausbildet, in die übersinnlich anschauenden umwandeln."

contrary to suggest), this is not the place to discuss, or even less to assess, the certainly arduous meaning of the homunculi passage in terms of alchemic operations.[203] What is relevant for the present purpose, however, is that this text, with which Goethe was well acquainted, provides a description of the appearance and nature of the Homunculi that, in part indebted to Paracelsus and in part distinct from it, is relevant to the historical, textual formation of the character of Homunculus in *Faust II*.

The homunculi of the *Chymical Wedding* are transparent and yet made of flesh; in Paracelsus, as noted already, they were transparent, without a body, yet in flesh and blood similar to humans—though in their essential nature, they were *Geister*. All these apparently ambiguous and contradictory characterizations indicate one thing clearly: the liminal nature of Homunculus, a product of artifice and of nature at the same time, where the art of the alchemist (the *Kunst* of Paracelsus) acts as mediator of Nature. One of the tenets of alchemy, as we can read for example in the beginning of the *Rosarium Philosophorum*, and in contrast with a later interpretive tradition of alchemy, was that it was a practice that dealt only with nature: "As much as its names are different, yet the substance is always only one, and nothing can be introduced in nature that does not already belong to it" (Rosarium 1992, I, 5).[204] As the historian of science Marco Beretta has noted with regard to the boundaries between nature and artifice in the field of alchemy, "if one accepted that substances could be transmuted from one thing to another,

[203] My reading therefore follows up to a certain point the claim, by some historians, of a fundamental ambivalence between the outcome of alchemical experimentation in the philosophers' stone or in the homunculus. For example, Gray 1952, 210: "it is quite impossible to determine here whether the Stone or the homunculus is intended […] there seems to be no question of keeping the two symbols apart; they slide into one another with every reference." Gray is radical in concluding that "the homunculus was, then, simply one more of the innumerable synonyms for the Stone," even though clearly some alchemists believed in the actual possibility of generating life, Paracelsus first of all (211).

[204] "Quantunque enim diversificetur eius nomina: tamen semper una sola res est, et de eadem re, non enim introducitur in naturam, quod in ea non est de sua natura." My translation.

then the sharp distinction between natural and manufactured products could easily be blurred" (Beretta 2009, 840). Homunculus descends from natural processes triggered by an artificial intervention (that is, not spontaneous), and is therefore both natural and artificial, but not in itself super-natural. This perfectly double descent grants Homunculus natural perfection as well as artificial exquisiteness. The description of the homunculi in the *Chymical Wedding* insists on the attractive nature of this product of art and nature, which defies the beauty of the most accomplished works of art (epitomized by Venus's "Bild"). More than just double, Homunculus's nature is transitional in the very sources that provide us a description of it for the first time. Both in Paracelsus and Andreae, though in different ways, Homunculi are creatures generated at the intersection of nature and art; they are embodied yet spiritual beings; they are superior to humans in their power of knowledge yet subdued to them. The function of Homunculus in *Faust II* is fully consistent with the description of the alchemical sources as far as the liminal nature of Homunculus goes. This nature, in *Faust II*, is dramatized, given a narrative dimension deployed in the very actions of the character. For Joachim Müller, the dramatic function of Homunculus is in fact essentially determined by the tension between embodiment and the absence of a body (Müller 1963, 17).[205]

Homunculus's alchemical characterization in *Faust II* is further developed and expanded in a tale that is not just of liminality, but of transformation and metamorphosis, which are key notions sustaining the general system of Goethe's aesthetic inquiry.

[205] "Die dramatische Funktion des Glaswesens resultiert geradezu aus der Spannung zwischen Körperlosigkeit und Verkörperlichung."

§4. The spirit in the bottle

Before turning to the structural elements of the Homunculus's plot in *Faust II*, a short digression into what I have defined, at the beginning of this chapter, the folkloric element of Homunculus's tale might provide an interesting complement to the alchemic genealogy of the figure, and, in light of the next paragraph, to the mythological dimension deployed in *Faust II*.

As Katharina Mommsen showed in her 1960 study on *Goethe and The 1001 Nights* (Mommsen 1981), and repeated in her essay on *Faust II* (Mommsen 1992), in the years 1824-1825 Goethe received the volumes of the *The 1001 Nights* as they were being published; in 1825 he was starting to work on the second part of *Faust*. For Mommsen, the composition of great sections of *Faust II* heavily depends on the schemes provided by the oriental fairytales, especially with regard to Faust's quest for Helena. One important element of the fairytale is, for example, the presence of helpers in the quest (Mommsen 1992, 142). Especially in the case of Homunculus's parallel quest, one can identify the counselors ("große Ratgeber"; 144) that punctuate his journey: Thales-Nereus-Proteheus-Galathea. In a letter to Sulpiz Boisserée from September 8, 1831, Goethe explicitly invoked the genre of the fairy tale as a reference to *Faust II*, writing that *Faust II* was a fairytale of interiority: "ein inneres Märchen."[206]

Even if it is not possible to reconstruct Goethe's knowledge of the Grimms' edition of fairytales, it should be noted that the 99th fairytale of the brothers' collection (1812-1815) is entitled *Der Geist im Glas*, and tells the story of a poor boy's fortunate encounter with a spirit trapped in a bottle who ends up bringing him wealth. Fairytales often present the figure of a spirit trapped in a bottle, where the spirit in question has

[206] See Arendt 2006, 267.

magical powers that potentially grant wealth and happiness, but also ruin for their retrievers (it is the case of the Grimms' tale, where the spirit's first outing is a death threat to the person responsible for opening the cork).[207] The figure of Homunculus in *Faust II* carries some of the properties of a fairytale character insofar as he is not just helped, as Mommsen pertinently points out, but is himself a helper-figure (as we have seen already in the first scene where he appears). The instrumental nature of Homunculus that alchemy already assigned him blends here with the fairytale connotations of the helpful spirit in the bottle.

One further tale of trapped spirits is E.T.A. Hoffmann's *Der Goldne Topf* (1814), a phantastic short story staging the mysterious misadventures of the young student Anselmus in Dresden. In the ninth chapter of the story, Anselmus finds himself trapped in a glass bottle, where he will stay for one more chapter, inside the alchemic laboratory of Lindhorst. This is the description of his imprisonment in the glass cage:

> You are surrounded by brilliant splendour; everything around you appears illuminated and imbued with the hues of a beaming rainbow: all that you see quivers and shimmers and hums in the magic sheen; you swim, devoid of motion and power in a firmly congealed ether which so presses your limbs together that your mind gives orders in vain to your dead body. The mountainous burden lies upon you with more and more weight, and your every breath consumes more and more of the modicum of air which still drifts in the narrow space around you; your pulse throbs wildly; and cut through with anguish, every nerve tenses and trembles in this mortal agony.
> Gentle reader, take pity on Anselmus! This unspeakable torture gripped him in his prison of glass, but he knew only too well that even death could not save him, for did he not recover from the profound unconsciousness into which he had been thrown by excessive pain just as the morning sun brightly shone into the room, and didn't his martyrdom begin again? No limb could he move, but his thoughts

[207] Other possible sources are Friedrich de la Motte Fouqué, *Das Galgenmännlein*; Carl Wilhelm Salice Comtessa *Magister Röslein*, Stevenson's *The Bottle Imp*. (Arendt 2006, 267). One interesting case would be the novel *Le Diable Boiteux* (1707) by Alain-René Lesage, telling the story of the liberation of the devil Asmodeus from a glass bottle by the hand of the student Don Cleophas. As a thank you, the devil shows to the student the lives of the people in Madrid in their own homes as if there were no walls anymore. In other words, the spirit in the bottle is able to see (and let others see too) things transparently (see Schneider 2013, 95).

> bounced against the glass, and stunned him with their discordant vibrations. instead of the words which the spirit once spoke from within him, he now could hear only the muffled din of madness. (Hoffmann 1969, 76-77)[208]

Goethe had read Hoffmann's story in 1827; in an entry of his diary dated May 21, 1827, he writes dismissively about it: "Begun to read the Golden Cup. It didn't go down well. I curse the golden Serpentina."[209] That the short story didn't impress Goethe in its aesthetic results doesn't mean he was not aware of, and possibly struck by the description of Anselmus's glass incarceration. It is also obvious, however, that the conditions of the incarceration of the visionary Anselmus are entirely different from the birth *in vitro* of Homunculus, who has never known a different embodiment than that in the glass bottle. Crucially, in this regard, Homunculus's craving is not for releasing himself from the glass bottle in the first place, but to be generated, that is, "entstehen" (see next paragraph).

The folkloric dimension belonging to Homunculus's staging is relevant insofar as it emphasizes the instrumental nature of its artificial existence, as well as its exceptionality. Ready to read Faust's dream, to guide him to the Walpurgis Night, and to lead the way with his internal light, Homunculus will nonetheless choose to give up these quasi-magical attributes to pursue his transformation into a human. The fairytale characters of this figure enhance the enormity of his wish to become flesh.

---

[208] "Du bist von blendendem Glanze dicht umflossen, alle Gegenstände rings umher erscheinen dir von strahlenden Regenbogenfarben erleuchtet und umgeben – alles zittert und wankt und dröhnt im Schimmer – du schwimmst regungs- und bewegungslos wie in einem festgefrornen Äther, der dich einpreßt, so daß der Geist vergebens dem toten Körper gebietet. Immer gewichtiger und gewichtiger drückt die zentnerschwere Last deine Brust – immer mehr und mehr zehrt jeder Atemzug die Lüftchen weg, die im engen Raum noch auf und niederwallten – deine Pulsadern schwellen auf, und von gräßlicher Angst durchschnitten zuckt jeder Nerv im Todeskampfe blutend. – Habe Mitleid, günstiger Leser, mit dem Studenten Anselmus, den diese namenlose Marter in seinem gläsernen Gefängnisse ergriff; aber er fühlte wohl, daß der Tod ihn nicht erlösen könne, denn erwachte er nicht aus der tiefen Ohnmacht, in die er im Übermaß seiner Qual versunken, als die Morgensonne in das Zimmer hell und freundlich hineinschien, und fing seine Marter nicht von neuem an? – Er konnte kein Glied regen, aber seine Gedanken schlugen an das Glas, ihn im mißtönenden Klange betäubend, und er vernahm statt der Worte, die der Geist sonst aus dem Innern gesprochen, nur das dumpfe Brausen des Wahnsinns" (Hoffmann 1966, 239-240).

[209] ""Den goldnen Becher angefangen zu lesen. Bekam mir schlecht; ich verwünschte die goldnen Schlängelein" (Goethe, SW, XXXVII, 478; my translation).

§5. "Der Knabe da wünscht weislich zu entstehn"

After leaving Wagner's laboratory, the trio composed by Faust, Mephistopheles, and Homunculus reaches the Greek landscape of Pharsalus, where a Walpurgis Nacht in classical style is about to unfold. The three Äeronauts (*Luftfahrer*), as they are called in the stage indications, decide to split up so that each can follow his own desires: Mephistopheles will follow some mythological figure to embark in gallantries and cynical commentaries; Faust will ask for directions to find Helena; and Homunculus will look around to find a way to "Entstehung," that is, to be born, or generated. When they rejoin, Homunculus explains he has been wandering impatiently, wanting to be born (or generated) by breaking the glass of the vial:

Ich schwebe so von Stell' zu Stelle 7830
Und möchte gern im besten Sinn enstehn,
Voll Ungeduld, mein Glas entzweizuschlagen;

Oh, I keep floating on from place to place 7830
and, eager to destroy this vial,
am hoping to achieve existence properly;

As he further explains to Mephistopheles, Homunculus is on the lookout for two philosophers (who will soon be revealed as Thales and Anaxagoras) who seem to know, from the words they exchange ("Natur, Natur!"; 7837), the essence of earthly existence ("das irdische Wesen"; "real existence"; 7839). Mephistopheles, with his habitual impertinence, rebukes Homunculus that the help of two philosophers can only turn out to

be misleading, because ultimately being born happens best by one's own hand: "Willst du enstehn, ensteh auf eigne Hand!" ("If you want to exist, do so on your own!"; 7848).

The exchange that follows between Thales and Anaxagoras (7851-7950) is a staging of the two pre-Socratic philosophies of nature: Thales's theory of the origin of life from water, and Anaxagoras's theory of the origin of life from volcanic activity. The two pre-Socratics echo closely a debate that was current at the beginning of the 19th century, that between so-called Vulcanists and so-called Neptunists, on the origins of earth, or horogenesis (see Müller 1963, 22).

Homunculus joins the two Greek philosophers, explaining he would like to be born: "Mir selbst gelüstet's, zu entstehn!" ("I myself desire to 'be'!"; 7858). Homunculus's desire to "entstehn" is repeated throughout the following fifth scene, *Felsbuchten des Ägäischen Meers* (*Rocky Coves in the Aegean Sea*), where he eventually fulfills his wish. Here, Thales brings Homunculus to the old sea god, Nereus, where he introduces Homunculus with the words: "Der Knabe da wünscht weislich zu entstehn"; "The boy here wants to exist, and wisely too" (8133). Again, after being redirected by Nereus to Proteus (8152-3), to ask him how to proceed ("wie man enstehen und sich verwandeln kann"; "How man exists, and changes, if he can"), they meet the metamorphic god, an obstinate shape-shifter, who finally approaches them, attracted by the light of Homunculus. At this sight, Proteus exclaims: "Was leuchtet so anmutig schön?" ("What shines with such grace and beauty?"; 8237); "Ein leuchtend Zwerglein! Niemals noch gesehn!" ("A shining dwarf! That, I've never seen!"; 8246). Thales at this point introduces Homunculus's case to Proteus once more:

Es fragt um Rat und möchte gern *entstehn*.

Er ist, wie ich von ihm vernommen,
Gar wundersam nur halb zur Welt gekommen.
Ihm fehlt es nicht an geistigen Eigenschaften,
Doch gar zu sehr am greiflich Tüchtighaften.
Bis jetzt gibt ihm das Glas allein Gewicht,
Doch wär'er gern zunächst verkörperlicht.

He wants advice on how he should *develop*.
He came, as I have heard him tell,
into this world quite strangely, only half complete.
He's well supplied with mental faculties,
but sorely lacks substantial attributes.
So far he weighs no more than does his vial,
but hopes that he may soon obtain a body.
[my emphasis]

Consistently repeated throughout the scene, the word "entstehen" ultimately marks the meaning of the whole scene and of the figure of Homunculus; possibly, the entire play. As Karl Kerényi wrote in 1941, "the adventure of Homunculus is the mystery of *Entstehen*" (Kerényi 1992, 189).[210] For Kerényi, Homunculus belongs to the wide field of mythology, a medieval recasting of the "mythologem" of the "Urkind" (Kerényi 1992, 187). By associating Homunculus to the fixed repertoire of mythical structures, Kerényi can identify the basic functions of the figure of Homunculus in relation to the figure of the "Urkind":

[210] "Homunculus' Abenteuer ist das Mysterium des Entstehens."

> How that primordial child is suspended between being and non-being ("you exist before you ought to"). How that child appears to be a boy ("He wants advice on how he should develop"), yet is hermaphroditic: a cosmological mythologem that embraces everything—the All—can originate from him. […] The situation of the homunculus is essentially the same as that of Pratolaos (from his name, the primordial man) as we find on the already mentioned Theban vase fragment mentioned. (Kerény 1992, 187)[211]

The mythical function of the Urkind is located in the liminal space between existence and nonexistence (the same observed in Paracelsus's and Andreae's alchemical sources); a second feature of this mythological function is hermaphroditism, or its hybrid sexual characterization. Hermaphroditism occupies a special place in alchemical symbologies, where the mixture of two substances (such as mercury and sulphur in the *Rosarium Philosophorum*) is said to yield a third substance, which is described (and represented) as both male and female (Principe 2003, 78-79). A third function of the Urkind identified by Kerényi is that of *Entstehung*: a sort of permanent stage of not being yet born. To illustrate this stage, Kerényi refers to a fragment of a Hellenistic Theban vase representing a group of figures including a half-born child (Pratolaos), or original human (Ur-mensch). Unlike this figure, however, who owns its birth, in Kerényi's interpretation, to Mitos (semen) and Krateia (strength), Homunculus generates himself (Kerényi 1992, 188).[212] In light of this indication, Mephistopheles's advice that one is best born by oneself resonates as a further proof that Homunculus is indeed, and paradoxically, a Mephistophelic creature.

---

[211] "Wie jenes Urkind schwebt er zwischen Nichtsein und Dasein ("Eh' du sein solltest, bist du schon!"). Wie jenes scheint er ein Knabe zu sein ("Der Knabe da wünscht weislich zu enstehen") und ist doch hermaphroditisch: alles in kosmogonischen Mythologemen: das All – kann aus ihm enstehen […]. Homunculus' wesenmäßige Situation ist dieselbe, wie diejenige des Pratolaos – seinem Namen nach: des Urmenschen auf der […] thebanischen Vasenscherbe."

[212] "[S]ich selbst erzeugt."

Given the thoroughly mythological setting of the Aegean Sea scene, Kerényi's reading certainly touches on a relevant aspect of the figure of Homunculus: his largely "mythical" nature. Of a different "mythological" genealogy is Jung's reading, some years later, of Faust and alchemy: in both narratives he retrieves a topography of the collective unconscious, endowed with a therapeutic function.[213] The "Entstehung" of Homunculus has an even broader spectrum of meanings within the overall architecture of figures and plots of *Faust II*, as we are going to see.

§6. The architecture of meanings in *Faust II*

It is Proteus who eventually indicates the solution to Homunculus's problem: if he wants to "entstehen," he should start ("anbeginnen"; 8260) in the sea:

Da fängt man erst im Kleinen an 8261
Und freut sich, Kleinste zu verschlingen,
Man wächst so nach und nach heran
Und bildet sich zu höherem Vollbringen.

That's where you start on a small scale, 8261
glad to ingest the smallest creatures;
little by little you'll increase in size
and put yourself in shape for loftier achievements.

[213] "Therapeutische Bedeutung des […] kollektiven Unbewußten" (Jung 1949, 29); in the same text, Jung provides a minimal/maximal definition of the collective unconscious: "Das Unbewußte weiß eben vieles, es weiß vielleicht alles" (35-36).

Proteus is suggesting a gradual metamorphic process that would be initiated by rejoicing the sea element. Thales elaborates on this upcoming process by telling Homunculus:

Gib nach dem löblichen Verlangen,
Von vorn die Schöpfung anzufangen!
Zu raschem Wirken sei bereit!
Da regst du Dich nach ewigen Normen,
Durch tausend, abertausend Formen,
Und bis zum Menschen hast du Zeit.

Accede to this commendable request
and start your life at life's beginning!
And be prepared for rapid changes,
for you'll evolve according to eternal norms
changing your shape uncounted times,
with lots of time before you must be human.

"Entstehen," for Homunculus, means transforming into thousands of shapes, before reaching that of the human. Then, his transformation would be complete: Proteus warns him, after Homunculus has climbed on the god's dolphin-back, to stop his metamorphosis cycle once he reaches his human shape. The implications of this ending-point to Homunculus's transformation will become clear in the next paragraph:

Nur strebe nicht nach höheren Orden:
Denn bist du erst ein Mensch geworden,
Dann ist es völlig aus mit dir.

[j]ust don't aspire to the higher classes,
for once you have become a human being
you've reached the end of everything.

