Fluid flesh and rhythmic skin:
On the unfinished bodies of Stelarc

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1 Preamble

"...the spinal column is nothing but a sword beneath the skin, slipped into the body of an innocent sleeper by an executioner."
(Deleuze, 2005, p. 17)

The performance work of Stelarc is likely one of the most written about in the field. Two reasons can explain this success. On one hand, there is the controversial nature of his practice, that involves experiments with physical body modification and intimately violent interaction with machines. On the other, there is the non-academic, poetic and emphatic writing style of his numerous texts, which although sometimes may not seem able to specify and support his works (Farnell, 1999, p. 130), are certainly capable of provoking thoughtful questions. Many authors have looked at Stelarc's work from a cultural and political viewpoint, an approach that has fruitfully informed discourses at the intersection of identity, human nature and technology (Caygill, 1997; Zylinska, 2002; Appleby, 2002; Smith, 2005; Goodall, 2005). It would seem that less consideration has been dedicated to the artistic strategy that Stelarc has adopted and cultivated as a performer. The most notable analysis in this sense are found in (Massumi, 2002; Hall, 2002; Gray, 2002).

This chapter will attempt to look beneath the cultural and political impact of Stelarc's practice and analyse the logic that underpins his works. Stelarc in fact has clearly stated that he does not conceive nor frame his work within a cultural and political discourse. He is firm in stating that he is a performer. That is all he is, a performer who has never tried to appropriate "cultural archetypical images" nor to generate theoretical discourses (Farnell, 1999, p. 130-131). He does not even see himself as a technologist or a musician, but rather his performances come from his visual arts education (Donnarumma, 2012). He is a performer with a background in sculpture and thus he is interested in the ways the body can be "sculpted", modelled or redesigned. As many other performers, he uses his own body because it is convenient. If Stelarc would perform his anatomical experiments using other people bodies he would incur in too many ethical and practical issues. The point is that the immediate focus of Stelarc's work is not on the body as the site of political or cultural discourses, but on the body as a living entity of this world, and not any body, but the particularly body Stelarc is and has. More specifically, Stelarc is curious and determinate to explore the ways in which the parts of his body can be configured in forms and shapes that differ from his natural physical body. Such is the drive of his practice and this text is an attempt to get a close look at his work from that viewpoint. To do so, Stelarc's artistic practice will be modelled on three planes.

The first plane will define the *unfinishedness* of the human body, that is, the incomplete nature of the human body which allows for physiological and physical alterations. Drawing from the work of Gilbert Simondon and Bernard Stiegler, concepts such as individuation, trans-individuation and technical milieu will be used to specify the unfinishdness of the human body as the aesthetic and conceptual ground where Stelarc's work departs from.

The second plane will introduce and discuss the notion of *subtraction*, where subtraction is defined as the process of taking away or erasing, as Stelarc would have it, a given capacity of the human body. A process this which produces alternative and temporary bodies. By looking at the technical strategies which Stelarc's performances relies upon, it will be argued that his artistic and technical methodology operates through that process of subtraction.

The third plane will borrow from Gilles Deleuze discussion of Francis Bacon's painting to discuss the modulation of forces, or logic of *sensation* in Deleuze's terms, that underpins Stelarc's body manipulations. It will be argued that Stelarc's performances lack of narrative and symbolical value, for they constitute merely a fact, in the sense that their only scope is to provide the evidence that humans can function with alternative bodies. It will be discussed how such approach is achieved through the modulation of intensities, which are forces that condition and undo the organisation of the performer's body.

