LABOR

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A robotic art installation by Liat Grayver and Dr. Daniel Berio in collaboration with the Nanoparticle Systems Engineering Laboratory headed by Prof. Dr. Inge Herrmann

In the current Artificial Intelligence (AI) trend, AI is much more than just a computational machine learning tool. It is a discourse that affects all social subsystems from science, law, business, media, art, education and more. Especially in the business part of this discourse, there are big promises and projections about how AI will increase our "productivity" and help us manage, plan, organize and automate workflows: Thanks to AI, each of us can instantly become an entrepreneur. These developments not only threaten the future of work, where machine learning computer and robotic systems could replace human labor, but also create new forms of labor in so-called digital sweatshops to train machine learning systems; to teach intelligence to AI. In the critical discourse around machine learning and digital transformation, the notion of labor is being reconsidered. The promise of automation does not free human labor from the assembly line, but it makes labor even more fragmented and, in this sense, algorithmic. The high levels of "productivity" mentioned above create less sustainable and more precarious production processes at the level of human labor, where delivery and assembly workers race against the algorithm in a strange form of gamification.
The term "labor" has connotations in the context of industrial production and paid work, where it is widely discussed and researched, as well as in the context of childbirth. Labor here means not only work but also the pain of production (lat. producere: to bring forth). Just as women give birth and, by doing so, create life, industrial production seems to be an act of creation through work on the assembly line - and creativity is therefore an essential skill for any entrepreneur. While we know a lot about this corporate form of industrial labor and production, we know very little about the physical and embodied labor involved in childbirth. This is because the field of women's health is severely under-researched. History shows that while men's health has been considered the norm, women's health has not only been ignored in clinical research, but also considered abnormal and actively excluded until relatively recently. It was only thirty years ago, in 1993, that the US Food and Drug Administration (FDA) mandated the inclusion of women in clinical trials. Throughout history, women navigating pregnancy and childbirth have been forced to ignore their bodily insights and place their unwavering trust in a medical framework that is primarily tailored to male physiology. There is far less interest in the labor of childbirth and women's health than in the labor of paid work for industrial production.

This void in the recognition of women's bodily intelligence in the natural process of pregnancy and childbirth, exacerbated by the pervasive influence of digital transformation and the increasing dematerialization of human activity, intensified by the rise of AI, is intimately explored in the artwork 'Labor'.

Prof. Inge Herrmann seeks to advance research in women's health through material and technological innovation. For example, her team aims to understand mineral deposition in the placenta and the impact of disease on mother and offspring. Her research also includes early disease diagnosis using a wearable diagnostic pad for direct menstrual blood analysis. Herrmann's team is also developing novel therapeutic approaches based on stimuli-degradable hydrogel implants for tubal occlusion for reversible contraception and endometriosis management.

The robotic art installation by Liat Grayver and Dr. Daniel Berio, presented in this six-week exhibition, appears to be on the automated, digital fabrication side of production and labor. In a two-week live performance, the two artists will create a large-scale mural composed of numerous small paintings derived from electron microscope images of a placenta provided by Prof. Inge Hermann's research group. Berio will develop a generative software system that will divide the images into sections and abstract each section with a combination of strokes to be painted by the robot on concrete tiles. During a two-week performance, the artists will assemble the tiles into a large-scale, physically painted image, contrasting the digital origin of the work and offering an immersive experience of the intricate cell structures of the womb and placenta.

Inspired by the contemporary use of mineral pigments in biomedicine and their historical significance throughout human culture, the colors and materials used in 'Labor' integrate modern technologies and indigenous craftsmanship. This final large-scale mural may recall one of Labor's aesthetic inspirations: The Ishtar Gate. The Ishtar Gate is the eighth gate to the inner city of Babylon - in present-day Hillah, Babil Governorate, Iraq. It is dedicated to the goddess Ishtar, an ancient Mesopotamian goddess of love, war and fertility, but also associated with sensuality, procreation, divine law and political power. Built around 569 BC on the north side of the city by order of King Nebuchadnezzar II, the gate is now housed in the Pergamon Museum in Berlin. Like the Ishtar Gate, the large-scale wall piece 'Labor' is composed of hundreds of tiles, which together form an image of a place of fertility, procreation and embodied intelligence.