The procession of sea gods leads to Galathea's appearance on her shell couch. Galathea appears in her splendor, her throne "shines" ("glänzt"; 8452), she is a "beacon" of light ("leuchtet"; 8454), and "gleams bright and clear" ("schimmert's hell und klar"; 8456). As at the beginning of Homunculus's creation in the laboratory, where his luminous appearance casts its light onto the objects of his vision, here his light is cast on the waters in which his transformation will take place:

HOMUNCULUS

In dieser holden Feuchte
Was ich auch hier beleuchte,
Ist alles reizend schön.

PROTEUS

In dieser Lebensfeuchte
Erglänzt erst deine Leuchte
Mit herrlichem Getön.

HOMUNCULUS

All that my lamp illuminates
amid these fostering waters
has grace and beauty.

PROTEUS

Amid these living waters
your lamp, now bright at last,
resounds with a glorious tone.

Homunculus's light, his flame, is seen from afar by Nereus (8468). Thales, then, explains to the old sea god:

Homunculus ist es, von Proteus verführt…
Es sind die Symptome des herrischen Sehnens,
Mir ahnet das Ächzen beängsteten Dröhnens;
Er wird sich zerschellen am glänzenden Thron;
Jetzt flammt es, nun blitzt es, ergießt sich schon.

That is Homunculus, whom Proteus has taken.
Those are the symptoms of passion's imperative-
I almost can hear the loud groans of its travails.
He'll shatter his vial on her glittering throne-
there's the flame, there the flash, and already it empties!

With this last spectacular light effect, Homunculus disappears from our sight and from the play, leaving behind a trail of light for the Sirens to behold: "Welch feueriges Wunder verklärt uns die Wellen" ("What miraculous fire transfigures our waves"; 8474). His end, accompanied by flames and flashes, mirrors his beginnings; the breaking of the glass, however, is only announced in the future tense ("er wird sich zerschellen"; "He'll shatter his vial on her glittering throne"; 8472), but not staged.

As Proteus, the god of metamorphosis, foretells, Homunculus's *Entstehung* in water will be carried out through a process of metamorphosis, or *Verwandlung*. The *Entstehung* of Homunculus cannot in fact be isolated from similar concepts that sustain the architecture of meanings of the entire *Faust II*. This architecture consists in a structure of symmetries and oppositions that relates plots and figures to each other. Homunculus's desire to be born is symmetrical to Faust's "rebirth" in the Greek classical scenario of the tragedy and to Helena's "rebirth" in Faust's quest and imagination. As Dorothea Hölscher-Lohmeyer has put it, the overall theme of *Faust II* is that of becoming: "'Werden' ist das Thema" (Hölscher-Lohmeyer 1992, 110). Faust's desire is to reactivate mythical past, bringing it (and, with it, Helena) back to life. Through this transformative process (that Lohmeyer defines "Verwandlung," 1992, 115),[214] Faust is born again as a new type of man in an organic relation to cosmic laws and the memory of classical culture. Lohmeyer defines Faust's process of becoming as a "Umbildung," or reshuffling, of the modern man into a cosmic subject. Parallel to this "Umbildung" of Faust is that of Homunculus, defined as the reshuffling of the Christian and Northern man from an exclusively spiritual principle of life into an animal subject of the cosmos (Hölscher-Lohmeyer 1992, 115).[215] This reading is based on the presupposition that in *Faust II* Goethe performed his own version of the renaissance of antiquity ("Wiedergeburt der Antike", 98): that is, of the classical revival that hit Western Europe "epidemically" (98) around the middle of the 18th century.

[214] Müller defines Entstehung as Verwandlung: "Entstehen wird nahezu identisch mit verwandeln" (Müller 1963, 25).
[215] "[D]ie Umbildung des christlich-nördlichen Menschen aus einem nur geistigen Lebensprinzip in ein animalisches Subjekt des Kosmos." My translation.

The theme that can be then variously defined as "Entstehung," "Verwandlung," or "Werden," echoed and repeated in the distinct plots and characters of the tragedy, provides a strong key to dramaturgical unity that critics have widely exploited in order to find in the tragedy signs of consistency of meaning. Speaking of symmetry allows us here to consider both the relations of the different figures according to parallel and analogical patterns, and those that seem to rely rather on contrast and opposition. An analogy between Homunculus and Faust is shown in the common "Streben," the eager desire that characterizes them both (see in particular Wellbery in Goethe 2014, xxii);[216] the analogy between Homunculus and Helena, on the other hand, is sustained by both their re-births—Jürgen Müller speaks of a contrapuntal relation between the two figures (Müller 1963, 20).[217] Müller points out the ambivalent analogical/contrastive relation between Homunculus and Faust, emphasizing how the drive to action in Homunculus, certainly Faustian, yields an ironical reversal in Homunculus—a paradoxical epilogue, where Homunculus simply wants to *entstehen* (Müller 1963, 28-29).[218]

---

[216] David Wellbery draws an analogy on the basis of the symmetry of the two scenes of the near suicide of Faust and the self-sacrifice of Homunculus: while "Faust's suicide fantasy imagines release from the clunky encumbrance of corporeality […] Homunculus' self-sacrifice moves in the opposite direction," that is: "Faust would negate the body through suicidal fiat; Homunculus merges with the source of living corporeal forms."

[217] "The rebirth of Helena and the embodiment of Homunculus complement each other contrapuntistically. The way of Faust towards Helena and the way of the formless little man towards form are analogical-contrary paths" ("Die Wiedergeburt der Helena und die Verkörperlichung des Homunculus ergänzen einander kontrapuntistisch. Fausts Weg zu Helena und des gestaltlosen Männleins Weg zur Gestalt sind analog-konträre Abläufe"; my translation).

[218] "[The figure of Homunculus] can be understood both as analogy and contrast to Faust. Its drive to action is clearly faustian, but insofar as it unfolds as drive to becoming [Entstehung], the laboratory product of Wagner's hard work and Mephisto's moods makes irony of himself and leads its aprioristic life of appearances ad absurdum. In this sense Homunculus is a corrected version of Faust" ("[Die Homunculus-Figur] läßt sich ebenso als Analogie wie als Kontrast zu Faust begreifen. Ihr Tätigkeitsdrang ist gewiß faustisch, aber indem dieser sich als Entstehungsdrang entfaltet, ironisiert sich das Retortenprodukt von Wagners Fleiß und Mephistos Laune selber und führt seine apriorische Scheinexistenz ad absurdum. Insofern ist Homunculus eine Korrektur Fausts […]").

Katharina Mommsen has emphasized, against an analogical/contrastive reading of the relation between Faust and Homunculus, a powerful contrast ("grandioser Kontrast," Mommsen 1992, 155), not only in the respective trajectories, but in the dramatic functions of the two. To prove this contrast, Mommsen points at the implausibility of the return to life of Helena by emphasizing the unreality ("Unrealität") that Goethe achieves in the "phantasmagoric" atmosphere of her appearances on stage (Mommsen 1992, 139). Mommsen's reading restores a certain autonomy to Homunculus's figure, which can all too easily be absorbed, in the analogical interpretations, into Faust's own plot. What really puts the figure of Homunculus in an autonomous light, for Mommsen, is the heterogeneous destination of Homunculus's trajectory compared to Faust's: while Homunculus moves towards a new stage of life, Faust moves towards a dimension of appearances ("auf dem Weg zu einem scheinhaften Sein"; Mommsen 1992, 147). The contrast enacted by these two figures would then be that between a natural and an artificial way of becoming (Mommsen 1992, 155), where Homunculus represents the side of nature, and Faust, by rejoicing with Helena, only reaches the truth of art. While the way of Faust is through and towards art, the way of Homunculus, for Mommsen, is another—more difficult, perhaps impossible. For Mommsen, this doesn't mean diminishing the importance of a poetic reenactment of Greek myth, which fits all too well the philo-Hellenistic trend of Goethe's time and culture. Ancient myth is undoubtedly celebrated in *Faust II*, but the plot of Homunculus reveals, in Mommsen's reading, the actual implications of the dream of a return to classic antiquity, which would require to engage not just with art, but with nature. Following Mommsen's interpretation, one could

perhaps argue for the re-instantiation (another possible translation of *Entstehung*) of classical antiquity as the master-plot of the tragedy.[219]

Entstehung, in Faust II, is therefore almost a structural notion that informs different levels of the dramatic action and its possible interpretation; it is also, however, a reminder of the biological notions at play in *Faust II* and Goethe's overall aesthetics, especially considered in relation to Homunculus's final rejoicing with the natural element of water. If narrowed down to the transition of Homunculus from his artificial embodiment in the glass vial to his longed embodiment in flesh, *Entstehung* designates the unique process of embodiment in the human body—Homunculus's alchemic generation was not defined as *Entstehung*.

Entstehung essentially designates a range of transformative processes that involve the main character, Faust, on the search for a new form of life, and with different degrees of symmetry, all other figures in the play. This symmetry is granted by the structural unity of the play, achieved by a system of reflections between plots and figures—as Klaudia Hilgers has put it, a microcosmic-macrocosmic correspondence that sustains the whole drama.[220]

---

[219] For Mommsen, the main questions in *Faust II* are: "what can humans expect from nature and art if they are oriented towards the great epochs of the past and strive for possibilities to improve themselves? How can a model extracted from history become productive in the present? Does the past ever repeat itself?" ("was kann der Mensch von der Natur und von der Kunst erwarten, wenn er, orientiert an großen Epochen der Vergangenheit, Möglichkeiten einer Steigerung seiner Selbst erstrebt? Wie wird ein der Geschichte entnommenes Leitbild fruchtbar? Läßt Vergangenes sich wiederholen?"; Mommsen 1992, 156; my translation).

[220] "[D]ie Einzelszenen reflektieren als 'Mikrokosmen' die innere Form des 'Makrokosmos', d.h. des gesamten Dramas" (Hilgers 2002, 225).

§7. From *Entstehung* to *Entelechie*

Entstehung understood as metamorphosis, or *Verwandlung*, is part of a larger constellation of notions that captures Goethe's engagement with philosophical problems as well as with strands of his contemporary scientific culture. Such notions include: morphology, entelechy, perfectibility, immortality; their interplay provides the grid upon which the plot of Homunculus in *Faust II* can be fully laid and understood.

A note jotted by Friedrich Wilhelm Riemer on March 30, 1833, reports a conversation between him and Eckermann on the figure of Homunculus:

> To my question, what Goethe meant with the Homunculus, Eckermann replied: Goethe wanted to represent with it pure entelechy, the mind, or the spirit, in the way it enters life before any experience; because the spirit of human beings is already exceptionally endowed, and we don't learn all we know, but we have carried it with us all along. For the spirit, the world has begun early on, before all experiences; the spirit has already seen through all things, before it has even made any experience…Yes, Goethe had a kind of respect, really, for the Homunculus.[221]

In the passage, the fact that Homunculus represents "pure entelechy" ("reine Entelechie") is argued on the basis that humans are already endowed with a spiritual destination when they are born, and before they even make any experience of the world. Homunculus then, according to the Riemer/Eckermann/Goethe chain of reported speech, would stage *Entelechie* in an utmost representative way because he enters the world as spirit (devoid of a proper body), and as such his task is already well-defined for him: becoming fully human.

---

[221] "Auf meine Frage, was Goethe unter dem Homunculus gedacht, erwiderte mir Eckermann: Goethe habe damit die reine Entelechie darstellen wollen, den Verstand, den Geist, wie er vor aller Erfahrung in's Leben tritt; denn der Geist des Menschen komme schon höchst begabt an, und wir lernten keineswegs alles, wir brächten schon mit. Ihm selbst sei die Welt schon sehr früh aufgegangen, vor aller Erfahrung; er habe sie durchgesehen, noch ehe er Erfahrung gemacht…Ja, Goethe habe vor dem Homunculus selbst eine Art Respekt gehabt." Quoted in Mommsen 1992, 148, fn 8. My translation.

Entelechie is a crucial notion in Goethe's work; it entered his philosophical horizon early on, but was only developed explicitly in the later work.[222] Entelechy, which can be defined, according to the basic Aristiotelian notion, as the formal principle of inner finality contained in any being, or (for Goethe) the principle guiding its life and metamorphosis, enters Goethe's aesthetic field through the mediation of Leibniz's monadology as well as Schelling's own version of monadology (Hilgers 2002 55; 58, fn 38). On the other hand, *Entelechie* is tightly bound to Goethe's morphological studies in biology and his natural scientific investigations (Hilgers 2002, 153), where a key role is played by the work of Lorenz Oken's *Lehrbuch der Naturphilosophie* (1809-1811). In Goethe's investigations, he understood nature to be regulated by a system of symmetries and correspondences between elements in the microcosmos reflected in those of the macrocosmos. As already seen when discussing Goethe's interest in alchemy, the universality and unity of nature sustains his studies in botany as well as his metaphysical conceptions.[223] Morphology, the study of forms, is the name given by Goethe to the methodological path necessary to retrieve the formal patterns of nature, which move from a basic unit to its more complex recombination throughout a process of metamorphosis.

Entelechie defines the law of development that all beings carry within themselves, and that drives them to the fulfillment of their morphological destination through a process of metamorphosis. In this light it is easy to see how Homunculus, following Eckermann's explanation to Riemer, should have represented the movement, or principle,

---

[222] For a recent and detailed reconstruction of the genealogy of the notion in Goethe's work, see Hilgers 2002, in particular 47ff..

[223] On the unity of his system, see Goethe's own words in his *Hefte zur Naturwissenschaft* from 1817: "nirgends wollte man zugeben, daß Wissenschaft und Poesie vereinbar seien. Man vergaß, daß Wissenschaft sich aus Poesie entwickelt habe, man bedachte nicht, daß, nach einem Umschwung von Zeiten, beide sich wieder freundlich, zu beiderseitigem Vorteil, auf höherer Stelle, gar wohl wieder begegnen könnten" (Goethe, SW, XXIV, 420).

of *Entelechie* more "purely." Homunculus's existence is exclusively guided by the pure, unflagging form of the tension—*streben*, or *sehnen*—towards its final form: the human. In the context of 18th century debates around the theme of immortality and perfectibility of human beings, Goethe pursues a way that is not that of progressive perfectibility ("Fortschrittsoptimismus," as Hilgers calls it; 2002, 179), but an alternative one (Hilgers 2002, 194). In a poetic cycle from 1817, *Urworte. Orphisch* (Primal Words. Orphic), incorporated later by Goethe in his writings on morphology, without using the word *Entelechie*, Goethe applied the concept to the unfolding of human life. The first stanza, entitled *Dämon*, provides, in the last verse, a definition of Entelechie:

Daimon

As stood the sun to the salute of planets
Upon the day that gave you to the earth,
You grew forthwith, and prospered, in your growing
Heeded the law presiding at your birth.
Sibyls and prophets told it: You must be
None but yourself, from self you cannot flee.
No time there is, no power, can decompose
The minted form that lives and living grows.

Δαιμων, Dämon

Wie an dem Tag, der dich der Welt verliehen,
Die Sonne stand zum Gruße der Planeten,
Bist alsobald und fort und fort gediehen
Nach dem Gesetz, wonach du angetreten.

So mußt du sein, dir kannst du nicht entfliehen,

So sagten schon Sibyllen, so Propheten;

Und keine Zeit und keine Macht zerstückelt

Geprägte Form, die lebend sich entwickelt. [224]

"Geprägte Form, die lebend sich entwickelt," the mold that develops itself by living, is the formal principle of inner finality of being, in a nutshell. Hilgers has interpreted the stanza in close connection to the notion of *Entelechie*, relating the very concept of *daimon* to that of *Entelechie* (Hilgers 2002, 199). More generally, the processes portrayed in the poem, under the guiding principle of a finalized metamorphic movement, apply to the natural world as well as to the moral world of the individual.[225] Because of the morphological unity of nature, knowledge, and art, it is possible to apply the same notion of *Entelechie* that is operative in the natural world to the moral world of characters, hence of Faust: "Since each new level of his existence means a step up in the path towards realization of his individual possibilities, Faust remains, for the whole play, bound to his own telos" (Hilgers 2002, 225).[226]

Goethe's first version, in Act V, of the stage indications referring to the angels' choir: "ANGELS (hovering in the upper sky with the immortal part of FAUST) ("Sie erheben sich, Faustens Unsterbliches entführend") presented, instead of the indication "Faustens Unsterbliches," that of "Fausts Entelechie." The immortal remains of Faust

[224] Goethe 1994, 231; Goethe, SW, XXIV, 439.
[225] Hilgers 2022, 197: "Metamorphoses in nature correspond to moral metamorphoses that every individual goes through in life" ("Die Metamorphosen in der Natur entsprechen dabei den sittlichen Metamorphosen, die jedes Individuum während seines Lebens durchläuft").
[226] "Da jede neu erworbene Stufe seiner Existenz eine Steigerung auf dem Weg zur Verwirklichung seiner individuellen Anlagen bedeutet, bleibt Faust während des ganzen Spielverlaufs auf sein Telos hin bezogen." My translation.

were called, in this first version, his *Entelechie*: what is saved of Faust was just his spiritual destination. The more diffuse explanation of *Entelechie* provided by Goethe (though again only through Eckermann's mediation), is in one conversation recorded as from March 11, 1828:

> Every *Entelechia* is a piece of eternity, and the few years during which it is bound to the earthly body does not make it old. If this *Entelechia* is of a trivial kind, it will exercise but little sway during its bodily confinement; on the contrary, the body will predominate, and when this grows old the *Entelechia* will not hold and restrain it. But if the *Entelechia* is of a powerful kind, as is the case with all men of natural genius, then with its animating penetration of the body it will not only act with strengthening and ennobling power upon the organization, but it will also endeavour with its spiritual superiority to confer the privilege of perpetual youth. Thence it comes that in men of superior endowments, even during their old age, we constantly perceive fresh epochs of singular productiveness; they seem constantly to grow young again for a time, and that is what I call a repeated puberty. (Eckermann 2011, 46-47)[227]

In the passage above, *Entelechie* is bound to a theory of genius, where the exceptional, superior destination active in a great mind acts as a form of immortality (by way of perpetual youth). *Entelechie* is an immortal principle, a piece of eternity ("ein Stück Ewigkeit").[228] Furthermore, the passage states clearly that not all beings possess the same

[227] "Jede Entelechie nämlich ist ein Stück Ewigkeit, und die paar Jahre, die sie mit dem irdischen Körper verbunden ist, machen sie nicht alt. Ist diese Entelechie geringer Art, so wird sie während ihrer körperlichen Verdüsterung wenig Herrschaft ausüben, vielmehr wird der Körper vorherrschen, und wie er altert, wird sie ihn nicht halten und hindern. Ist aber die Entelechie mächtiger Art, wie es bei allen genialen Naturen der Fall ist, so wird sie bei ihrer belebenden Durchdringung des Körpers nicht allein auf dessen Organisation kräftigend und veredelnd einwirken, sondern sie wird auch, bei ihrer geistigen Übermacht, ihr Vorrecht einer ewigen Jugend fortwährend geltend zu machen suchen. Daher kommt es denn, daß wir bei vorzüglich begabten Menschen auch während ihres Alters immer noch frische Epochen besonderer Produktivität wahrnehmen es scheint bei ihnen immer einmal wieder eine temporäre Verjüngung einzutreten, und das ist es, was ich eine wiederholte Pubertät nennen möchte" (Goethe, SW, XIV, 656).