2   Unfinishedness

> *fluidity - a body is human only when operating in particular configurations with technological bodies - iteration - not a noun - bodies and technical milieux*

Stelarc's explorations have been crystallised in a series of performances using diverse media, such as fishooks and stones, as in the *body supensions* (1970-), mechatronic machines, as in *Exoskeleton* (1999) and *Muscle Machine* (2003), internet data and virtual avatars, as in *Parasite* (1997) and *Movatar* (1999), and various robotic and biotechnological prostheses, like the *Third Hand* (1980) and *Ear on Arm* (2006) projects. Although deploying different media, all his works have a common topos, which is the idea of the human body as an incomplete entity, or in his own words,"an object for possible redesign" (Donnarumma, 2012). Stelarc elaborates on this point by stating that human nature cannot be characterised by our bodies or physical presence, because, in his view, the body is obsolete. Contrary to the most obvious interpretations, his statement on the body obsolescence is not intended to negate the fact that humans need a physical body, nor it is intended to support the belief that the mind can exist without its fleshly embodiment (Ford, 2011). Rather, the obsolescence he talks about addresses the particular body that evolution has transformed human beings into, and more specifically, addresses the potential of that body to be remodelled. The body for Stelarc is produced through an open-ended process that can be altered and modified by means of different technologies, be it fishhooks, pneumatic limbs or intelligent avatars. From this viewpoint, the human body is an *unfinished* body because it is constituted by a "fluid unfolding" where technology and culture, as well as institutions and political structures, are seen as our "external organs" (Donnarumma, 2012). But what does "unfinishedness" means in this context? How can we understand the human body, our own bodies, as incomplete?

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Remote: Event for Amplified Body, Involuntary Arm, Melbourne International Festival 1990; Photo Anthony Figallo

The work of Simondon and Stiegler on the notion of *individuation* will serve well to elaborate an answer to those questions. Individuation is the biological, psychological and social process whereby an individual becomes a being with specific physical and behavioural features. According to Simondon, individuation is a feature of both human beings and physical phenomena (Simondon, 1992, p. 302). For instance, he exemplifies his notion of human individuation taking as a model the physical individuation of crystals, which is the process of crystallisation (Simondon, 1992, pp. 302-305). He considers a supersaturated solution which has a metastable equilibrium[1]. The solution yields different energy and density levels that, when organised, originate individual crystals. The crystals are not actually present in the solution, but their potential is. In other words, the potential for diverse crystals to emerge from the solution constitutes the solution itself. Turning back to the individuation of living beings, Simondon states that the same model characterises human individuation, with the important difference that, unlike physical individuation which is "definitive" (Simondon, 1992, p. 304), human individuation does not exhaust in one iteration. Rather, it is "an activity of permanent individuation" (Simondon, 1992, p. 305), which he calls "becoming" (Simondon, 1992, p. 301). For Simondon the process of individuation not only brings the invidividual into being, but it also defines iteratively the way the individual develops and acts. Therefore, the

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[1]Metastable, in Simondon's idiom, stands for a primal condition of matter, namely, an unstable equilibrium which is possible thanks to manifold levels of energy in tension amongst each other, that, once organised, produce an individual.

individual "does not represent the totality of being" because it is "merely the result of a phase in the being's development" (Simondon, 1992, p. 300). Through individuation the individual re-structures itself. In this sense, the process of individuation is a "partial and relative resolution" continually operating through the "latent potentials" that the individual holds (Simondon, 1992, p. 300) in what Simondon calls the 'pre-individual'. The completion of one cycle of individuation does not exhaust all the potentials of the pre-individual, rather a potential is always present and feeds subsequent processes of individuation (Simondon, 1992, p. 306). Moreover, for Simondon, individuation also happens at the social level - when individuals form a collective entity by establishing relations among themselves, and at a technical level - where an individual forms and develops through relations with technical objects. This is a process that he calls *trans-individuation* (Simondon, 1989).