[228] A further passage in Eckermann's *Gespräche* from March 3, 1830, clarifies the relationship between Entelechie and Monade: "We continued talking on various subjects, till at last we came to the entelecheia. 'The obstinacy of the individual, and the fact that man shakes off what does not suit him,' said Goethe,'is a proof to me that something of the kind exists.' I had for some minutes thought the same thing, and was about to express it, and hence I was doubly pleased to hear it uttered by Goethe. 'Leibnitz,' he continued, 'had similar thoughts about independent beings, and indeed what we term an entelecheia, he called a monad.'" (Eckermann 2011, 242). Here the original text: "Wir reden fort über viele Dinge, und so kommen wir auch wieder auf die Entelechie. 'Die Hartnäckigkeit des Individuums, und daß der Mensch abschüttelt, was ihm nicht gemäß ist,' sagte Goethe, 'ist mir ein Beweis, daß so etwas existiere.' Ich hatte seit einigen Minuten dasselbige gedacht und sagen wollen, und so war es mir doppelt lieb, daß Goethe es aussprach.

degree of *Entelechie*; where this is inferior ("geringer Art"), the body will dominate over it, as opposed to the case of the powerful Entelechie ("mächtiger Art") of the genius. It is perhaps clearer now why Proteus warns Homunculus to stop his cycle of transformations once he will reach the human form: his *Entelechie* is to realize his humanity, and that is the highest it can reach. Faust's different *Entelechie* (possibly of a higher kind), is on the other hand his immortality ("Unsterblichkeit").

Because Homunculus's destination is *Verkörperlichung*, or embodiment, his path goes in an opposite direction from that of Faust. Homunculus's supernatural attributes (his belonging to the ranks of spirits, *Geister*) will be gone once his transformation into a human will have initiated; his luminous and transparent nature, bound to his glass cage, will be gone, once the vial will have broken.

As a figure of alchemical tradition, Homunculus's existence depended on the belief in a continuous process of transmutation of elements, and the breaking down of nature into its essential units, which could be artificially recombined to return to the same natural compounds. Unlike an alchemic compound however, which is an artificial product identical to a natural one (Principe 2013, 59ff.), Homunculus in the alchemic tradition bears the stamp of artificiality, on its body and on its features, therefore occupying a space of liminality between nature and artifice. It is perhaps due to this ambiguous position if the recipe for the creation of Homunculus remains a marginal episode in the alchemical tradition (being somehow liminal to alchemy itself), and is often charged with an exclusively allegorical function (several historians of alchemy see in it just another allegory of the philosophers' stone).

'Leibniz', fuhr er fort, 'hat ähnliche Gedanken über solche selbständige Wesen gehabt, und zwar, was wir mit dem Ausdruck Entelechie bezeichnen, nannte er Monaden'" (Goethe, SW, XIV, 388-389).

What is unambiguous in the alchemical sources, however, is the description of the possible outcome of the artificial creation of the human, if it had taken place: a little human with a body that was not quite a body, and with some exceptional features that would make this creature useful to his creator: the ability to read through the present, to know all the secrets; possibly, also an incredible beauty, superior to that of a work of art.

Goethe picked from all these attributions the characters of his Homunculus, who however reversed the instrumental destination of the alchemical creature into an ardent desire to return to nature, breaking the artificial interstice of his man-made existence. Goethe's Homunculus comes from the alchemical tradition only to leave it the moment Homunculus chooses to "entstehen." At the start of his life in the Laboratorium, Homunculus had told Wagner:

Natürlichem genügt das Weltall kaum 6883
Was künstlich ist, verlangt geschloßnen Raum.

[It is a curious property of things]
that what is natural takes almost endless space, 6883
while what is not, requires a container.

The predicament of Goethe's Homunculus is fully announced in those two verses, but the predicament is turned by Goethe into Homunculus's *Entelechie*, lead by the aspiration to break off the closed space of his artificial existence in the vial. If the triumphal scenery at the end of the Aegean shores indicates that the return to nature, in the form of the water element, is worth celebrating, we know that, on the other hand, in rejoicing the natural,

and ultimately human world, Homunculus will also become obfuscated and limited, *verdünstert* and *beschränkt*.

Much more than simply an echo, or a symmetrical counter-figure, to Faust and his *Entelechie*, Homunculus performs in the play the role of a *Denkfigur*. Through his tale, and especially through the liminal conditions of his embodiment, Goethe has doubled the experiment in the glass vial. By letting artificial life renounce its exceptionality, the clarity of spiritual enlightenment to be dimmed, the thin "Beschränkung" of the glass to be replaced by the thick "Beschränkung" of flesh, Goethe has assigned Homunculus a crucial function in displaying how to take up the burden of flesh and leave behind the existence in glass. The transition will cost Homunculus the loss of the epistemic conditions of transparency granted by the glass body—a perfectly unimpeded relation between subject and object, with the added benefit, in his case, of a diffuse light effect, or a permanent enlightenment. By renouncing epistemic transparency, Homunculus will join the natural world that will ultimately endow him with flesh, that is, a new form of limitation, but also of unlimited striving: "Natürlichem genügt das Weltall kaum"—"what is natural takes almost endless space," or to translate in a more precise way: "To what is natural, the entire world is barely enough." As a transparent human giving up his transparency, Homunculus indicates a path for defining the human, which is alternative to that of epistemic perfection, or of the unthwarted knowledge of reality; it is a path burdened by the weight of flesh but lightened by the insatiable desire to overcome the boundaries of the world.

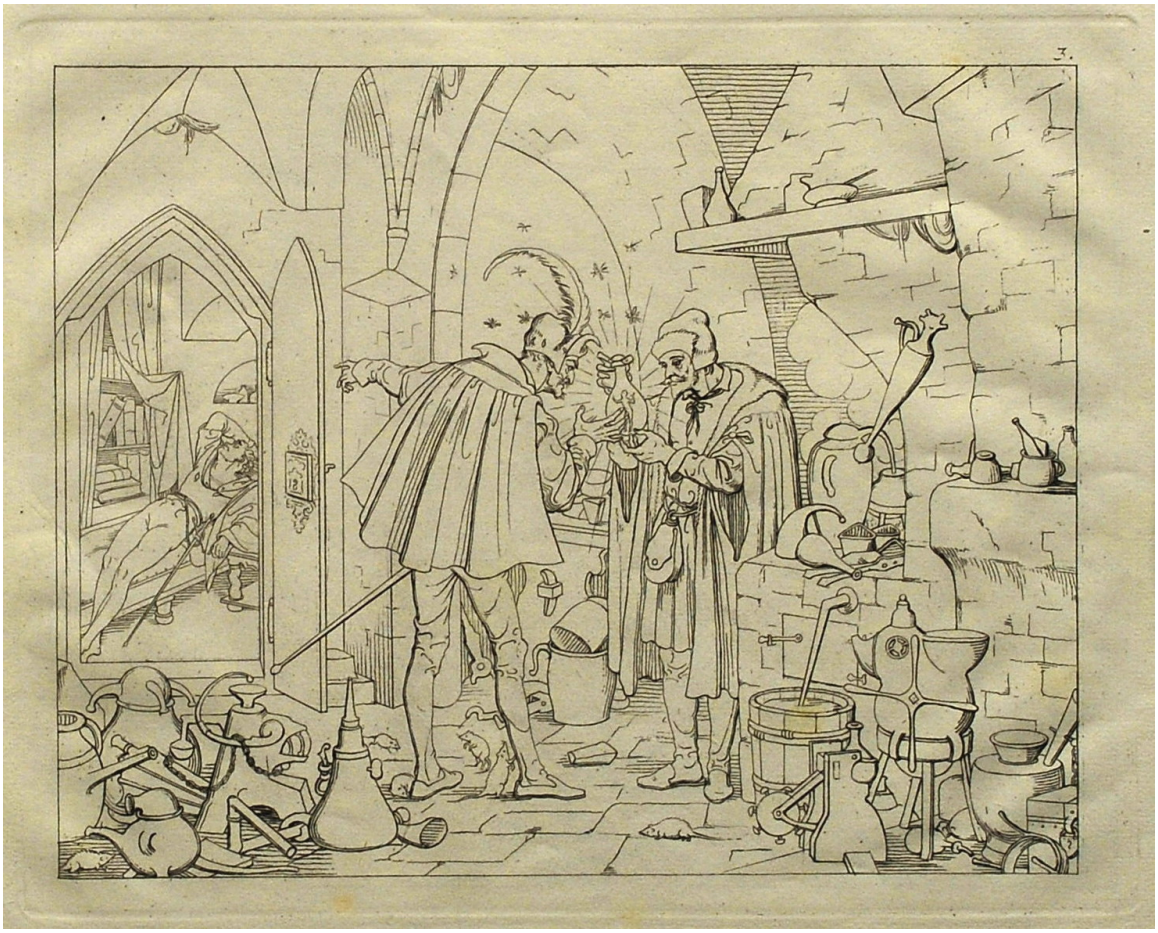

Fig. 1 Etching for *Faust II* (1836) by Moritz Retzsch (1779-1857)

CHAPTER 4

20TH-CENTURY TRANSPARENT BODIES:

FROM SOCIAL HYGIENE TO NAZI PROPAGANDA

In the exquisite Bauhaus style rooms of the freshly built Deutsches Hygiene-Museum in Dresden, Germany, inaugurated on May 16, 1930, a daily crowd of tens of thousands visitors is directed to see the Second International Exposition of Hygiene: II. Internationale Hygiene-Ausstellung.[229] Upon following the signs for the section "Der Mensch," located in a dedicated hall of the building, the public reaches the entrance of the room called "der durchsichtige Mensch" (fig. 1). The transparent statue, a glass-like human body consisting of an actual human skeleton, a web of reconstructed blood vessels and nerves, and the main models of inner organs, stands on a circular pedestal, on an elevated stage, in a semi-circular hall. The space is dimly lit, the standing figure being the only object on display. In an ongoing show, the lights are turned completely off, and in the dark, the figure begins to light up from the inside, starting with the heart. A voiceover accompanies the visual experience with the descriptions of the plastic organs. On the back of the stage, lights then turn towards St. Augustine's words written on the wall: "Man wonders over the restless sea, the flowing water, the sight of the sky, and forgets that of all wonders he himself is the most wonderful."[230]

First built in 1926 by Franz Tschackert, a taxidermist of the Hygiene Museum in Dresden, in the workshops of an almond treats and marmalade factory, and later moved

[229] Vogel 1999, 45; Roth 1990, 41; Roth 1990, 65.
[230] This account, recorded by Roth (Roth 1990, 41), is that of Bruno Gebhard, former employee of the museum. I could listen to a recording of the voice-over made available to me by the archive staff of the Deutsches Historisches Museum in Berlin.

to the workshops of the new building, the "gläserner Mensch" quickly became a highlight of the museum.[231] In the years after its first German manufacturing, the human anatomical model became so popular that the workshops of the Hygiene Museum had to build, between 1930 and 1945, at least nine replicas of it, then sold to museums or rented to exhibitions around the world. Some items ended up in the United States, such as the 1934 model delivered to the Buffalo Museum of Science, and later returned, as a disturbing relic of the inglorious German past, in the 1980s (Kevles 2004, 41). After WWII, a new boost in the production of the transparent models (which extended even to animal models, namely a horse and a cow) was initiated within the new political borders of the German Democratic Republic (DDR), and a couple of models—a man and a woman—are said to have been delivered to Stalin as a birthday gift.[232]

The success of these glass-like figures was so extensive, and their presentation charged with so many different and conflicting values, that their historical interpretation constitutes a challenging task. The present chapter follows the production and display of these transparent humans as museum objects in order to read them in the broader context of the culture that produced them and attended to their popularity. In order to do so, my approach is that of first reconstructing the cultural space of their display through archival material such as museum guides, exhibition booklets, and other photographic documents.[233] By inscribing these cultural artifacts in their own moment, I then show how these objects were generated, and are therefore interpretable, at the intersection of a few strains of the cultural discourse of the time. The first discourse is that of anatomic

[231] The factory's name was "Mandelpräparate und Marmeladenfabrik Siemank & Ringelhahn." See Roth 1990, 39.
[232] Roth 1990, 43.
[233] A significant part of these documents (not all) is unpublished, and I was able to consult it at the Archives of the Hygiene Museum in Dresden.

representation, where the transparent human model is located at a very distinct moment of a long historical development that one can keep tracing until the present. The second discourse is that of hygiene as a notion and practice emerging in the last quarter of the 19th century in Germany, and one that still hosts, though for the major part as evidence of the institution's history, the glass-like figure.[234] The third discourse is closely related to the second, as the German expression coined in 1895 indicates: "Rassenhygiene," that is, eugenics—that international movement of medical inspiration aimed at pursuing a strategic improvement of the population's genetic pool in the name of productivity and social health.[235] I will, at last, address the use of the "gläserner Mensch" in the context of Nazi social propaganda, which occurred through the appropriation of the apparatus of hygiene exhibitions and their "incorporation" in the political agenda operated by the Nazis. The Nazis' ideological construction inserts itself into the discursive foundations of anatomical imagery, hygiene rhetoric, and eugenics policies that I analyze in the course of the chapter.[236] As I would like to show, Nazi propaganda designers, through their own propagandistic means, were able to display the transparent human by transferring to it the new disquieting projections of a human ideal (the "new human type," in Hitler's infamous formula) conceived as a stage beyond, and properly after, the human.

In this historical insertion operated by the Nazis onto the preceding cultural history of the "gläserner Mensch," I see the unfolding of the broader cultural function of transparent humans coming to a halt. The figure of the transparent human, after

[234] The Hygiene Museum in Dresden currently hosts the old prototype in a glass case, and displays a contemporary reproduction of a "glass-woman" for didactical purposes.
[235] How this productivity does not coincide with Capitalism per se, has been convincingly argued by Weiss 1987 (see paragraph 3).
[236] As Agamben has put it: "It is important to observe that Nazism, contrary to a common prejudice, did not limit itself to using and twisting scientific concepts for its own ends. The relationship between National Socialist ideology and the social and biological sciences of the time—in particular, genetics—is more intimate and complex and, at the same time, more disturbing" (Agamben 1998,145-146).

transitioning from an early modern episteme of the body as a fragile and sacred space sanctioned by the melancholic complex (Chapter 1) to a Classical episteme of a transparent subject exposing (and questioning) the mechanical ideal of a perfectly knowable human being (Chapter 2) to the Romantic fantasy of a transparent human choosing to give up its transparency to retrieve flesh and its desires (Chapter 3), is here reenacted as a construct defined by social-hygienic practices and Nazi ideology. As I will try to show, however, the historical constellation here under examination entails a residual form of resilience against the ideological superimposition that it undergoes. While lending itself to the ideological construct of a "new" human, the "durchsichtiger Mensch," in its material constitution and aesthetic dimension, ultimately subverts the very "transparency" it is supposed to symbolize.

Fig. 1 Transparent Man, Buffalo 1935. Courtesy of the Deutsches Historisches Museum, Berlin

§1. The anatomy lesson/the anatomical show

The American reader might have recognized, in the description of the object displayed in Dresden in 1930, a common item of school education, which crowds of children have viewed in many didactic health centers scattered around the country, a usually female mannequin known as TAM (transparent anatomical manikin).[237] Though today endowed with a certain outdated, not to mention "quirky" patina, common to once futuristic objects, these museum items still retain a rudimentary yet effective didactic value. It is in the didactic function that we have to grasp the most prominent value of the 1930s model too, though its educational scope was directed towards a different public than that of an elementary school class: it was a wide crowd of working-class adults allured by the pioneering hygiene exhibitions.

The didactic function of the anatomic model belongs to the functions established by a long history of anatomical representations, which much of the historical criticism of the "gläserner Mensch" has acknowledged (Beier 1990; Vogel 1989). Modern anatomy's conventional birthdate is that of the publication of Andreas Vesalius's *De humani corporis fabrica* (1543), where for the first time the human body was drawn with realistic precision of details, refraining from more abstract schemas. This had become possible, for Vesalius, as we learn from the dissection illustrated on the frontispiece of his work, only after breaking with the tradition that had assigned to the doctor the distant position of guiding by voice instructions the barber's hand, which alone had to perform the "dirty" work of cutting the body open. Vesalius had himself grabbed the dissector's tools, and his drawings were the highly manipulated results of that first-hand dissection practice taking

[237] This model was developed in 1968 by designer Richard Rush, on commission, apparently without reference to the older German model we are concerned with. See Langer 1989.

place on the stage of the anatomical theatre. In Vesalius's atlas, bodies are portrayed in living yet theatrical poses, on the background of a Tuscan landscape—their muscular tone resembling that of the pictorial subjects of contemporaneous Mannerist taste—a compositional ensemble certainly far from the flat, neutralized anatomical figures of atlases perused by contemporary medical students. Vesalius's figures recall more closely, perhaps, the highly controversial plastinated bodies made today by Gunther von Hagens's popular enterprise *Körperwelten*, "Body Worlds," an exhibit where perfectly conserved corpses stripped of their skins are immortalized in lavishly active, athletic, or spectacular poses.[238]

As already mentioned, Vesalius's anatomical drawings were the result of the dissecting practice that took place in the anatomic theatre, a space of public performance (the public would pay to assist), and of unsettling perceptions.[239] On the contrary, as one historian analyzing the distinct anatomical significance of the Dresden glass-like models put it, "the transparency of the glass humans is not that of an open, bloody, rotting corpse […] This human is transparent, illuminated instead of rotting, it is aseptic and does not emit any violent smell. The figure is smooth, technical, it is an object that does not retain any trace of a violent death or of a slow decay, as innumerable other corpses of anatomy" (Beier 1990, 27).[240]

The dissections performed by Vesalius and later by his followers were in any case the backstage of the production of the anatomical atlas, which instead displays a sublimated, stylized, and peculiarly sensual version of the human body. The voluptuous

[238] See also Linke 1999, 9-10. Linke defines these bodies as "dramatic visions of the normal" (Linke 1999, 10), emphasizing the heroic, virile aesthetic of the arrangement of the corpses.
[239] The cutting of the flesh, with its accompanying phonic and olfactory features, is in fact at the core of many descriptions left by the attendants of the anatomic theatre.
[240] My translation from the German.

contours of Vesalius's ink bodies, sometimes lifting their own flesh as one would lift the drapes of a dress, and the anesthetized, normalizing background (insofar as it was familiar to any art viewer of the time), had replaced the off-putting spectacle of the dissection. Beier, who in his essay claims for a stark opposition between Vesalius's anatomy and that of the Dresden transparent model, assumes that Vesalius's pictures, in spite of their sublimated setting, retain a powerful reference to the dissection practice, which on the contrary would be completely obliterated in the aseptic representation of the body of the glass-like model.[241] I would like to show in more detail how the "aseptic" quality of the glass model played out in the context of the exhibition, and what its consequences were.

Given the massive flow of visitors lining up in Dresden to see not just the greatly popular *Hygiene Ausstellung*, but the "gläsernen Mensch" in particular, one must assume that something of a spectacle must have been at play. In relation to the dimension of spectacle, I would like to deal with the anatomical model as seen from the perspective of the sensory-emotional experience of a visitor to the *Hygiene Ausstellung*, where the "gläserner Mensch" was displayed. This kind of descriptive digression might seem to contradict the larger focus of my inquiry, hinging on the broad discursive context of the exhibition, especially the presentation of this figure constructed at the rhetorical juncture of several different discourses. I will return to this broader frame later in this chapter, but for now I will isolate the aesthetic experience of the spectacle "gläserner Mensch,"

[241] Beier's point obviously addresses the context of production of Vesalius's images rather than their actual aesthetic presentation; the differential features highlighted in her essay, are those of two heterogeneous objects: the glass anatomical model (that is, an anatomical representation) and the classic modern anatomical theatre (that is, a performative setting). This mismatch appears clearly when she discusses the point of observation: "what is to see is a body that reveals its interior and yet is completely intact, untouched, and of a glasslike material. The spectator doesn't observe it so to say from above, because this body is upright and on a pedestal. One has to rather look up at it" (Beier 1990, 25; my translation).

treating it as something similar to an art object. This descriptive attempt is based on my assumption that the glass model was not just a didactic object, though it was certainly framed as such, but also an object of visual entertainment.

The fascination produced by the "gläserner Mensch" did not stem, obviously, from the off-putting, yet somehow enthralling scenario of a dissection; the glass-like model, as we have seen, is studiedly aseptic. Nowadays, anatomical spectacles are still at the vanguard of popular exhibits, if we consider that the above-mentioned *Body Worlds* by von Hagens has attracted 25 million visitors between 1995 and 2009 (Osterweil, Baumflek 2002, 244). By the millions, people stream to watch bare-stripped bodies arranged in "genuinely outrageous fashion"—a public driven perhaps by a deeply "necroscopic" desire more than by mere anatomical curiosity, in spite of the highly "scientific" frame imposed on the show as the source of its legitimation (Osterweil, Baumflek 2002, 244-245). My claim, with regard to the context of the " anatomical show," is that different shows displaying different objects, such as the case of the "gläserner Mensch" and *Body Worlds*, disguise, under the respectable scientific label of anatomical curiosity and education, a purpose of entertainment: these shows do not simply aim to teach the structure of the human body to the public, or to satisfy their curiosity about the inner structure of the body. In von Hagens's show, the fascination of the public with the real presence of embalmed flesh plays a role comparable, if not identical, to that of a dissecting performance. But flesh is absent from the spectacle of the "gläserner Mensch": instead of holding its own skin-coat, as in one of *Body Worlds'* most famous "sculptures" (which openly quotes one of Vesalius's drawings), the glass-like model, in all its hollow transparency, raises its hands to the sky in a praying gesture (see

paragraph 4.1). With a gestural connection to a transcendent sphere, the "gläserner Mensch" has abolished its ties to flesh; elevated on a pedestal, it has already overcome an earthly, fleshy, carnal existence.[242] If the visitors of *Body Worlds* pay a costly ticket to buy "immunity from death, mourning and melancholia," by being "granted the privilege of not feeling" (Osterweil, Baumflek 2002, 254), the paying visitors who in the 1930s went to see the "gläsernen Mensch" must have aspired to a similarly comforting "immunity"— not achieved in this case through questionably obtained and displayed actual corpses. Confronted with the proximity to real dead bodies, the public of *Body Worlds* is painlessly entertained by the unnatural relocation and reenactment that those anonymous corpses stage, and thereby sublimate (or are perhaps forced to forget, as other critics have put it; Osterweil, Baumfelk 2002, 257) their own death. In a parallel yet substantially distinct way, one could perhaps think of the spectacle of the glass-like model as producing the comforting effect of effacing the corporal burdens attached to the human body. Death is obliterated from the "gläserner Mensch" not by upstaging it in a highly unrealistic scenario (as in *Body Worlds*), but by presenting a model of the human body that is in fact a spectacle of *disembodiment*, an uplifting suspension of the concerns with disease, decay, and death that the public was presented with in the course of their visit to the hygiene exhibition.[243] It is precisely the context of hygiene exhibitions that provides the first discursive, cultural background to read the spectacle of the "gläsernen Mensch" in its historical specificity.

---

[242] A similar claim is made by Elena Canadelli: "The sensuality of anatomical models was replaced by the translucent aesthetic quality of the Transparent Man […] The sensual and disturbing look was replaced by realism and transparency. The human body was reduced to an aseptic silhouette, a machine which needs to be well oiled an maintained" (Canadelli 2011, 166).

[243] In this sense, I do not agree with Canadelli's claim that "today the Transparent man has been substituted by von Hagens's plastinated corpses," in so far as the two respond to different expectations (cf. Canadelli 2011, 173).

§2. Hygiene

Towards the end of the 19th century, a number of museums dedicated to the propagation of social hygiene practices started to appear in Germany and Europe as the outcome of state social policies directed towards the improvement of living conditions for the large working strata of the population. In Germany, the first *Hygiene Ausstellung* took place in Berlin in 1883, preceded by the establishment of a Chair for Hygiene at the University of Munich (Roth 1990, 44-45). Figures such as Max von Pettenkofer, Robert Koch, and Rudolf Virchow were the founders, in Germany, of hygiene as a discourse articulated on the themes of prophylaxis of diseases and healthy life-style.

In the exhibitions that rapidly multiplied in the following years, in what has been called a "Hygiene-Offensive" promoted by the new Bismarck State, notions such as the need for light, air, and clean water were promulgated alongside the industry's advertisement of products such as the new Nestlé infant formula or the Odol mouthwash (Roth 1990, 46-47). As the Swiss doctor Auguste Forel will put it decades later in 1907, contributing to building the bridge from hygiene to "Rassen-hygiene": "the task of hygiene is not to cure diseases which are already present, but to guard against all their causes and thus do all we can to prevent them from attacking particular individuals (private hygiene) and the community as a whole (public or social hygiene)" (Forel 1907, 235).

As we will see in the next paragraph, the notion of "racial hygiene" will appear later, within the same field that had promoted social hygiene policies, and through the same language: "The task of hygiene […] can improve our race so sadly afflicted with

abnormalities and bad deformities" (Forel 1907, 236). How this shift was possible is a question that partly addresses the way discourses are rhetorically generated. In this case, what must have enabled the notion of hygiene to bridge the notion of race is probably a distinct stance on the dimension of "ethics": according to Forel, "the conceptions of social hygiene and of ethics coincide in an ideal harmony for which we should strive, however many difficulties and conflicts may arise in concrete cases from the defects of our customs, our laws, and our knowledge" (Forel 1907, 236-237). The underlying project of this vast enterprise was however fundamentally economic: the minimizing of costs deriving from diseases and accidents, and the maximizing of productivity.

With the First International *Hygiene Ausstellung* in Dresden in 1911, funded by the industrial owner of the mouthwash "Odol," Karl August Lingner, a new model in the propagation of hygiene was established. The First International Exhibition attracted, in just six months, more than five millios visitors, and the numbers of attendants to the wandering exhibitions of the following years were even bigger.[244] One section of the exhibition, a dedicated "pavillon," was called "Der Mensch," a heading that the section retained well into the Second International *Hygiene Ausstellung* of 1930 and 1931, when the section included the "durchsichtiger Mensch."

Meanwhile, in the Twenties, the success of hygiene exhibitions was massively growing. In 1926, the city of Düsseldorf hosted the "Gesundheitspflege, Soziale Fürsorge und Leibesübungen" ("Healthcare, social assistance, physical exercise") (abbreviated as "Gesolei") exhibition, which also included the section dedicated to "der Mensch," with its sub-section called "der durchsichtige Mensch." In the beginning, the latter section only

[244] Roth 1990, 51. Roth calculates that between 1919 and 1937 there were 1241 mobile exhibits in Germany and abroad, attracting 29.5 million visitors.

included thin (almost transparent) slices of human tissues showcased under glass panes, but in few years it would display the transparent human model.

A look at the exhibition guides of the time discloses some of the fundamental themes of hygiene discourse and practices. The wandering exhibition "Der Mensch in gesunden und kranken Tagen" ("Man in sick and healthy days"), organized by the Dresden Museum in 1927, was aimed, according to its exhibition guide, at delivering a "complete hygienic enlightenment" as part of a general project of education—"Belehrung"—about hygiene.[245] Both the rhetorical style of the Preface of such a guide, with its direct address to a visitor who knew nothing about the anatomy and physiology of the body but had the determination to learn without the encumbrance of scientific jargon, and the very kind of objects displayed as part of this "Belehrung" project (see fig. 2), make it clear that the main profile of the enterprise was didactic.

A look at another "Ausstellungsführer" (exhibition guide) from a 1928 wandering exhibition from the Dresden Museum, called "Die Gesundheitspflege" ("Healthcare"), reveals the philosophical surplus of value that the organizers of these exhibitions had hoped to infuse into the pragmatic and didactic interface of the event:

> 'This is you', one is told here – and 'know thyself,' as it was written on the old Greek temple in Delphi, and even if only one part of the visitors is going to be impressed and realize how, without sinking in the bodily regions, one can neither understand oneself and live, nor meet the needs of others, the most beautiful task of this "human being" will be fulfilled.[246]

[245] "Umfassende hygienische Aufklärung." Document from the DHM Archive, Dresden.
[246] "'Das bist du' wird ihm hier gesagt – und 'Erkenn dich Selbst', wie es über dem alten Griechentempel in Delphi stand, und wenn auch nur ein Teil der Besucher dadurch aufgewühlt und sich bewusst wird, dass er ohne verständnisvolles Sichversenken in die leiblichen Gegebenheiten weder sich selbst recht verstehen und sein Leben führen, noch auch dem Mitmenschen gerecht werden kann, dann ist die schönste Aufgabe dieses "Menschen" erfüllt." Document from the DHM Archive, Dresden.

In the above text from the 1928 exhibition guide, the task ("Aufgabe") of the exhibition was presented as an almost moral mission: that of making the public aware of the functioning of one's body as an ultimate form of self-knowledge.[247] The classical, philosophical overtones of self-knowledge charged this task with the connotations of humanism, and learning about the human body was defined as a reflexive form of being human—a highly ethical form of life.

At last, in 1930, the section "der durchsichtige Mensch" became the dedicated space for the display of the glass-like figure crafted by Franz Tschackert a few years before. The exhibition guide to the 1931 "International Hygiene Exhibition" (which was for a great part a repetition of the one which took place the year before),[248] gives an overview of the structure of the exposition. The ground floor of the museum was entirely reserved for the section "Der Mensch"; the first floor was occupied, alongside "Hygienische Volkserziehung" ("Hygiene education of people") and "Ernährung" ("Nutrition"), by new sections such as "Die Frau als Gattin und Mutter" ("Woman as wife and mother"), and "Vererbung und Eugenik" ("Heredity and Eugenics"). On the second floor, a wide range of diseases from tuberculosis to STDs was presented.

The new additions to the Second Exhibition of 1931 indicate a deeper shift in the conception of hygiene that had taken place over the 1920s, for once with the construction of the concept of "Rassenhygiene" (see next paragraph). Tracing this shift through the rhetorical arrangement of the contemporary materials accompanying these exhibitions is one way to understand them, even though it poses some methodological problems regarding the rhetorical status of these texts, especially when they start to officially

[247] It is worth noticing that the "Know Thyself" motto was a commonplace of anatomical museums opened in the 19th century, anywhere from Europe to the United States (Canadelli 2011, 164).
[248] I was able to gather archival material from the 1931 exhibition but not from the 1930 one.

belong to the genre of propaganda (see paragraph 4). The description of the section "der Mensch" in the 1931 guide, for example, employs heterogeneous elements to describe the learning experience made available in the exhibition:

> The section "der Mensch" wants to convey understanding for the constitution and ability of the human body and thereby awaken love for this marvelous artwork. The knowledge of its astonishing organization must excite a joyous feeling of the body as the basis for a sensible and lasting healthcare.[249]

The focus on the joyful sense of the body, the admiring curiosity for its astonishing organization, and the love for the artwork it is, were the bombastic formulas that somehow muffled the subtler implications of what followed in the text of the exhibition guide: "Correspondingly to the dynamic approach of our time, the active, working, living organism comes to the fore."[250]

At first glance, the meaning of the latter passage appeared to be that in the foreground in the exhibition was not just the artistry of the body, but the proper functioning of an organism—the living unit with an intrinsic finality that a new current of Vitalist philosophy was redefining around 1930, also thanks to the work of Hans Driesch (see paragraph 4).[251] However, the pragmatic finality assigned to this "working" organism was clearly not that of the Vitalist *entelecheia*: it was, instead, the external finality of productivity forced into the definition of the human by the laws of capitalist economy. This way, the Vitalist undertones of the 1931 *Hygiene Ausstellung* mixed with a clearly mechanistic representation of the human which was promoted throughout the

---

[249] "Die Abteilung "der Mensch" will Verständnis für Bau und *Tätigkeit* des menschlichen Körpers vermitteln und dadurch *Liebe* zu diesem wundervollen *Kunstwerk* wecken. Die Kenntnis von seiner *staunenswerten Organisation* soll *ein freudiges Körpergefühl* anbahnen als Grundlage einer verständigen und nachhaltigen Gesundheitspflege." Internationale Hygiene Ausstellung Dresden, 1931. Document from the DHM Archive, Dresden.

[250] "Entsprechend der dynamischen Betrachtungsweise unserer Zeit, ist der tätige, arbeitende, lebende Organismus in den Vordergrund gestellt." Internationale Hygiene Ausstellung Dresden, 1931. Document from the DHM Archive, Dresden.

[251] Driesch 1928.

exhibition: machine-like representations of the body, as in the "human factory" image made popular by Fritz Kahn's illustration *Der Mensch als Industriepalast* (1926), were all over the place, and conveyed a strong idea of hygiene as mechanical care of a body-mechanism.

It is in this peculiar mix of messages that lies the stronger link between the transparent anatomical model and the discourse of hygiene. Not only, as I have claimed in the previous paragraph, was the glass-like body an aseptic rendering of human anatomy that allowed the spectacle of disembodiment to deploy and attract crowds of visitors. The "gläserner Mensch" also illustrated the feasibility of hygiene measures by disclosing the mechanism of a body that had to be taken care of with simple, straightforward, mechanic operations of maintenance. In this sense, the inscription of the model within the discourse of hygiene shifts the focus from the aesthetic spectacle of disembodiment (counteracting the attention given to the deadly nature of the body) to another aesthetic spectacle: that of the "body-machine"—a differently comforting representation of the body as a mechanism that, with some care, could be maintained in its perfect (perhaps semi-immortal) shape.

It is in this context that the relevance of the "gläserner Mensch" as spectacle can be fully understood. Its mesmerizing power was the powerfully visual obliteration of all the diseases illustrated in those exhibitions, from tuberculosis to STDs, of all the corrupting, sickening, deforming effects of an unhealthy life-style. By following the hygiene measures recommended in the course of the visit, the reward of the visitor would have been no short of lifting her up to the same heights of the "gläserner Mensch."

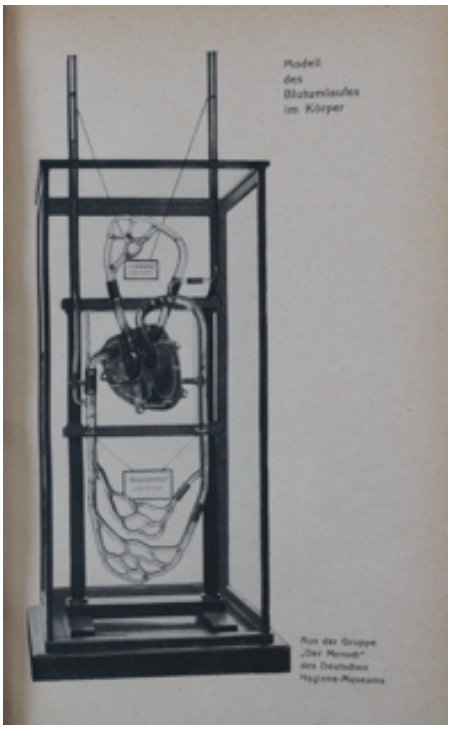

Fig. 2 Circulation of blood. Exhibition "Der Mensch," 1927. Archival Document. Courtesy of DHM Dresden

§3. Eugenics

By highlighting the third strain of cultural discourse that frames the production of the "gläserner Mensch," that of eugenics, I am approximating the chronological transition where the Nazi incorporation of the glass-like model takes place, and the rhetorical environment that accompanied and made possible that transition.

The history of eugenics in the 20th century is not an exclusively German history; on the contrary, the eugenics movement had international proportions and developed its contents independently from the specifics of the German movement. Eugenics, a term coined by Francis Galton in 1883, was at the beginning a movement largely linked to progressive, socialist ideals:

> But the movement also belonged, in no small part, to the wave of progressive social reform that swept through Western Europe and North America during the early decades of the century. For progressives, eugenics was a branch of the drive for social improvement that many reformers of the day thought might be achieved through the deployment of science to such good social ends as clean cities, greater temperance, child welfare, and public health. (Kevles 2004, 44)[252]

In fact, it was North America that lead the vanguard of eugenics policies by establishing, well before the Nazis, sterilization laws meant to prevent the "unfit" (at the time, psychiatric patients) from reproducing; later on, Hitler would praise US sterilization laws as an example to follow (Kevles 2004, 51; 55).

In Germany the contents of the eugenics movement were first translated at the end of the 19th century (in 1895) under the new coinage "Rassenhygiene" (literally, "race hygiene") by one of the pioneers of German eugenics, Alfred Ploetz, who was also the head of two main institutions of German eugenics. In 1904, Ploetz founded the journal *Archiv für Rassen- und Gesellschafts-Biologie* (Archive for the biology of races and society), and in 1905 the *Gesellschaft für Rassenhygiene* (Society for race hygiene), first defined as "International," and later as "German" (Weiss 2004, 19).

As Sheila Weiss has convincingly demonstrated, the origins of the German movement were not simply anti-Semitic or pro-Aryan, and would become so only through the later Nazi-incorporation (Weiss 1987, 202-203).[253] In fact, the link between the German eugenics movement and Nazi eugenics policies is historically more

---

[252] See also Weiss 2004, 17: "Eugenics in Germany originated in the late nineteenth century as a reform movement looking for a scientific solution to social problems created by the nation's rapid industrialization and urbanization." A more detailed account is in Weingart, Kroll, and Bayertz 1988, 108 ff..

[253] In his *Die Tüchtigkeit unsrer Rasse und der Schutz der Schwachen* (1895) (The Prowess of our Race and the Protection of the weak) Ploetz promotes, for example, Aryan-Jew marriages as advantageous to the biological and social improvement of the race. In the early years of 1900, members of the *Gesellschaft für Rassenhygiene* (Society for race hygiene) were also Jews. The "master-race," for Ploetz, was loosely defined as the "white" one, and more specifically, it was intended in its socio-economical "fittest" variant. Weiss speaks, in this regard, of "the tendency to equate fitness with class" (Weiss 1987, 208). Ploetz did in any case embrace the "Aryan supremacy mystique," unlike Schallmayer (Weiss 1987, 202, 207, 209, 218).

complicated than that of mere derivation: "It would be misleading to view racial hygiene in Germany at this time as a mere prelude to 'Nazi eugenics.' The early German racial hygiene movement was preoccupied with eugenics issues common in most other countries with similar movements" (Weiss 2004, 19).[254]

Ploetz's notion of *Rassenhygiene* was based on the idea of controlling inheritance by controlling reproduction, in order to select the stronger genetic stock of a population. The choice of "hygiene" as a constitutive component of his coinage extended the meaning of the word beyond the already widespread social hygiene practices towards the problematic concept of "race."[255] Some of Ploetz's ideas had already been formulated, in Germany, by Wilhelm Schallmeyer, in the first German eugenics tract: *Über die drohende körperliche Entartung der Kulturmenschheit* (On the threat of the physical degeneration of civilization) (1891). Schallmeyer's main idea was to regulate reproduction to control genetic heredity, a theme that he developed further in his *Vererbung und Auslese im Lebenslauf der Völker* (Heredity and selection in the life of populations) (1903), where he focused on what are often called the "positive measures" of eugenics, such as increasing the "fit" population's fertility rate. As for the identification of the fit group, early German eugenics was not so much looking at

[254] See also Kevles 2004, 41: "Eugenics is rightly associated with the brutalities of the Nazis, but it was rooted in the pervasive social Darwinism of the late nineteenth century."