The notions of individuation and trans-individuation have been further elaborated by Stiegler (Stiegler and Lebedeva, 2009). In his philosophy of technologies, or 'technical objects' as he puts it, Stiegler draws upon Simondon's work to construct individuation as the formation of an individual that is "toujours inachevé" (Stiegler, 2011a), always unfinished. The premise to Stiegler's individuation is a twofold characterisation of the individual. Firstly, for Stiegler, the individual stands out as a "unité totale" (total unity) in his environment and as a "unit singuliére" (single unity) in relation to other individuals (Stiegler, 2011b). Secondly, in Stiegler's view, to be an individual means to be in a process of becoming rather than in a defined condition, as he explains, "[u]n individu est un verbe infinitif plutôt qu'un substantif défini, un devenir plutôt qu'un état"[2] (Stiegler, 2011b). Stiegler proceeds to define individuation as a three-stranded process, which is always at the same time psychic, collective and technical. Psychic individuation is the formation process of the individual, what he calls the "I"; collective individuation is the formation process of a group of individuals, the "We"; and technical individuation is the formation of the *technical milieu*, which is what connect the individual to the collective (Stiegler, 2011b). The term "technical" for Stiegler is a synonim for a constellation of technologies, technical skills and technological models. The term "milieu" is intended by Stiegler as both what is around the individual (i.e., the environment) and what is between individuals (the medium). The notion of technical milieu therefore renders technological systems as both constituted by and constituent of human individuation. In other words, Stiegler makes the point that technical individuation is integrated and constitutive of human individuation. This expands on Simondon's trans-individuation by emphasising the involvement of different subjects and technical systems in the process of becoming of an individual. In Stiegler's view, human individuation happens always through the relation amongst individuals (the We) and objects (the technical milieu). In other words, human subjectivity is unfinished because it is never complete, and it is relational in that it is developed iteratively in conjunction with other

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[2] "An individual is an infinitive verb rather than a noun, a becoming rather than a condition." Translation by the current author.

organic and techical entities.

Lateral Suspension, Tamura Gallery, Tokyo 1978; Photo Anthony Figallo.

This conception of the human body as unfinished and relational helps specify

Stelarc's notion of "obsolescence" and "fluid unfolding". In his work, the machinic and the organic are configured so as to form a bodies that are a temporary outcome of an iterative development, rather than finite and definite instances. Each new body that comes to light is therefore obsolete because it is only the result of one phase of its development. Through specific configurations[3], that is, particular arrangements of organic and machinic parts, Stelarc's bodily experimentations with technical systems show a fluid technical milieu that is constituted by and constituent of the body performing on stage. In other words, by configuring the human and the technical bodies in particular ways, Stelarc's works forcefully produce trans-individuated bodies, actual instances of possible embodiments.

3   Subtraction

sound machine - exo - immobilised - organs replaced - subtracting potentials - the fact

In the performance *Exoskeleton* (1999), Stelarc embedded his own body inside a "jerky and powerful 600-kg machine" (Stelarc, 2002, p. 73) that enacted on stage what he has defined as a hybridised "human-user interface". Powered by an external air compressor and eighteen pneumatic actuators, the machine walked forward, backwards and sideways. Interestingly, Stelarc's body was completely stuck inside the machine. Immobilised as he was, Stelarc directed the "choreography" (Stelarc, 2002, p. 73) of the machine limbs and pneumatic actuators by means of subtle finger gestures. Those gestures were registered using wearable magnetic sensors. The data from Stelarc's fingers movement was translated to the parameters of the machine's legs motion. The machine had also another aesthetic function in that it produced sounds. The sounds of the air compressor, the clicks of the switches operated by the performer and the impact of the pneumatic legs on the floor were acoustically amplified. In this way, Stelarc was able to "compose" the machinic sounds by directing the rhythm of the machine motion (Stelarc, 2002, p. 74), as if those sounds were the vital rhythm of the exoskeleton. The action was filmed in real time using wearable webcams that provided macro images of both Stelarc's and the machine bodies.

The work acts upon the human body so to remodel its physical and locomotive characteristics through the use of machinic prostheses. But that is only a technical description of the work. Something in the performance produces a feeling of uncanniness. The question arises of why a human body has been embedded in that clumsy machine and how such awkward human-machine interaction actually says something about human nature. At first, one could be easily led to understand the *Exoskeleton* as the sum of a human body and a technological one. One could think that they have been put together to form and perform an enhanced body. But, by recalling the obvious, it is possible to realise that that is a rather simplistic reading.