[255] For Ploetz, race is a "designation of a group of human beings living since generations with respect to their bodily and mental qualities" ("Bezeichnung einer durch Generationen lebenden Gesamtheit von Menschen in Hinblick auf ihre körperlichen und geistigen Eigenschaften" (Ploetz 1895, 2). Regarding the extension of the term hygiene to the concept of race, Ploetz writes: "Social hygiene and race hygiene are not to be confused. Social hygiene has as a direct aim the wellbeing of the single individual, while race hygiene the wellbeing of a community in time" ("Soziale Hygiene und Rassenhygiene sind also nicht zu verwechseln. Soziale Hygiene hat als direktes Ziel immer noch das Wohl des Einzelnen, Rassenhygiene dagegen das Wohl einer zeitlich dauernden Gesamtheit als solcher") (Ploetz 1895, 3). And later on: "One could then speak of the hygiene of one nation, of one race in a narrower sense, or of the whole human race" ("So könnte man von der Hygiene einer Nation, einer Rasse im engeren Sinne oder der gesamten menschlichen Rasse reden") (Ploetz 1895, 5).

biological notions of "race," but rather at a social-cultural understanding of "race." In particular, it was the *Bildungsbürgertum* (the educated bourgeoisie) that was deemed the fittest group and the one that should boost its reproduction rate (Weiss 1987, 204-205). It is also worth noticing how, while Ploetz was infused with a certain mystique of the Nordic, Schallmeyer never used the expression *Rassenhygiene*, proposing the variant *Rassehygiene* (race instead of races), which was supposed to avoid any racist connotation by implying the existence of a single, unified, human race (Weiss 1987, 218).

The dual aspect of eugenics policies proposals (the positive and negative measures) was being established in the first decade of the 20th century, and its plain formulation was already given by the Swiss psychiatrist Auguste Forel, under whose direction Ploetz had studied in Zurich with an internship in a psychiatric institution—an experience which would have changed his attitudes towards the questions of eugenics:

> But for the well-being of our descendants themselves we must select (or breed) in them power of work and health and capacity for life's struggle, by avoiding the reproduction of those who are mentally and physically deformed and by furthering that of men and women who are strong and sound physically, diligent, energetic, and strong-willed, social and altruistic, intelligent, thoughtful, and otherwise good and sturdy. (Forel 1907, 175-276)

Even more plainly, Forel split the "human race" in two categories, the fit and the unfit (the latter, in Germany, began in those years to be called "minderwertig," that is, "inferior"):

> Mankind must be divided into about two halves: a superior, more socially useful, sounder, or happier, and an inferior, less socially useful, less sound and happy […] He who undoubtedly belongs, together with his ancestors, to the upper half should multiply vigorously; he who belongs no less undoubtedly to the inferior half should hold back, especially if he is incompetent, unhappy, and socially injurious through mental disturbances, crimes, and nervous diseases […] and finally he who stands in the middle should take care to be moderate in the multiplication of his kind. (Forel 1907, 278)

In alignment with the above-mentioned association of physical fitness and class, Forel introduced an interesting variation in the definition of the social standard: "Modest but healthy, good, reliable, industrious peasants and laborers with a good human understanding are the very best material for a good posterity" (Forel 1907, 278). This shift seems to register a spreading of the eugenics movement to larger and lower strata of the population. Parallel to this shift (and possibly at its origin), was the focus of the eugenics movement on the increase of the birth rate, which in the first decade of the 20th century in Germany had slowed to a halt under the influence of the English neo-Malthusian movement (Proctor 1988, 19-20; Weiss 1987, 212). It is at this historical juncture, when eugenics was at the fore of social policies, that the "First Hygiene Exhibition" in Dresden took place in 1911. The Exhibition attracted 5.5 million visitors, and was a major conduit for theories of racial hygienists.

If my suggestions to interpret the "gläserner Mensch" in the context of hygiene exhibitions is viable, the claim has to be extended to the impact of eugenics, which contributed to building the specific aura of the object "gläserner Mensch" as a specimen of genetic perfection and racial purity. From this perspective, its disembodiment, orchestrated also thanks to its rhetorical presentation as a wondrous piece of entertainment, worked as a mirror image of the ideological construct of the superior human "type" predicated by eugenics.

In the years after WWI, those of the Weimar Republic, a second generation of eugenicists turned the theoretical speculations in the field into something more readily available to the future Nazi movement—namely, strong racist theories. The key figure of Weimar eugenics, Fritz Lenz, built a model of racial hierarchy in which race was defined

as a "spiritual" ("seelischer") content (Weiss 1987, 215). His anti-Semitism consisted at the beginning mainly in his definition of the distinct "spiritual" features of the "Jewish race," even when these were deemed superior to the "Nordic," at least until he embraced the Nazi movement. In the Weimar years, the conservative and pro-Aryan wing of the movement gravitated around Munich, whereas Berlin was the center of the more progressive, non-racist chore of eugenics, which found an institutional expression in the 1926 *Deutscher Bund für Volksaufartung und Erbkunde* (German Association for the improvement of the population and the study of heredity). The number of institutions dedicated to the spread of eugenics grew greatly in the 1920s (in 1927 the Kaiser Wilhelm *Institut für Anthropologie, menschliche Erblehre und Eugenik*—Institute for Anthropology, human heredity, and eugenics—directed by the racist anthropologist of Southwest Africa, Eugen Fischer, was founded in Berlin), together with the membership of the *Gesellschaft für Rassenhygiene* (Society for race hygiene), a term which at the end of the decade was more often replaced by "Eugenik."

In the later Weimar years, the economic crisis nurtured a new call for eugenics policies which would drastically reduce the cost of welfare: in 1932, a governmental committee for eugenics set up to draft a sterilization law among other eugenics measures. This draft was designed to establish voluntary sterilization of carriers of hereditary disease upon proof thereof. This draft, which rejected euthanasia for eugenics purposes, will constitute nonetheless the basis for the Nazi mandatory sterilization law of 1933.

With the rise of the Nazis to power, the institutions of eugenics lost any independence, and the term *Eugenik* was instrumentally replaced by the earlier *Rassenhygiene*. The 1933 *Gesetz zur Verhütung erbkranken Nachwuchses* (Law for the

prevention of genetically ill offspring) was directed towards congenital conditions (including feeblemindedness, schizophrenia, manic depressive insanity, genetic blindness, and deafness among others; see Weiss 1987, 229).[256] At the same time, eugenics (now *Rassenhygiene*) became entirely consecrated to the Aryanist, racist program of the Nazis.

This schematic outline of the history of German eugenics is aimed at emphasizing the continuity between preexisting discourses and Nazi ideology. In this case, the continuity has to be understood on the basis that "World War II provided the Nazis a unique environment within Germany and in the occupied eastern territories for murderous programs of racial hygiene or 'cleansing'" (Bachrach 2004, 10). In the case of eugenics, this continuity is definable both in terms of the Nazi appropriation, and in terms of the connivance of eugenicists with the political crimes perpetrated by the Nazis. For example, whereas the practice of euthanasia, documented for the Nazi years as a secret operation, was never officially aided or supported by eugenicists, it found silent connivance in them (Weiss 1987, 234). More problematic is to assess the direct complicity between eugenics and the racial extermination that took place in the concentration camps.[257] Weiss's answer identifies in the discourse of eugenics the "form" that allowed the Nazi insertion of the contents of political and social brutality, not already entailed in the eugenicist movement. What I call here "form" is what Weiss calls "the

[256] Meanwhile, the genetic research carried on in the institutions dedicated to eugenics was heavily based on twin studies (Weiss 1987, 232).

[257] According to Weiss, the historical assessment of the eugenicists' direct, full responsibility is not the same as assessing their "omission" or connivance, attested by biological materials from Auschwitz sent to the labs of the Berlin institute (Weiss 1987, 235fn): "Can one rightfully speak of an ideological connection between the kind of eugenics articulated by relative nonracist such as Challmayer, Muckermann, and Grotjahn and the atrocities carried out in the name of race hygiene by Nazi officials?" (Weiss 1987, 236). On the highly problematic issue of responsibility, see the more extended discussion in Weingart, Kroll and Bayertz 1988, 381 ff..

very logic of eugenics," namely "the rational management of population to some ‘higher end’" (Weiss 1987, 236). In other words, the Nazi appropriation/incorporation became possible, for Weiss, by inserting a "new" ideological content in a preexisting form. Weiss's highly controversial argument is useful here in emphasizing what I call "insertion" of Nazi ideology, or "incorporation" of preexisting elements within their ideological construct. As I will show in the next paragraph, which is crucial to my argument as a whole, incorporation worked not just in the way indicated by Weiss (new contents for a preexisting form, or "logic"). Largely, the appropriation was made possible by the ransacking strategy of propaganda, by its rhetoric-blindness, and by the specific "pact" that propaganda established with a demagogically subdued public.

§4. The Nazi appropriation: propaganda and fascist aesthetic

After 1933, all exhibitions that took place in, or were organized by, the Dresden Hygiene-Museum, and which included a permanent section for the "gläserner Mensch," were attuned to the requirements of the NSDAP Propaganda-Abteilung (the committee for propaganda of the Nazi party).

The exhibition "Das Wunder des Lebens" (The wonder of life), which took place in Berlin in 1935, was designed by the Dresdner Museum in collaboration with the NSDAP (see Sösemann, chart 836, 834-835). I will focus on the archival materials documenting this exhibition in my attempt to illuminate the way the transition from the hygiene exhibitions of the Weimar Republic to the Nazi-designed exhibitions starting in 1933 took place.

This apparently seamless transition involving the "gläserner Mensch" raises questions about the rhetorical reuse and manipulation of artifacts, but more deeply about the underlying continuity between the discourses that had generated the figure of the glass-like model in the first place (anatomy, hygiene, eugenics), and the Nazi appropriation of the figure for propaganda purposes. Having sketched until this point in the chapter the generative discourses for the glass-like model, I now want to concentrate on the specific "insertion" operated by Nazi ideology into this figure, and on the strategies of appropriation. This focus will not answer, per se, the question of the deeper continuity between Nazi ideology and propaganda to the preceding discursive frames. On the one hand there is the broader problem of the ideological continuity between Weimar culture and Nazism; on the other, that of the rhetorical status of propaganda itself in relation to any cultural utterance. The latter problem is methodologically prior insofar as it sets the limits of any analysis of Nazi propaganda when looking for traces of continuity and connections to the cultural discourses preceding the rise of the Nazis. These limits, in the classical analysis of Adorno and Horkheimer that I will here refer to as to my methodological baseline, are insurmountable. Propaganda is in itself no 'discourse': it is the mimicry of discourse, insofar as it turns any utterance into a lie by pre-charging it with false contents:

> Propaganda directed at changing the world – what an absurdity! Propaganda turns language into an instrument, a lever, a machine. Propaganda fixes the composition which human beings have taken on under social injustice, by stirring them. It counts on their ability to be counted on. All people know in their innermost awareness that through this medium they are turned into media, as in a factory. […] Propaganda manipulates human beings; when it screams freedom it contradicts itself. *Mendacity is inseparable from it*. It is the community of lies in which the leader and the led come together, *even when its content as such is correct*. In it even truth becomes a mere means, to the end of gaining adherents; *it falsifies truth simply by taking it into its mouth*. That is why true resistance is

> without propaganda. Propaganda is antihuman. It presupposes that the principle their politics should spring from communal insight is no more than a form of words. (Adorno, Horkheimer 2002, 212) [my emphasis]

According to Adorno and Horkheimer, analyzing a propaganda statement is a paradoxical operation. As I will show in a moment in a text from the exhibition guide to the 1935 exhibition "Das Wunder des Lebens," contents are added and forced besides the pre-existing ones, in order for the message to "pass through." Adorno and Horkheimer speak of the falsification that any truth undergoes in the mouth of propaganda: propaganda is in itself "inseparable from mendacity," "even when its content as such is correct."

This highly interpretative stance on propaganda captures much of its problematic textual nature, even if it doesn't exhaustively account for its rhetorical processes. It is not my aim here to try anything of this kind, and I will therefore acknowledge the Frankfurt School reading as the formal limit of my inquiry into the Nazi rhetorical appropriation of the glass-like anatomic models. What I will do, however, is to show what basic operations propaganda texts rely on.

Even if I won't venture into the dense questions of the historical continuity between Weimar culture and Nazi ideology, I will address this highly complex issue through the lens of the micro-history of the "gläserner Mensch."

4.1 The language of life

The figure of the "gläserner Mensch" was described, already by its debut in the 1930 exhibition, as posing in the fashion of the 4th century BC "Praying boy" from Rhodes (Wünsche 1990, 99). From an iconographical perspective, the "gläserner Mensch," raising his arms in a praying gesture, presents itself as a type, or rather, as a conduit of a

Pathosformel (Wünsche 1990, 99)—in Aby Warburg's definition, a gestural pattern charged with a certain expressive content and transmitted across cultural eras, but still legible in its original expressive meaning. The iconographical tradition that the presentation of the glass model relies on, that of the praying figure, assigns it an unequivocal transcendent connection. I have already proposed, in paragraph 1, to read this transcendence defining the spectacle of the "gläserner Mensch" as one, for the viewer, of comforting representation of disembodiment, and of negative identification with a human stripped of any fleshy, decaying element, in contrast with the focus on disease and decay offered by the rest of the hygiene exhibition. The disembodied transcendence signified by the praying boy *Pathosformel* is re-connoted by the specific contribution of Vitalism to the symbolic complex of the "gläserner Mensch," resulting in a modern sacral figure of sorts.

Several Vitalist elements belong to the representation of the glass-like model (Wünsche 1990, 99), as clearly indicated by the whole rhetoric and vocabulary of "wonder" that takes up a leading role in the 1935 exhibition "Das Wunder des Lebens" (The Wonder of Life),[258] which was already present, though in a more implicit form, in the exhibition's guide from the 1931 Dresden "Hygiene Exhibition." The 1931 exhibition's guide employs a striking vocabulary to describe the section "der durchsichtige Mensch," which displayed, besides the new tridimensional anatomical model, some flat, "transparent" sections of human tissues. The text refers to a "perfect harmony" disclosed by the "laws of life" of the body when observed in its deepest, hidden structures, and magically made transparent, just like in a fairytale:

[258] See paragraph 4 for an extensive analysis of the exhibition. On the Vitalist connection to Nazi ideology, see also Canguilhem 2008, 72, 73.

> As in a *fairytale*, the eye penetrates in the *hidden depth of the body* and sees through the transparent preparations the structures of the organs so clearly, as never any X-Rays could reveal. Here becomes apparent the beautiful form of the body and of its single parts as a sensual image of the *perfect harmony* that is at work in the *laws of life*. The human being finds within himself *the greatest wonder of the world* if, following the indications of the museum, with a vigilant eye, will look around himself and into himself; this will awaken attention for his body and a deep *sense of responsibility* for the highest good he has to preserve: health.[259] [my emphasis]

The "perfect harmony" of the "laws of life" is presented here as the ultimate revelation of that scopic fantasy of looking through the body—a fantasy that X-ray technology had brought to a further level, and that is here overcome by a further promise of transparency and depth. In the passage above, the aesthetical experience of the exhibition implies an ethical outcome—a "sense of responsibility" towards the body.

The transition from the 1931 exhibition to the one supervised and organized by Nazi propagandists in 1935, consists, on a very pragmatic level, in the rearrangement of the exhibit's sections, where growing priority was assigned to the sections dedicated to eugenics. But the transition can also be tracked in the language of the accompanying guides to the exhibit, that is, in the rhetorical inscriptions of the object "gläserner Mensch" respectively in the first and second context. The transition must be traced through the intricacies and overlaps between the rhetorical messages of Nazi propaganda and the pre-existing discourses that it ransacked.

---

[259] "Wie in einem *Märchen* dringt das Auge in *verborgene Tiefen des Körpers* ein und durchschaut in den durchsichtigen Präparaten die räumliche Struktur der Organe so klar, wie sie nicht einmal die Röntgenstrahlen enthüllen können. Hier offenbart sich die Formenschönheit des Körpers und seiner Einzelteile als Sinnbild der *vollendeten Harmonie*, die in den *Gesetzen des Leben* waltet. In sich selbst findet der Mensch *die grössten Wunder der Welt*, wenn er, worauf das Wahrzeichen des Museums hinweist, mit wachem Auge um sich und in sich blickt, und daraus wird ihm Achtung vor seinem Körper erwachsen und ein tiefes *Verantwortungsgefühl* für das höchste Gut, das er zu bewahren hat, die Gesundheit." Ausstellung 1931. Document from the DHM Archive, Dresden.

The exhibition "Das Wunder des Lebens" (The wonder of life), which in 1935 brought the glass-like models to the German capital for the first time, introduced its aims and purposes in the following way:

> The great exhibition will work in two directions! For the fellow German, it will relate, in an easy to understand and highly memorable form, the knowledge of the highest organism crafted by Nature to the knowledge of one's own. At the same time, it will make visible the big laws according to which Nature operates, and will deepen our *sense of life*, will strongly reinforce the *will of life*. Walking through the halls of the exhibit, one will fall under the spell of the fact that the solemnity of the exhibition "The Wonder of life" is accompanied by a strong *sense of joy*, the *merry feeling of the joy of life* of men who, belonging to a great people [Volk], are not just the inheritors of a strong past, but carry on a noble future.[260]

Earlier in this chapter I quoted a passage from the 1931 exhibition's guide that I am reporting here once more:

> The section "der Mensch" wants to convey understanding for the constitution and ability of the human body and thereby awaken love for this marvelous artwork. The knowledge of its astonishing organization must excite a joyous feeling of the body as the basis for a sensible and lasting healthcare.[261]

If we analyze comparatively the two texts from 1931 and 1935, we can see how the rhetoric of hygiene education ("Belehrung") and filo-humanistic self-knowledge, loaded with connotations of joy, marvel, and admiration, shifts to a rhetoric of "joyful" identification with the mythical destiny of the "Volk." This transition occurs, textually, as

---

[260] "So soll die grosse Schau in zweifacher Richtung wirken! Sie soll dem Volksgenossen in leicht Verständlicher und höchst einprägsamer Form Wissen um den höchsten Organismus, den die Natur schuf, ums eigene Ich vermitteln. Sie soll aber zugleich die grossen Gesetze, nach denen die Natur waltet, sichtbar machen, und soll unser *Lebensgefühl* vertiefen, unseren *Lebenswillen* bahnweisend stärken. Wer durch die Hallen schreiten will, wird in Bann geschlagen von der Tatsache, dass mit dem Ernst der Ausstellung "Das Wunder des Lebens" ein starkes *Frohgefühl* sich paart, *das Frohgefühl der Lebensfreude* von Menschen die, einem grossen Volke zugehörig, nicht nur Erben einer starken Vergangenheit, sondern auch Träger einer edlen Zukunft sind" (Document from the DHM Archive) (my emphasis).

[261] "Die Abteilung "der Mensch" will Verständnis für Bau und *Tätigkeit* des menschlichen Körpers vermitteln und dadurch *Liebe* zu diesem wundervollen *Kunstwerk* wecken. Die Kenntnis von seiner *staunenswerten Organisation* soll *ein freudiges Körpergefühl* anbahnen als Grundlage einer verständigen und nachhaltigen Gesundheitspflege." (Document from the DHM Archive) (my emphasis).

a mere addition of the new elements to the pre-masticated contents borrowed from the preceding exhibition—one of the main patterns for propaganda's appropriation of pre-existing discourses. Since as I have preemptively stated above that analyzing a propaganda text is a dubious operation, burdened by the intrinsic "mendacity" of the propaganda-message, I will limit myself here to point out the strategic additions to the 1935 Nazi text when compared to the 1931 text. The notions of "Frohgefühl" (sense of joy) and "Lebensfreude" (joy of life) were earlier used to characterize, with Vitalistic overtones, the experience of learning about the astonishing "organism" of the body. Now, in the 1935 text, the joyful realization of recognizing in one's own body the meaning of one's existence, is linked, with little more than a juxtaposition (in fact, a relative clause), to the ideology of the "ewiges Volk"—the "eternal" German people, rooted in a glorious past and directed towards an even more glorious future. The Vitalist *entelecheia* previously announced as the discovery of the wonder of the perfect human body is here deceivingly made to coincide with the ideological teleology of the Volk. The 1935 Nazi exhibition accomplishes, on the level of rhetoric, the historical appropriation by Nazi propaganda of the earlier discourse of Vitalism.

4.2 Bodies

On the covers of two different *exhibition guides* from the 1935 exhibition, we see two highly stylized, slightly different versions of the transparent human (fig. 3; fig. 4), its fluorescent contours depicted upon those of an egg—the simplest organic form of *entelecheia* according to Vitalist definitions (Driesch 1928, 9).

Given the paratextual emphasis of the 1935 exhibition on the "gläserner Mensch"

and its relevance in the overall exhibition's arrangement, my question in this paragraph is, once more: how was it possible for Nazi propaganda-designers to incorporate the transparent model as an appropriate symbol for their ideological aims, and to integrate it in their own re-structuring of hygiene exhibitions under the sign of heavy eugenics policies? I am trying, here, to move beyond the language of the guides, and the limits that I have designated as those of the rhetoric of propaganda—intrinsically mendacious, textually deceiving. My line of inquiry returns here to the aesthetic presentation of the transparent figure in its iconography, looking at its bodily posture, the exhibition's arrangements, and its special effects. By tracing each of these elements back to a network of citations, motives, or patterns, I want to show how this figure could appeal to propaganda designers, and could in fact be appropriated by Nazi propaganda-designers.

In its concrete occurrence and presentation in the context of the exhibition, the "gläserner Mensch" does not stand isolated, but is joined by a wide array of bodies didactically and ostentatiously exhibited within the same space. If we look once more at the 1935 exhibition guide of "Das Wunder des Lebens," we encounter images of muscular bodies stripped of their skin so as to better didactically show the physical wonder of the human body, alongside several stylized and schematic representations of the mechanics of the body (fig. 5; fig. 6)—both examples of what Hal Foster has called the "(proto)fascist obsession with the body as armor" (Foster 1991b, 67), and of what we have already called the "body-machine" schema (*supra*; see also Foster 1991a).[262] Both

[262] Foster's claim with concern to the fascist "armored body" aesthetic is "to see this armor as a prosthesis that served to shore up a disrupted body image or to support a ruined ego construction" (Foster 1991b, 68). His reading is explicitly echoing Lacan's: "In 1951 Lacan suggested that such armored figures 'exteriorize the protective shell of [the] ego [of the heterosexual male], as well as the failure of his virility' ("Some Reflections on the Ego," delivered to the British Psycho-Analytic Society on May 2, 1951)" (Foster 1991b, 69fn). Foster explores the effects of this self-representation as those of political fascism: such aggressiveness seems necessary to the (proto)fascist not only for self-definition, but also for self-defense.

figures seem to coalesce under the Marxist analysis of commodification conducted in Benjamin's and, later, Horkheimer and Adorno's critiques. Foster, who deals with the subject of the surrealist representation of mechanized bodies and dolls (that is, with a second-degree representation of the body), addresses the general schema of the "body-machine" through Benjamin's critique in the *Passagenwerk*: "Exposure of the mechanistic aspects of the organism is a persistent tendency of the sadist. One can say that the sadist sets out to substitute for the human organism the image of machinery" (Foster 1991b, 91). According to this line of thought, the aesthetic imagery of a body represented as the perfect organization of distinct functions and single, detachable parts—be it in the over-sculpting of its muscular features or in the abstraction of its functions as purely mechanic—would reveal a tendency to sadism conceived as both a psychoanalytic dysfunction of identification, and as a political attitude towards annihilation: both aspects re-played and unmasked by Surrealist art. The fascist aesthetic is interpreted, in the line that Foster traces back to the Frankfurt School's critique and that he himself commits to, as both the outcome of a psychoanalytic complex and as a pathological set of social and political attitudes. This interpretation was consistently carried out by the later Frankfurt School's critique by Horkheimer and Adorno, which I have already recalled with regard to the language of propaganda. In their *Dialectic of Enlightenment*, they explicitly link the cult of the physical body to the exterminatory practices of concentration camps:

> Those who extolled the body in Germany, the gymnasts and outdoor sports enthusiasts, always had an intimate affinity to killing, as nature lovers have to hunting. They see the body as a mobile mechanism, with its hinged links, the flesh upholstering the skeleton. They manipulate the body, actuating the limbs as

---

In doing so, however, the (proto)fascist most fears and loathes his unconscious and sexual drives and desires (Foster 1991b, 84).

if they were already severed. (Horkheimer, Adorno 2002, 195)[263]

The passage refers to the "proto-fascist" aesthetic that Foster speaks of: that of muscular bodies shown in glorious poses of powerfulness. As we have seen, these figures appeared on the same exhibition's guide that hosted the transparent human model, and appeared alongside it in the exhibition space itself. In other words, they belonged to the same discursive space that generated the transparent model—continuous, though not homogeneous to it.

The transparent model was actually a hollow figure exposing its skeleton but devoid of muscles—its body frame rather unostentatious (not that of a culturist). In this regard, the body of the transparent human was perhaps rather closer to the image of the "machine-body" schema proper, as for example the image body as factory of Lingner and many other didactic representations displayed in the hygiene exhibitions already starting with 1911—its main aesthetic focus lying in the visibility of the inner mechanism rather than in the chiseled quality of its features.

A visual analysis of the "gläserner Mensch" is further complicated by the fact that we are dealing with a multi-media object.[264] In paragraph 1, I described this multi-medial experience as a spectacle enabling the viewer to experience identification with a human who is beyond the human: disembodied, and above earth. The special effects that accompanied the presentation of the transparent model, that is the lightening of the inner organs and the acoustic voice-over explanations, while emphasizing the detachment of this model from the community of the ordinary living bodies, also acted as an automaton

[263] This is conceived as the outcome of a preliminary reification of the body: "The body cannot be turned back into the envelope of the soul. It remains a cadaver, no matter how trained and fit it may be. The transformation into dead matter, indicated by the affinity of *corpus* to corpse, was a part of the perennial process which turned nature into stuff, material […]" (Horkheimer, Adorno 2002, 194).
[264] "This model offered an innovative and synesthetic museological performance" (Canadelli 2011, 169).

of sorts. In the 1930s, Surrealist artists were employing automata and mannequins to express "a confusion between the animate and the inanimate, between life and death" through "a doubling of the body; but not just any doubling: its estranging as machine and commodity under capitalism" (Foster 1991a, 51).

What Nazi designers must have seen in the transparent human as positively matching their aesthetic values was the perfect functioning of a human-machine: to echo Horkheimer and Adorno's critical vocabulary, a "mobile mechanism" where for once "the flesh upholstering the skeleton" was conveniently removed in order to reveal the mechanism (Horkheimer, Adorno 2002, 195). What these propaganda designers certainly failed to see, however, was the uncanny effect of the automaton that Surrealists, among other "degenerate artists," were seeking in their mechanical figures. The iconographical contents of the glass-like model, in the multi-medial context of its actual presentation, reveal as much continuity as discrepancy with the proto-fascist aesthetic of the body.

The "gläserner Mensch" accentuated the aspect of mechanism through its multi-media presentation up to the point of becoming virtually a mannequin figure—that is, a double, a second-degree representation, exposing the staging of the representation itself. This aspect, which Surrealist aesthetic embraced as the "uncanny," remained covered up by the appeal to "education" (Belehrung) and "enlightenment" that rhetorically framed hygiene exhibitions. It remains, however, as a residual element of representation, an unacknowledged burden that marks the appropriation of this object by the Nazi aesthetic of the body.

Fig. 3 Cover to the exhibition guide of 1935 “The wonder of life.” Archival document. Courtesy of DHM Dresden

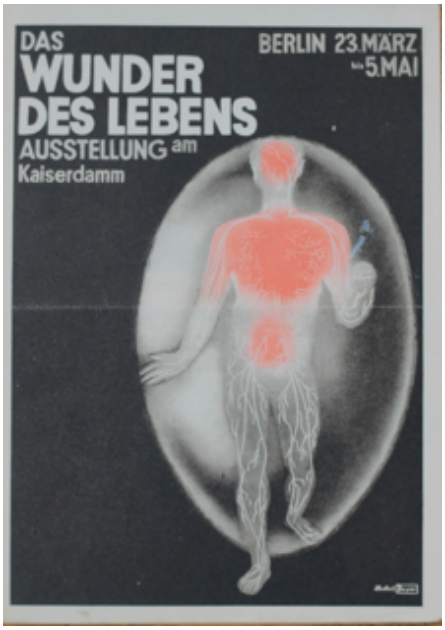

Fig. 4 Cover to the exhibition guide of 1935 “The wonder of life.” Archival document. Courtesy of DHM Dresden

Fig. 5 From the exhibition guide to "Das Wunder des Lebens," 1935. Archival document. Courtesy of DHM Dresden

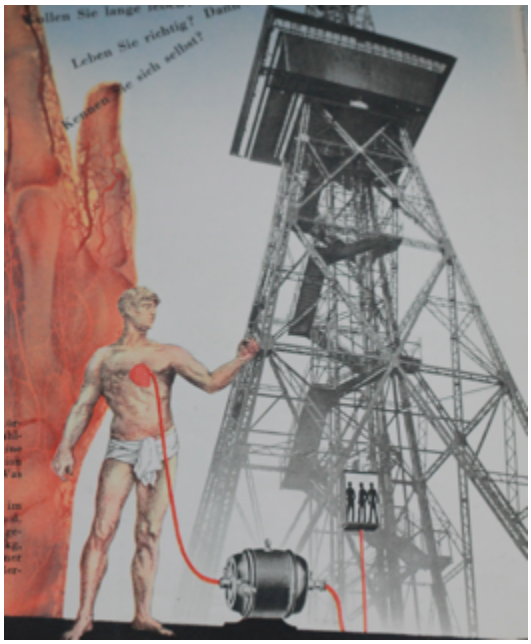

Fig. 6 From the exhibition guide to "Das Wunder des Lebens," 1935. Archival document. Courtesy of DHM Dresden

4.3 "DEUTSCH SEIN HEIßT KLAR SEIN"

The infamous speech given by Hitler at the opening of the Great German Art Exhibition in Munich in 1937, proclaimed, in a blatantly convoluted and opaque prose, the standard of artistic value for the German Volk in terms of a "law of clarity": "to be German is to be clear" (Rabinbach, Gilman 2013, 496).[265] The "clarity" of German art was oddly being juxtaposed to a corresponding conception of the human body. In fact, in the very same speech, Hitler announced "a new type of man": "better, stronger and more beautiful"—an enterprise capable of raising "a new lust for life, a *sense of joy* in life" (Rabinbach, Gilman 2013, 498; my emphasis).[266] The passage was followed by the stereotypical tirade against physical impairments and disabilities, alongside a rant against "primitivist" artists that "suffer from defective vision."[267]

The language employed to describe the enthusiastic outcomes of the creation of a "new human type" was highly consistent with that of the exhibition "das Wunder des Lebens" from 1935: "das Frohgefühl der Lebensfreude" (the merry feeling of the joy of life) of the latter announced, rather disquietingly, Hitler's reference to "ein neues Lebensgefühl, eine neue Lebensfreude" (a new feeling for life, a new joy of life). As I have shown above, the rhetorical "strategy" of the Nazis had consisted, in the 1935 exhibition, in an "addition," that is, in inserting the ideological notion of the "Volk"

---

[265] The passage goes on: "But that would also imply that to be German is thus to be logical and, above all, to be true. It is truly a magnificent law, but it is one that everyone must follow and serve in order for it to take force. And this law also provides us with a standard for measuring the value of art because it is congruent with the natural laws and essence of our *Volk*" (Rabinbach, Gilman 2013, 496).

[266] I am providing here the original German text for the purpose of my argument. "Die heutige neue Zeit arbeitet an einem neuen Menschentyp. Ungeheure Anstrengungen werden auf unzähligen Gebieten des Lebens vollbracht, um das Volk zu heben, um unsere Männer, Knaben und Jünglinge, die Mädchen und Frauen gesünder und damit kraftvoller und schöner zu gestalten. Und aus dieser Kraft und aus dieser Schönheit strömen ein neues Lebensgefühl, eine neue Lebensfreude!"

[267] In Hitler's speech, these degenerated artists would represent things as they are not: "Wiesen blau, Himmel grün, Wolken schwefelgelb usw. empfinden oder, wie sie vielleicht sagen, erleben."

beside the Vitalist characterization of self-discovery as a joyous and life-fulfilling experience. In this way, the ideology of the Volk had been legitimized, rhetorically, by means of linguistic juxtaposition. By this mere linguistic operation of juxtaposition, a significant ideological result had been achieved: the Vitalist *entelecheia* was made to coincide, deceivingly, with the teleological myth of the Volk. In Hitler's 1937 speech, the ideology of the Volk is once more inserted as re-connotation of the Vitalistic "Lebensfreude."

In Hitler's speech, furthermore, the "scientific" language of eugenics employed in the exhibition's section on "Rassenhygiene" was dissolved into the demagogic rant of demographic cleansing of the "weaker," which had become, already with the mandatory sterilization law of 1933 (paragraph 3) (and the secret euthanasia plan), a matter of fact. What is most striking about the foggy claims of the speech is the key role that "clarity" seems to play in establishing both a "law" for German art and a "law" for a "new type of man." Art and human beings, "Kunst" and "Mensch," in the ideology of the Volk, are presented as homogeneous in their pursuit of clarity—or better, in their dogmatic presumption of clarity, insofar as they are proclaimed as already clear in their ideological constitution (in fact, were they not yet clear, they would be degenerate, "entartet"). Meanwhile, eugenics policies pursued by the Nazis in the 1930s under a scientific alibi provided by a decade-long tradition of eugenics are here presented as the ultimate extermination program they had become, and assigned the social task of creating a "new human type" through the annihilation of "unfit" humans.

What is ultimately the clarity that this piece of Nazi rhetoric was promoting? Quite apparently, it was the clarity of normalization through extermination and

censorship. "Blue meadows" and "green skies" of Expressionist art on the one hand, and "undeserving" humans on the other, all seemed to share a dangerous lack of clarity, defying the standards established by the athletic body as much as by the "Volk" art promoted by the new Munich Museum.[268] The standard of the "human type" and that of "German art" coincided in the formula of *Klarheit* under the sign of normalization.

It is precisely at this juncture that the Nazi appropriation of the clearest of anatomic models—the glass-like Dresden model—becomes apparent. Clarity as an aesthetic notion promoted by Nazi propaganda conveyed (and concealed) the ideological contents of violent effacement of ethnical and cultural difference. The transparent model, a standard measure of perfect functioning and compliance to a law of clarity, can become at this point a disquieting representation of Hitler's "master-plan." In 1939, the exhibition "Ewiges Volk" (Eternal people) adopted the stylized image of the transparent model for its brochures, thereby sealing ichonographically the symbolic appropriation (fig. 7).

The transparent model, however, as I have shown above with reference to Hal Foster's claim about the "body as armor," entailed its own critique in its very material and aesthetic constitution, which evaded the ideological meanings superimposed on it. Today, displayed as historical evidence in hygiene museums, the "gläserner Mensch" looks very similar to an outdated automaton: its plastic-covered skeleton, to which time has conferred a typical yellow patina, exposes the uncanny, deadly face of the ideological construct that was at the basis of its appropriation by Nazi propaganda-designers.

[268] The athletic body promoted by the Nazis is celebrated for example in the sculptures of Arno Breker.

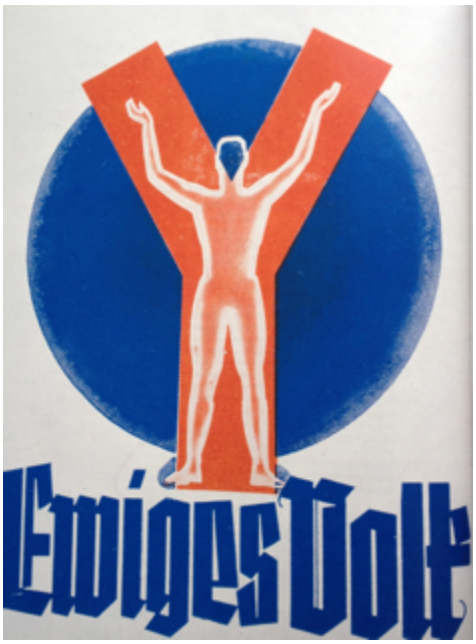

Fig. 7 Cover to exhibition guide of 1937: “Ewiges Volk.” Courtesy of DHM Dresden

BIBLIOGRAPHY

Aesop. *Aesop's Fables*. Translated by Laura Gibbs. Oxford: Oxford University Press, 2002.

Agamben, Giorgio. *Homo Sacer: Il Potere Sovrano e la Nuda Vita*. Torino: Einaudi, 2005.

Amartin, Serin A. *La Création Défiée: l'Homme Fabriqué dans la Littérature*. Paris: Presses Universitaires de France, 1996.

Andreae, Johann V. *Die Chymische Hochzeit des Christian Rosenkreuz: Anno 1459*. Edited by Walter Weber and Rudolf Steiner. Basel: Zbinden, 1978.

Archival Sources from the Dresden Hygiene Museum.

Arendt, Dieter. "Homunculus – der Geist 'in der Flasche' oder: Ein Mephistophelisches Märchen." In *Literatur und Geschichte. Festschrift für Erwin Leibfried*, edited by Sascha Feuchert, Joanna Jablkowska, and Jörg Riecke, 35-60. Frankfurt am Mein: Peter Lang 2007.

Arens, Hans. *Kommentar zu Goethes Faust II*. Heidelberg: Winter, 1989.

Babb, Lawrence. *The Elizabethan Malady*. East Lansing: Michigan State College Press, 1951.

Bachrach, Susan D., Kuntz, Dieter. *Deadly Medicine: Creating the Master Race*. Washington, D.C.: United States Holocaust Memorial Museum, 2004.

Baglivi, Giorgio. *De Praxi Medica*. In *Opera omnia medico-practica et anatomica*, Venezia 1722.