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[3]For a specification of the the notion of configuration see (Donnarumma, 2014).
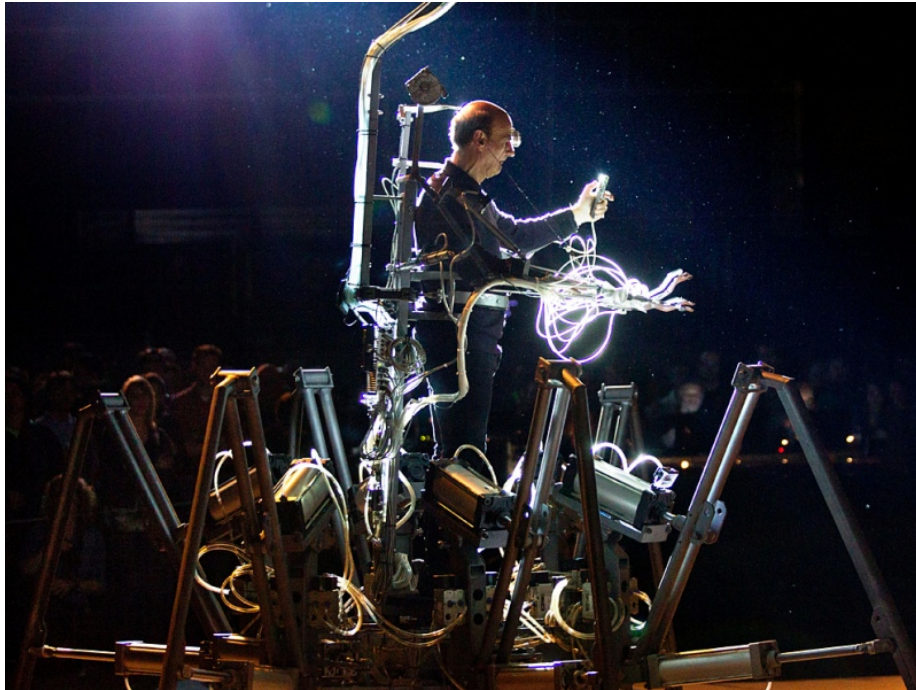
Exoskeleton, STRP Biennale, Eindhoven 2013; Photo Anthony Figallo.

An exoskeleton is generally used to enhance human motion; here instead, the exoskeleton *impedes* human motion. The only possible movement Stelarc's body can perform is grasping and clicking with his fingers or rotating his torso. The human body is immobilised while in turn, it obtains the capacity to drive a 600-kg machine. Yet, the machine is so clumsy that the human body does not gain anything from it, the performer's body cannot move faster, it cannot jump farther and there is no obstacle on the stage anyway to test the machine capacity to move skillfully. One can see that the performance does not relies on a sum of the human and the technological bodies, but rather the performance unfolds through a process of *subtraction*. Subtraction is intended here as the process of taking away or erasing a given capacity from the human body. In the case of the *Exoskeleton*, the capacity of movement is subtracted from the performer's body and what we see is merely a consequence of that subtraction.

The same strategy is found in the performances with the *Third Hand*. This is a hand-like robotic device capable of grasping and rotating that Stelarc used in several events. The most relevant feature of the *Third Hand* is that Stelarc does not control it with movements of the forearm, as one would normally do with a standard prosthetic hand. Instead, he triggers its motion using electrical signals produced by the muscles of his abdomen, a part of the body that is not actively involved in the motor control system. In this way, the *Third Hand* is not actually controlled, but rather, its motion is a result of both voluntary and involuntary contractions of the performer's abdomen. Here one can see the subtraction taking place. The prosthesis is a device that should enable

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reliable control, and instead here Stelarc subtracts any possibility of voluntary and reliable control from his body by displacing the source of control signals. In order to be able to drive the prosthesis motion with the twitches of his abdomen, Stelarc's body (including both his flesh and the machine circuits) has to be rewired and reorganised.

By applying this logic, Stelarc's performances emphasise the fact that alternative bodies, and different modalities of operating them, can exist. In so doing, his performances are emptied of any narrative or representational value. His work does not unfold towards the affirmation of new capabilities nor the reification of cyborgian visions, but rather towards a mere presentation of a fact. The human-machinic body one sees on stage is everything there is to experience in Stelarc's performances. "[W]hat you see is what you get" (Motherboard, 2011), as Stelarc states often in his interviews. Although such approach may seem not aesthetically elaborated, or liturgic to some (Caygill, 1997, p. 3), the strategy of subtraction and the consequent disappearance of narrative and representation for the sake of the fact is what makes Stelarc's performances so assertive, disturbing and meaningful.