Barker-Benfield, G. J. *The Culture of Sensibility: Sex and Society in Eighteenth-Century Britain.* Chicago: University of Chicago Press, 1992.

Barovier, Rosa Mentasti, Tonini, Cristina."Mille ans de Verre." In *Fragile: Murano, Chefs-D'œuvre de Verre de la Renaissance au XXIe Siècle*, edited by Rosa Barovier Mentasti and Cristina Tonini, 9-44. Paris: Gallimard, 2013.

Barovier, Rosa Mentasti, Tonini, Cristina. "Tools to Study Glass: Inventories, Paintings and Graphic Works of the 16th century." In *Study Days on Venetian Glass: Approximately 1600's*, edited by Rosa Barovier Mentasti and Cristina Tonini, 3-42. Venezia: Istituto Veneto di Scienze, Lettere ed Arti, 2014.

Bartra, Roger. *El Siglo de Oro de la Melancolía: Textos Españoles sobre las*

Enfermedades del Alma. México: Universidad Iberoamericana, Departamento de Historia, 1998.

Bedini , Silvio A. "The Role of Automata in the History of Technology." *Technology and Culture*, 5, no. 1 (1964): 24-42.

Beier-de, Haan Rosmarie, Roth, Martin. *Der Gläserne Mensch, eine Sensation: Zur Kulturgeschichte Eines Ausstellungsobjekts*. Stuttgart: G. Hatje, 1990.

Beier-de Haan, Rosmarie. "Der Blick in den Körper zur Geschichte des Gläsernen Menschen in der Neuzeit." In *Der Gläserne Mensch, eine Sensation: Zur Kulturgeschichte eines Ausstellungsobjekts*, edited by Rosmarie Beier de Haan and Martin Roth. Stuttgart: G. Hatje, 1990.

Benjamin, Walter. "Surrealism: The Last Snapshot of the European Intelligentsia." Translated by Edmond Jepphcott. NLR 1, 108 (1978).

Beretta, Marco. *The Alchemy of Glass: Counterfeit, Imitation, and Transmutation in Ancient Glassmaking*. Sagamore Beach (Mass.): Science History Publications, 2009.

Bigeard, Martine. *La Folie et les Fous Littéraires en Espagne, 1500-1650.* Paris: Centre de Recherches Hispaniques, 1972.

Blok, F. F. *Caspar Barlaeus: From the Correspondence of a Melancholic*. Assen: Van Gorcum, 1976.

Bordeu, Théophile de. *Recherches Anatomiques sur la Position des Glandes et sur leur Action.* Paris: Chez G. F. Quillau, 1751.

Borelli, Giovanni Alfonso. *On the Movement of Animals*. Translated by Paul Maquet. Berlin: Springer Verlag, 1989.

Boury, Dominique. "Irritability and Sensibility: Key Concepts in Assessing the Medical Doctrines of Haller and Bordeu." *Science in Context*, 21, no. 4 (2008): 521–535.

Bright, Timothie. *A Treatise of Melancholie.* New York: Facsimile Text Society by Columbia University Press, 1940.

Bröer, Ralf. *Salomon Reisel (1625-1701): Barocke Naturforschung Eines Leibarztes im Banne der Mechanistischen Philosophie.* Halle: Deutsche Akademie der Naturforscher Leopoldina, 1996.

Brough, Neil. *New Perspectives on Faust: Studies in the Origins and Philosophy of the Faust Theme in the Dramas of Marlowe and Goethe*. Frankfurt am Main: P. Lang, 1994.

Brown, Theodore M. "The College of Physicians and the Acceptance of Iatromechanism in England, 1665-1695." *Bulletin of the History of Medicine* 44, no. 1 (1970): 12-30.

Brown, Theodore M. "From Mechanism to Vitalism in Eighteenth-Century English Physiology." *Journal of the History of Biology*, 7, no. 2 (1974): 179-216.

Burton, Robert. *The Anatomy of Melancholy*. Edited by Thomas C. Faulkner, Nicolas K. Kiessling, and Rhonda L. Blair. Oxford: Oxford University Press, 1989.

Campanella, Tommaso. *Il Senso delle Cose e delle Magia*. Edited by Filiberto Walter Lupi. Soveria Mannelli: Rubbettino Editore, 2003.

Campbell, Mary Baine. "Artificial Men: Alchemy, Transubstantiation, and the Homunculus." *Republics of Letters: A Journal for the Study of Knowledge, Politics, and the Arts* 1, no. 2 (2010): 4-15.

Canadelli, Elena, "'Scientific Peep Show'. The Human Body in Contemporary Science Museums." *Nuncius*, 26 (2011): 159-184.

Canguilhem, Georges. *Knowledge of Life.* Edited by Paola Marrati and Todd Meyers. New York: Fordham University Press, 2008.

Casa, Frank. "The Structural Unity of *El Licenciado Vidriera*." *Bulletin of Hispanic Studies*, 41, no. 4 (1964): 242-246.

Cervantes Saavedra, M. de. *Novelas Ejemplares II.* Edited by Francisco Rodríguez Marín. Espasa-Calpe: Madrid, 1965.

Cervantes Saavedra, M. de. *The Complete Exemplary Novels*. Edited and translated by Barry Ife and Jonathan Thacker. Oxford: Oxbow, 2013.

Chadaga, Julia. *Optical Play: Glass, Vision, and Spectacle in Russian Culture.* Chicago: Northwestern University Press, 2014.

Coleman, William. "Health and Hygiene in the 'Encyclopédie': A Medical Doctrine for the Bourgeoisie." *Journal of the History of Medicine and Allied Sciences*, 29, no. 4 (1974): 399–421.

Condillac, Etienne Bonnot de. *Traité des Sensations; Traité des Animaux.* Paris: Fayard, 1984.

Cross, Wilbur L. *The Life and Times of Laurence Sterne.* New York: The Macmillan Company, 1909.

Curtius, Ernst Robert. *European Literature and the Latin Middle Ages.* Princeton: Princeton University Press, 2013.

Daniel, Drew. *Melancholy Assemblage: Affect and Epistemology in the English Renaissance.* New York: Fordham University Press, 2013.

Daston, Lorraine, Galison, Peter. *Objectivity.* New York: Zone Books, 2007.de Man, Paul. *Allegories of Reading: Figural Language in Rousseau, Nietzsche, Rilke, and Proust*. New Haven: Yale University Press, 1979.

de Solla Price, Derek J. "Automata and the Origins of Mechanism and Mechanistic Philosophy." *Technology and Culture*, 5, no. 1 (1964): 9-23.

Dennis, David B. *Inhumanities. Nazi Interpretations of Western Culture*. Cambridge: Cambridge University Press, 2012.

Driesch, Hans. *Philosophie des Organischen*. Leipzig: Verlag von Quelle & Meyer, 1928.

Descartes, René. *Treatise of Man.* Translated and edited by Thomas Steele Hall. Cambridge: Harvard University Press, 1972.

Diderot, Denis, d'Alembert Jean L.R. *Encyclopédie, ou Dictionnaire Raisonné des Sciences, des Arts et des Métiers*. Paris: Briasson, David, Le Breton, and Durand, 1751-65. Reprint: New York: Pergamon Press, 1969.

Diderot, Denis, d'Alembert Jean L.R. *The Encyclopedia of Diderot & d'Alembert: Collaborative Translation Project*. Ann Arbor: Michigan Publishing, University of Michigan Library, 2004. http://hdl.handle.net/2027/spo.did2222.0000.295 (accessed April 19, 2017).

Diderot, Denis. *Œuvres Philosophiques.* Edited by Paul Vernière. Paris: Garnier Frères, 1964.

Diderot, Denis. *Rameau's Nephew; And D'alembert's Dream.* Translated and edited by Leonard Tancock. Penguin Classics: Cambridge 2011.

Domenéch, Ignasi. "Spanish *Façon de Venise* Glass." In *Beyond Venice: Glass in Venetian Style, 1500-1750*, edited by Jutta Page. The Corning Museum of Glass: Corning (NY), 2004.

Drux, Rudolph. "Homunculus oder Leben aus der Retorte. Zur Kulturgeschichte eines Literarischen Motivs seit Goethe." In *Tales from the Laboratory: Or, Homunculus Revisited*, edited by Rüdiger Görner, 91-104. München: Iudicium, 2005.

Du Laurens, André. *A Discourse of the Preservation of the Sight: of Melancholike Diseases; of Rheumes; and of Old Age*. Translated by Richard Surphlet. London: Felix Kingston for Ralph Iacson, 1599.

Dümchen, Sybil. "The Function of Madness in *El licenciado Vidriera.*" In *Cervantes's Exemplary Novels and the Adventure of Writing,* edited by Michael Nerlich and Nicholas Spadaccini, 99-123. Minneapolis: Prisma Institute, 1989.

Eckermann, Johann P. *Conversations of Goethe with Eckermann and Soret*. Translated by John Oxenford. Cambridge: Cambridge University Press 2011.

Edmonds, David, Eidinow, John. *Rousseau's Dog: Two Great Thinkers at War in the Age of Enlightenment*. New York: Harper Collins 2006.

El Saffar, Ruth S. *Novel to Romance: A Study of Cervantes's Novelas Ejemplares.* Baltimore: Johns Hopkins University Press, 1974.

Erasmus, Desiderius. *A Book Called in Latin Enchiridion Militis Christiani and in English The Manual of the Christian Knight,* London: Methuen and Co., 1905.

Fabietti, Elena. "A Body of Glass: The Case of 'El Licenciado Vidriera.'" *Symplokē* 23, no. 1-2 (2015): 327-340.

Fabietti, Elena. "Zerbrechliche Körper: Melancholie und die Herstellung von Glas in der Frühen Neuzeit." In *Glas: Materielle Kultur zwischen Zeigen und Verbergen*, edited by Margarete Vöhringer and Christof Windgätter. Berlin: Kadmos, 2017.

Ficino, Marsilio. *De Vita Libri Tres/Drei Bücher über das Leben*. Edited by Michaela Boenke. München: Wilhelm Fink, 2012.

Forcione, Alban K. *Cervantes and the Humanist Vision: A Study of Four Exemplary Novels.* Princeton: Princeton University Press, 1982.

Forel, Auguste. *Hygiene of Nerves and Mind in Health and Disease*. Translated by Herbert A. Aikins. New York: G.P. Putnam's Sons, 1907.
Foster, Hal. "Exquisite Corpses." *Visual Anthropology Review*, 7 (1991a): 51–61.

Foster, Hal. "Armor Fou." *October*, 56, High/Low: Art and Mass Culture (1991b): 64-97.

Foucault, Michel. *The Archaeology of Knowledge*. Translated by A M. Sheridan Smith. London: Vintage Books, 2010.

French, Roger. "The Anatomical Tradition." In *Companion Encyclopedia of the History of Medicine*, edited by William F. Bynum and Roy Porter, 81-101. London, New York: Routledge 1993.

Galen. *Klaudiou Galenou Apanta: Claudii Galeni Opera Omnia.* Edited by Karl Gottlob Kühn. Lipsiae: prostat in officina libraria Car. Cnoblochii, 1821.

Galton, Francis. "Hereditary Talent and Character." *Macmillan's Magazine*, 12 (1865): 157-166.

Garzoni, Tomaso. *Opere*. Edited by Paolo Cherchi. Ravenna: Longo Editore, 1993.

Gaukroger, Stephen. *The Collapse of Mechanism and the Rise of Sensibility: Science and the Shaping of Modernity, 1680-1760.* Oxford: Oxford University Press, 2010.

Gay, Peter. "Enlightenment as Medicine and Cure." In *The Age of the Enlightenment: Studies Presented to Theodore Besterman*, edited by Theodore Besterman and W. H. Barber. Edinburgh, London: Oliver & Boyd, 1967.

Giglioni, Guido. "The Machines of the Body and the Operations of the Soul in Marcello Malpighi's Anatomy." In *Marcello Malpighi*: *Anatomist and Physician*, edited by Domenico Bertoloni Meli, 149-174. Firenze: Leo S. Olschki, 1997.

Gerber-Munch, Irene. "Goethe's Faust and the Myth of Modern Man." *Psychological Perspectives* 52, no. 2 (2009): 143-166.

Geroulanos, Stefanos. "Transparency Dreaming Freedom (Maurice Blanchot's The Most High)." MLN, 122, no. 5 (2007): 1050-1078.

Goethe, Johann Wolfgang von. *Sämtliche Werke, Briefe, Tagebücher und Gespräche*: *Vierzig Bände*. Edited by Hendrik Birus and Albrecht Schöne. Frankfurt am Main: Dt. Klassiker-Verl, 1994. [abbreviated as SW, I-XL]

Goethe, Johann Wolfgang von. *Faust I & II.* Translated by Stuart Pratt Atkins and edited by David E. Wellbery. Princeton: Princeton University Press, 2014.

Goethe, Johann Wolfgang von. *Selected Poems*. Translated by Christopher Middleton. Princeton, N.J: Princeton University Press, 1994.

Gowland, Angus. "The Problem of Early Modern Melancholy." *Past&Present* 191, no. 1 (2006): 77-120.

Gray, Ronald D. *Goethe: the Alchemist. A Study of Alchemical Symbolism in Goethe's Literary and Scientific Works.* Cambridge: Cambridge University Press, 1952.

Gracián, Baltazar. *Agudeza y Arte de Ingenio.* Edited by Evaristo Correa Calderón. Madrid: Castalia, 1969.

Green, Otis. "El hingenioso Hidalgo." *Hispanic Review* 25, no. 3 (1957): 175-193.

Grmek, Mirko D. "A Survey of the Mechanical interpretations of Life from the Greek Atomists to the Followers of Descartes." In *Biology, History, and Natural Philosophy*,

edited by Allen P. Breck and Wolfgang Yourgrau, 181-195. New York: Plenum Press, 1974.

Guerrini, Anita. "The Varieties of Mechanical Medicine: Borelli, Malpighi, Bellini and Pitcairne." In *Marcello Malpighi*: *Anatomist and Physician*, edited by Domenico Bertoloni Meli, 111-128. Firenze: Leo S. Olschki, 1997.

Gurr, Jens Martin. *Tristram Shandy and the Dialectic of Enlightenment.* Heidelberg: C. Winter, 1999.

Haller, Albrecht von. *A Dissertation on the Sensible and Irritable Parts of Animals:* Translated by M. Tissot. London: J. Nourse at the Lamb opposite Katherine-street in the Strand, 1755.

Haraway, Donna. *When Species Meet*. Minneapolis: University of Minnesota Press, 2008.

Hawley, Judith. "The Anatomy of Tristram Shandy." In *Literature & Medicine During the Eighteenth Century*, edited by Marie Mulvey Roberts and Roy Porter. London: Routledge, 1993.

Hawley, Judith. "*Tristram Shandy, learned Wit, and Enlightenment Knowledge.*" In *The Cambridge Companion to Laurence Sterne*, edited by Tom Keymer, 34-48. Cambridge, UK: Cambridge University Press, 2009.

Hilgers, Klaudia. *Entelechie, Monade und Metamorphose: Formen Der Vervollkommnung im Werk Goethes.* München: W. Fink, 2002.

Hippocrates. *LaNnature de l'Homme.* Edited and translated by Jacques Jouanna. Berlin: Akademie Verlag, 2002.

Hoffmann. E.T.A. *Fantasie- und Nachtstücke*. Darmstadt: Wissenschaftliche Buchgesellschaft, 1966.

Hoffmann, E.T.A. *Tales of E.T.A. Hoffmann*. Edited and translated by Leonard J. Kent and Elizabeth C. Knight. Chicago: The University of Chicago Press, 1969.

Höfler, Otto. *Homunculus: Eine Satire auf A.W. Schlegel*. Wien, Köln, Graz: Böhlau, 1972.

Hölscher-Lohmeyer, Dorothea. "Natur und Gedächtnis: Reflexionen über die Klassische Walpurgisnacht." In *Aufsätze Zu Goethes 'Faust II'*, edited by Werner Keller, 94-122. Darmstadt: Wissenschaftliche Buchgesellschaft, 1992.

Hooke, Robert. *Microscopic Observations: Or, Dr. Hooke's Wonderful Discoveries by the Microscope, Illustrated by Thirty-three Copper-plates, Curiously Engraved.* London: printed for Robert Wilkinson, 1780.

Horkheimer, Max, Adorno, Theodor W. *Dialectic of Enlightenment: Philosophical Fragments*. Edited by Gunzelin Schmid Noerr, translated by Edmund Jephcott. Stanford: Stanford University Press, 2002.

Hulliung, Mark. *The Autocritique of Enlightenment: Rousseau and the Philosophes.* Cambridge, Mass.: Harvard University Press, 1994.

Huneman, Philippe. "Montpellier Vitalism and the Emergence of Alienism in France (1750–1800): The Case of the Passions." *Science in Context* 21, no. 4 (2008): 615–647.

Huarte, Juan. *Examen de Ingenios para las Ciencias.* Edited by Guillermo Serés. Madrid: Cátedra, 1989.

Jay, Martin. *Downcast Eyes: the Denigration of Vision in Twentieth-Century French Thought.* Berkeley: University of California Press, 1993.

Jespersen, Christine, Rodriguez, Alicita, and Starr, Joseph. *The Anatomy of Body Worlds. Critical Essays on the Plastinated Cadavers of Gunther von Hagens*. Jefferson, North Carolina: McFarland & Company, 2009.

Johnson, Carroll B. *Madness and Lust: A Psychoanalytical Approach to Don Quixote.* Berkeley: University of California Press, 1983.

Kerényi, Karl. "Das Ägäische Fest. Die Meergötterszene in Goethes 'Faust II': Eine Mythologische Studie." In *Aufsätze Zu Goethes 'Faust II'*, edited by Werner Keller, 160-189. Darmstadt: Wissenschaftliche Buchgesellschaft, 1992.

Keymer, Thomas. "A Sentimental Journey and the failure of feeling." In *The Cambridge Companion to Laurence Sterne,* edited by Tom Keymer, 79-94. Cambridge, UK: Cambridge University Press, 2009.

Kickel, Katherine E. *Novel Notions. Medical Discourse and the Mapping of the Imagination in Eighteenth-Century English Fiction*. New York & London: Routledge, 2007.

Kiernan, Colm. *The Enlightenment and Science in Eighteenth-Century France.* Banbury: The Voltaire Foundation, 1973.

Kevles, Daniel. "International Eugenics." In *Deadly Medicine: Creating the Master Race*, edited by Susan D. Bachrach and Dieter Kuntz, 41-60. Washington, D.C: United States Holocaust Memorial Museum, 2004.

Klibansky, Raymond, Panofsky, Erwin, and Saxl, Fritz. *Saturn and Melancholy: Studies in the History of Natural Philosophy, Religion, and Art.* London: Nelson, 1964.

La Chambre, Marin Cureau de. *L'Art de Connoistre les Hommes.* Amsterdam: Jacques le Jeune, 1660.

La Mettrie, Julien Offray de. *L'Homme Machine: A Study in the Origins of an Idea.* Edited by Aram Vartanian. Princeton: Princeton University Press, 1960.

La Mettrie, Julien Offray de. *Machine Man and Other Writings.* Edited and translated by Ann Thomson. Cambridge: Cambridge University Press, 1996.

Langer, Adam. "Science and Sculpture." *Chicago Reader*, Oct. 19, 1989.

Latimer, Dan. "Homunculus as Symbol: Semantic and Dramatic Functions of the Figure in Goethe's Faust." *MLN*, 89, no. 5 (1974): 812–820.

Lemnius, Levinus. *Levini Lemnii De Habitu et Constitutione Corporis.* Francofurti: Typis N. Hofmanni, sumtibus I. Rhodii, 1604.

Lingner, Karl August. *Der Mensch als Organisations-Vorbild*. Bern: M. Drechsel, 1914.

Linke, Uli. *German Bodies. Race and Representation after Hitler*. New York: Routledge, 1999.

Lovejoy, Arthur. *The Great Chain of Being: A Study of the History of an Idea*. Cambridge: Harvard University Press, 1950.

Lowinsky, Naomi Ruth. "The Devil and the Deep Blue Sea: Faust as Jung's Myth and our own." *Psychological Perspectives* 52, no. 2 (2009): 167-191.

Lucian. *Works*. Vol. VI. Translated by K. Kilburn. Cambridge, MA: Harvard University Press, 1959.

Lund, Mary Ann. *Melancholy, Medicine and Religion in Early Modern England: Reading The Anatomy of Melancholy.* Cambridge (UK): Cambridge University Press, 2010.

MacDonald, Michael. *Mystical Bedlam: Madness, Anxiety, and Healing in Seventeenth Century England*. Cambridge (UK): Cambridge University Press, 1981.

MacLennan, Bruce J. "Homunculus' Quest for a Body." In *Goethe's Faust and Cultural Memory: Comparatist Interfaces*, edited by Lorna Fitzsimmons, 178-215. Bethlehem: Lehigh University Press, 2012.

Maggi, Giovanni. *Bichierografia: Libri Quattro*. Edited by Paola Barocchi. Firenze: Studio per Edizioni Scelte, 1977.

Malpighi, Marcello. "Risposta del Dottor Marcello Malpighi alla Lettera Intitolata 'de recentiorum medicorum studio dissertation epistolaris ad amicum.'" In *Opere Scelte*, edited by Luigi Belloni. UTET: Torino, 1967.

Mariacher, Giovanni. *I Vetri di Murano*. Milano-Roma: Carlo Bestetti Edizioni d'Arte, 1967.

McMaster, Juliet. "The Body inside the Skin: The Medical Model of Character in the Eighteenth-Century Novel." *Eighteenth-Century Fiction*, 4, no. 4 (1992): 277-300.

McMaster, Juliet. "'Uncrystalized Flesh and Blood': The Body in *Tristram Shandy*." In *Laurence Sterne*, edited by Marcus Walsh, 95-111. London: Longman, 2002.

Meli, Bertoloni Domenico. "Machines and the Body between Anatomy and Pathology." In *L'automate: Modèle, Métaphore, Machine, Merveille : Actes du Colloque International de Grenoble (19-21 Mars 2009),* edited by Aurélia Gaillard, 53-68. Pessac: Presses Universitaires de Bordeaux, 2013.

Meli, Bertoloni Domenico. "The new anatomy of Marcello Malpighi." In *Marcello Malpighi*: *Anatomist and Physician*, edited by Domenico Bertoloni Meli, 21-62. Firenze: Leo S. Olschki, 1997.

Meli, Bertoloni Domenico. *Mechanism, Experiment, Disease: Marcello Malpighi and Seventeenth-Century Anatomy.* Baltimore: Johns Hopkins University Press, 2011.

Meli, Bertoloni Domenico. "Patterns of Transformation in Seventeenth-Century Mechanics." *Monist* 93, no. 4 (2010): 580-597.

Menin, Marco. "Jean-Jacques Rousseau vitaliste: La Moralisation de l'Hygiène Médicale entre Régime Diététique et Éthique Alimentaire." *Nuncius* 27 (2012): 81-109.

Merleau-Ponty, Maurice. *Phenomenology of Perception.* Translated by Donald A. Landes. Hoboken: Taylor and Francis, 2013.

Mesh-Hadi, Nabil. *Die Einschätzung der Alchemie in Faust-Deutungen*. Frankfurt am Main: P. Lang, 1979.

Mommsen, Katharina. *Goethe und 1001 Nacht*. Frankfurt a/M: Suhrkamp Verlag, 1981.

Mommsen, Katharina. "Homunculus und Helena." In *Aufsätze Zu Goethes 'Faust II'*, edited by Werner Keller, 138-159. Darmstadt: Wissenschaftliche Buchgesellschaft, 1992.
Moravia, Sergio. "From Homme Machine to Homme Sensible: Changing Eighteenth-Century Models of Man's Image." *Journal of the History of Ideas* 39, no.1 (1978): 45-60.

Moravia, Sergio. "The Enlightenment and the Sciences of Man." *History of Science*, 18 (1980): 247-268.

Morris, David B. "The Marquis De Sade and the Discourses of Pain: Literature and Medicine at the Revolution." In *The Languages of Psyche: Mind and Body in Enlightenment Thought*, edited by G.S. Rousseau. Berkeley: University of California Press, 1990.

Müller, Joachim. "Die Figur des Homunculus in Goethes 'Faust.'" *Sitzungberichte der Sächsischen Akademie der Wissenschaften zu Leipzig*, 108, no. 4, 1963.

Neri, Antonio. *L'Arte Vetraria Distinta in Libri Sette*. Firenze: Stamperia de' Giunti, 1612.

Neve, Michael. "Medicine and Literature." In *Companion Encyclopedia of the History of Medicine*, edited by William F. Bynum and Roy Porter, vol. 2, 1520-1535. London, New York: Routledge, 1983.

Newman, William R. "The Homunculus and his Forebears: Wonders of Art and Nature." In *Natural Particulars: Nature and the Disciplines in Renaissance Europe*, edited by Anthony Grafton and Nancy G Siraisi, 321-345. Cambridge, Mass.: MIT Press, 1999.

Newman, William R., Principe, Lawrence M. "Alchemy vs. Chemistry: The Etymological Origins of a Historiographic Mistake." *Early Science and Medicine*, 3, no. 1 (1998): 32-65.

Osten, Manfred. *Homunculus, die Beschleunigte Zeit und Max Beckmanns Illustrationen zur Modernität Goethes*. Stuttgart: Steiner, 2002.

Osten, Manfred. "Dr. Faust – ein Auslaufmodell der Evolution? Goethes Tragödie und die Verheisungen der Lebenswissenschaften." *Goethe-Jahrbuch*, 124 (2007): 161-166.

Osterweil, Ara, Baumflek, David. "Emergent Bodies: Human, All Too Human, Posthuman." In *The Anatomy of Body Worlds: Critical Essays on the Plastinated Cadavers of Gunther von Hagens*. Edited by Christine Jespersen, Alicita Rodriguez, and Joseph Starr. Jefferson, N.C: McFarland & Co., 2009.

Page, Jutta-Annette. *Beyond Venice: Glass in Venetian Style, 1500-1750*. Corning (NY): The Corning Museum of Glass, 2004.

Paracelsus. *Sämtliche Werke.* Hildesheim: Karl Sudhoff, 1996.

Perry, Edwin. *Aesopica: A Series of Texts relating to Aesop or ascribed to him or closely connected with the Literary Tradition that bears his Name*. Urbana: The University of Illinois Press, 1952.

Ploetz, Alfred. *Die Tüchtigkeit unsrer Rasse und der Schutz der Schwachen*. *Ein Versuch über Rassenhygiene und ihr Verhältniss zu den humanen Idealen*, *besonders zum Socialismus*. Berlin: Fischer, 1895.

Porter, Roy. "The Enlightenment in England." In *The Enlightenment in National Context*, edited by Roy Porter and Mikuláš Teich. Cambridge: Cambridge University Press, 1981.

Porter, Roy. "The Whole Secret of Health: Mind, Body and Medicine in Tristram Shandy." In *Nature Transfigured: Science and Literature, 1700-1900*, edited by John Christie and Sally Shuttleworth, 61-84. New York : Manchester University Press, 1989.

Principe, Lawrence M. *The Secrets of Alchemy*. Chicago: The University of Chicago Press 2013.

Proctor, Robert. *Racial Hygiene: Medicine under the Nazis*. Cambridge, Mass.: Harvard University Press, 1988.

Rabinbach, Anson, Gilman L. Sander. *The Third Reich Sourcebook*. Berkeley: University of California Press, 2013.

Reisel, Salomon. "Statua Humana Circulatoria." *Miscellanea Curiosa: Sive, Ephemeridum Medico-physicarum Germanicarum.* Lipsiae: Sumpt. Viti Jacobi Trescheri, [etc.], Anni IX (1680): 1-22.

Reisel, Salomon. "Appendix." *Miscellanea Curiosa: Sive, Ephemeridum Medico-physicarum Germanicarum.* Lipsiae: Sumpt. Viti Jacobi Trescheri Dec. II Annus III, 1685.

Reiss, Timothy J. "Essences of Glass, Histories of Humans." In *Mirages of the Self. Patterns of Personhood in Ancient and Early Modern Europe*. Stanford: Stanford University Press, 2009.

Rochebrune, Marie-Laure de. "Venetian and Façon de Venise Glass in France in the 16th and 17th Century." In *Beyond Venice: Glass in Venetian Style, 1500-1750*, edited by Jutta Page. Corning (NY): The Corning Museum of Glass, 2004.

Roger, Jacques. *Les Sciences de la Vie dans la Pensée Française du XVIIIe Siècle: La Génération des Animaux de Descartes à l'Encyclopédie*. Paris: Colin, 1963.

Rosarium Philosophorum: Ein Alchemisches Florilegium des Spätmittelalters. Edited by Joachim Telle, Claren Lutz, and Joachim Huber. Weinheim: VCH, 1992.

Rosenbach, Marcel, Schmergal, Cornelia, and Schmundt, Hilmar. "Der Gläserne Patient." *Der Spiegel*, 5.12.2015.

Rousseau, Georges. "Nerves, Spirits, and Fibres: Towards defining the Origins of

Sensibility." In *Nervous Acts: Essays on Literature, Culture, and Sensibility,* edited by G. S. Rousseau. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2004.

Rousseau, Jean-Jacques. *Œuvres Complètes, I-V.* Edited by Bernard Gagnebin and Marcel Raymond. Paris: Gallimard, 1959-1995.

Rousseau, Jean-Jacques. *Confessions*. Translated by W. Conyngham Mallory. The Floating Press, 2012.

Rufus of Ephesus. *On Melancholy*. Edited by Peter E. Pormann. Tubingen: Mohr Siebeck, 2008.

Rupp, Stephen. "Soldiers and Satire in *El licenciado Vidriera.*" In *A Companion to Cervantes's Novelas Ejemplares*, edited by Stephen Boyd, 134-147. Woodbridge: Tamesis 2005.

Sahlberg, Oskar. "The Alchemist's Love Story. The Creation of the Homunculus-Growth and Birth of the Self." In *Proceedings of the 12th International Conference on Literature and Psychoanalysis*, 65-68. Lisbon: 1996.

Santa Cruz, Alonso de. *Sobre la Melancolía*. Pamplona: Ediciones Universidad de Navarra, 2005.

Sass, Stephen L. *The Substance of Civilization: Materials and Human History From the Stone Age to the Age of Silicon.* New York: Skyhorse Publishing, Inc., 2011.

Schleiner, Winfried. "Renaissance Exempla of Schizofrenia: The Cure by Charity in Luther and Cervantes." *Renaissance and Reformation* 9 (1985): 157-176.

Schleiner, Winfried. "The Glass Graduate and the Aphrodisiac that Went Wrong: New Light from Old Texts." *Modern Language Studies* 27, no. 4 (1991): 370-381.

Schleiner, Winfried. *Melancholy, Genius, and Utopia in the Renaissance*. Wiesbaden: Harrassowitz, 1991.

Schnapp, Jeffrey T., "Crystalline Bodies (Fragments of a Cultural History of Glass)." *W 86th Street – A Journal of Decorative Arts, Design History, and Material Culture* 20, no. 2 (2013): 173-194.

Schneider, Manfred. *Der Transparenztraum*. Berlin: Matthes & Seitz Berlin, 2013.

Scholz, Albert. "Goethe's Homunculus." *The German Quarterly*, 17, no. 1 (1944): 23–27.

Schulte, Hans. "Goethe's Allegories Of Identity." *Seminar—A Journal Of Germanic Studies*, 51, no. 3 (2015): 284-287.

Shafer, Ingrid H. "The Faust Challenge: Science as Diabolic or Divine." *Zygon*, 40, no. 4 (2005): 891-915.

Snow, Kathleen R. "Homunculus in Paracelsus, 'Tristram Shandy', and 'Faust.'" *The Journal of English and Germanic Philology*, 79, no. 1 (180): 67–74.

Segre, Cesare. "La Struttura Schizofrenica del 'Licenciado Vidriera' di Cervantes." In *Fuori del mondo: I modelli nella Follia e nelle Immagini dell'Aldila'*. Torino: Einaudi, 1990.

Segre, Cesare. "La Estructura Psicologica de El licenciado Vidriera." In *Actas I – Asociatión de cervantistas 1990*, 53-62. Madrid: Anthropos, 1993.

Shipley, George A. "Garbage In, Garbage Out: 'The Best of Vidriera'." *Cervantes: Bulletin of the Cervantes Society of America* 21, no. 1 (2001): 5-41.

Sösemann, Bernd, Lange Marius. *Propaganda: Medien und Öffentlichkeit in der NS-Diktatur*. Stuttgart: Franz Steiner Verlag, 2011.

Soufas, Teresa Scott. *Melancholy and the Secular Mind in Spanish Golden Age Literature*. Columbia: University of Missouri Press, 1990.

Speak, Gill. "El Licenciado Vidriera and the Glass Men of Early Modern Europe." *Modern Language Review* 85 (1990a): 850-865.

Speak, Gill. "An Odd Kind of Melancholy: Reflections on the Glass Delusion in Europe (1440-1680)." *History of Psychiatry* 1 (1990b): 191-206.

Stafford, Barbara Maria. *Body Criticism: Imaging the Unseen in Enlightenment Art and Medicine.* Cambridge, Mass.: MIT Press, 1991.

Stafford, Barbara Maria. "Voyeur or Observer? Enlightenment Thoughts on the Dilemmas of Display." *Configurations*, 1, no. 1 (1993): 95-128.

Starobinski, Jean. *L'Encre de la Mélancolie*. Edited by Fernando Vidal. Paris: Éd. du Seuil, 2012.

Starobinski, Jean. *Jean-Jacques Rousseau: Transparency and Obstruction.* Chicago: University of Chicago Press, 1988.

Sterne, Laurence. *The Florida Edition of the Works of Laurence Sterne.* Edited by Melvyn New and Joan New. Gainesville: University Presses of Florida, 1978.

Sterne, Laurence. *Letters of Laurence Sterne.* Edited by Lewis Perry Curtis. Oxford: The Clarendon Press, 1935.

Thiel, Udo. "Self and Sensibility: From Locke to Condillac and Rousseau." *Intellectual History Review*, 25, no. 3 (2015): 257–27.

Tomkis, Thomas. *Lingua*. Edited by Anthony Brewer. New York: AMS Press, 1970.

Tunstall, Kate E. "The Early Modern Embodied Mind and the Entomological Imaginary." In *MIND, BODY, MOTION, MATTER: Eighteenth-Century British and French Literary Perspectives*, edited by Mary Helen McMurran and Alison Conway. Toronto: University of Toronto Press, 2016.

Velásquez, Andrés. *Libro de la Melancholía*. Viareggio: M. Baroni, 2002.

Verità, Marco. "Secrets and Innovations of Venetian Glass between the 15th and the 17th Centuries: Raw materials, Glass Melting and Artefacts." In *Study days on Venetian glass: approximately 1600's*, edited by Rosa Barovier Mentasti and Cristina Tonini, 53-63. Venezia: Istituto Veneto di Scienze, Lettere ed Arti, 2014.

Vila, Anne C. *Enlightenment and Pathology: Sensibility in the Literature and Medicine of Eighteenth-Century France.* Baltimore: Johns Hopkins University Press, 1998.

Vives, Juan L. *De Anima et Vita*. Edited and translated by Mario Sancipriano. Torino: Bottega d'Erasmo, 1963.

Vogel, Klaus. "The Transparent Man – some comments on the history of a symbol." In *Manifesting medicine: bodies and machines*, edited by Robert Bud, Bernard Finn, and Helmuth Trischler. Amsterdam: Harwood Academic, 1999.

Voogd, Peter Jan de, Neubauer, John. *The Reception of Laurence Sterne in Europe.* London: Continuum, 2004.

Weindling, Paul. *Health, Race, and German Politics betweenNnational Unification and Nazism*, 1870-1945. Cambridge: Cambridge University Press, 1989.

Weingart, Peter, Kroll, Jürgen, and Bayertz, Kurt. *Rasse, Blut und Gene: Geschichte der Eugenik und Rassenhygiene in Deutschland.* Frankfurt am Main: Suhrkamp, 1988.

Weiss, Sheila Faith. "The Race Hygiene Movement in Germany." *Osiris*, 3 (1987): 193-236.

Weiss, Sheila Faith. "German Eugenics, 1890 – 1933." In *Deadly Medicine: Creating the Master Race*, edited by Susan D.Bachrach and Dieter Kuntz, 15-39. Washington, D.C: United States Holocaust Memorial Museum, 2004.

Weinrich, Harald. *Das Ingenium Don Quijotes.* Münster: Aschendorf, 1956.

Welch, David. "Nazi Wartime Newsreel Propaganda." In *Film & Radio Propaganda in World War II*, edited by K. R. M. Short. Knoxville: University of Tennessee Press, 1983.

Wellman, Kathleen. *La Mettrie: Medicine, Philosophy, and Enlightenment*. Durham: Duke University Press, 1992.

Williams, Elizabeth A. *A Cultural History of Medical Vitalism in Enlightenment Montpellier.* Burlington, VT: Ashgate, 2003.

Witte, Bernd. *Goethe-Handbuch: In Vier Bänden*. Stuttgart: J.B. Metzler, 2004.

Wittgenstein, Ludwig. *Philosophical Investigations*. Translated by G.E.M. Anscombe. Oxford: Blackwell 1958.

Wokler, Robert, Garsten, Bryan. *Rousseau, the Age of Enlightenment, and Their Legacies.* Princeton: Princeton University Press, 2012.

Wünsche, Konrad. "Das Bildnis des Durchsichtigen Gesunden oder die Wahrhaftigkeit des Gläsernen Menschen." In *Der Gläserne Mensch, Eine Sensation: Zur Kulturgeschichte Eines Ausstellungsobjekts*, edited by Rosmarie Haan de Beier and Martin Roth. Stuttgart: G. Hatje, 1990.

Zimic, Stanislav. "*El Licenciado Vidriera*: La Tragedia del intellectual integro." *La Torre* 6, no. 22 (1992): 237-270.

Curriculum Vitae

I was born and grew up in Milan, Italy. After studying at the Classical Gymnasium, I received a BA and an MA in Italian Literature at the University of Milan, spending part of my studies in Berlin, Germany. I received a doctoral degree in Comparative Literature and Literary Translation at the University of Siena, and immediately afterwards I entered the PhD program of Comparative Literature at the Humanities Center of Johns Hopkins University, Baltimore. I have published several articles on Italian scholarly journals and essays in collective volumes; in 2015, I published in Italy my first book, entitled *Immagini Figurali: Uno Studio sulla Poesia di Baudelaire e Rilke*. Part of my current research has been published on *Symplokē* in 2015 and in a German collective volume in 2017.