4   Sensation

> *not narrative but modulation of intensities - sensation through disorganisation - suspending human nature - displacement of matter - purposeless organs*

The human and the technological bodies are used in Stelarc's work to explore "alternate anatomical architectures", forms of embodiment that do not resemble any other body in particular, but rather configure different parts, organic and machinic. What is brought to life as a result is an unfinished body, a mixed and temporary body that emerges from trans-individual configurations. The unfinished body that is found in Stelarc's performances is interestingly akin to the Figure in Francis Bacon's painting. The Figure is a notion used by Deleuze to discuss the bodies being portrayed in Bacon's works (Deleuze, 2005)[4]. Deleuze defines the human body as "the material of the Figure" rather than the Figure itself (Deleuze, 2005, p.15). This is an important distinction because it specifies the human body as a malleable and multiform matter, and in so doing it empowers the body with the potential to be remodelled while removing its symbolical meaning.

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[4]The book in question, *Francis Bacon: The Logic of Sensation*, was first published in 1981 by Editions de la Difference.

Triptych - 3 studies of the male black, Francis Bacon 1973.

A telling example of such understanding of the human body as a malleable material is found in the body suspensions that Stelarc performed for over four decades. During a performance in 1972 at the Pinacotheca gallery in Melbourne, Australia, Stelarc's body was suspended from the ceiling using ropes and fishhooks that pierced his skin in a carefully designed layout. Floating in mid air, his body was surrounded by similarly suspended rocks, his skin and flesh displaced by gravity, as they were malleable objects. A few 1.5-2cm needle electrodes inserted in his flesh captured electrical signals from the muscles, while brainwave and heart rate signals were amplified and diffused in the form of sound (Linz, 1992). The epidermal and physiological tension of the bodily tissues was evident through the stretching of the skin, the small amount of blood emerging from the wounds, the still rocks floating in mid air and the frantic body signals amplified and diffused in the room. In other words, the action of the gravitational force made the emergent processes of his body to become evident as they were, a crude display of what it takes to defy gravity.

One can see at least three forces acting upon the performer's body. There is the gravitational force which pulls the whole body down towards the floor. There is the force of the ropes which pulls the whole body towards the ceiling. But there is also a local force, which is the one exerted by the fishhooks upon the skin. Each of those forces modulates each other in a way that produces a metastable equilibrium. Floating in mid air, the stillness of the performer's body is only virtual. As a matter of fact, the forces produced by the ropes, the hooks and the gravitational field are constrasting and modulating each other endlessly, and their fight is reified by the deformation of the performer's skin. The physical forces that the body is experiencing become its expression.
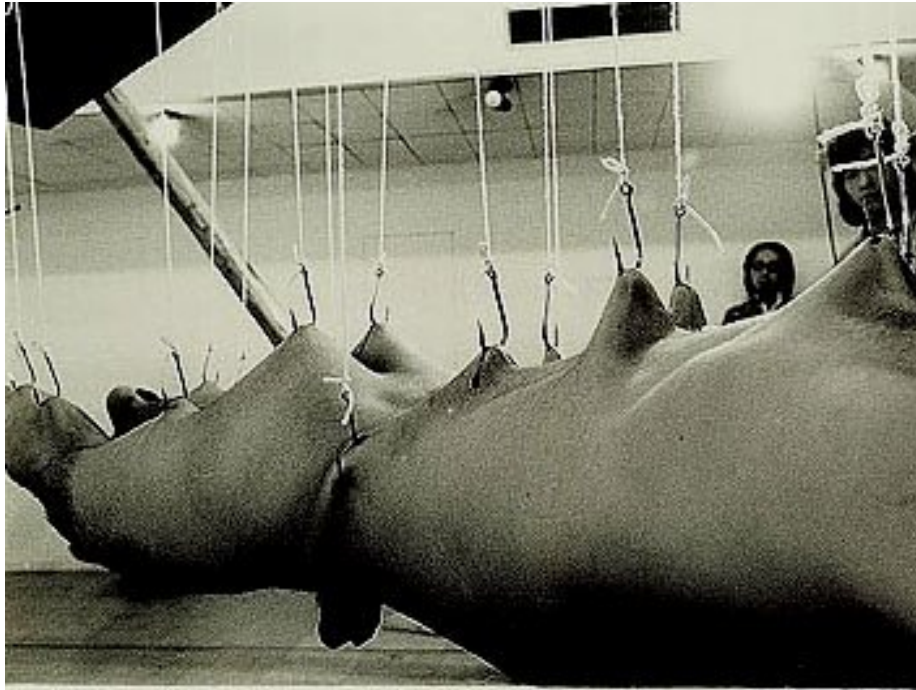
Suspension performance; Photo Anthony Figallo.

Borrowing again from Deleuze, it can be said that the impact of Stelarc's suspension is not fuelled by the weaving of a narrative, but rather it comes about through the action of forces. Deleuze refers to "the action of forces upon the body" (Deleuze, 2005, p. 33) as a *sensation*. For Deleuze sensation is the opposite of sensational. The sensation is felt and lived but cannot be easily described, whereas the sensational is a too descriptive representation that cannot be easily felt nor lived. Deleuze exemplifies the meaning of sensation by looking at Bacon's painting technique. According to Deleuze, when Bacon first draws a head and then scrubs the eyes and the mouth with a brush, he deforms the Figure by exerting directional forces on the canvas. The physical movement of the brush is the force that makes the drawing of the head mutate into something else, something that is not a human nor an animal face. This is the moment when the sensation is brought to light. By looking at the amorphous Figure, one can feel the sensation of those forces, their rhythm. Similarly, in Stelarc's work, the physical tension of the fishhooks, the ropes and the gravitational field are the forces that make the body mutate into something else, a stretched mesh of skin emptied of its flesh and bones. By looking at Stelarc's suspended body one can feel the sensation of those forces. The body is motionless to the eyes, but the rhythm of the forces that pull the body downward and upward is clearly expressed by the deformation of the skin. The skin becomes rhythm.

Stelarc's suspensions offer a surreal vision that is often seen as awkward or disturbing. That is because what is left before our eyes is a human body as material, as flesh, as sensation. "The body is revealed only when it ceases to

be supported by the bones" (Deleuze, 2005, p. 16). Stelarc's suspended body is flesh without bones, flesh displaced by the external force of the ropes and the internal force of the skin, flesh that does not need a bones structure any more. In this sense, the suspended body is a body whose organs have been re-organised, a body whose skin is not any more a protective and sensing layer but rather a structural organ, in that it is the skin, and not the bones, that holds the body together. In this sense, Stelarc's performances have another point of convergence with Bacon's painting in that they are both able to create instantiations of the "body without organs" envisioned by Artaud in his last work[5] and elaborated by Deleuze on different occasions. The body without organs does not lack its organs, but rather, the organs lack of the particular organisation that one is given at birth. It is a disorganised body where each organ is subjected to local perturbations, internal and external forces that act upon it and modulate its function, in the same way as the function of the skin changes from protecting the flesh to holding together the suspended body. The body without organs is a body that is "beyond the organism, but also at the limit of the lived body" (Deleuze, 2005, p. 32). It is a potential body, a latent body. In Stelarc's work, the organs - including arms, legs, muscles, veins, fishhooks, pneumatic limbs, mechanical joints and sensor circuits, are taken apart and put together again only to face the consequences of such act. In this way, the organs of Stelarc's bodies become a means through which the fact of life is presented to us, not much as it is, but as it can be.

5 Acknowledgements

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[5]The work in question is the radiophonic play *Pour en Finir avec le Jugement de dieu [To Have Done With The Judgment of God]* (Artaud, 1947), which was shelved by French Radio the day before its scheduled airing.

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