Jacquard weaving, Ada Lovelace, Cyborgs and Constructing Nature, 2007

I have long been interested in the relationship between 'nature', and 'constructed or designed nature', seen in traditional floral patterns, specifically ornate Rococo imagery with floral motives during the 17th and 18th century. A similar tension exists in our current concern with the 'real' and the 'virtual realities'.

My interest in Jacquard weaving started in 1997 with Ada Lovelace's quote from 1943: ***"The Analytical Engine weaves algebraic patterns just as the Jacquard loom weaves flowers and leaves"***. Ada's unusual background in art and science, poetry and mathematics (her father was Byron and her mother a mathematician), reflects my own interests in science, art and language. I worked for many years in scientific research in Switzerland and Canada on normal and abnormal cell growth and became very used to look for unusual patterns in cells on a microscopic level. Ada was educated in mathematics and collaborated with Charles Babbage, who invented the 'Analytical Engine' in 1843. It never quite worked, but contained the basic operating principles used by computers (and has since been built from his plans). Ada translated a text by Manabrea and her notes took up more space than the original text and contained the first instances of written software.

Ada's quote lead to my designs of 'flowers and leaves', produced with the help of computer technology on a digital hand-operated Jacquard loom. The Jacquard loom invented in 1804. Developed as part of the Industrial revolution, it caused many labour problems. Ned Ludd was a Lancashire weaver who protested fought the use of the new machinery and left us the term 'luddite'. Textiles brought back to Europe from Asia during the 18th century, created a demand for local production of elaborate woven floral designs. Textiles play an important economic role historically and still today; they reflect cultural exchanges, colonial relationships, cause trade wars and labour problems. Crafts and contemporary weaving are often associated with 'traditions' and a romantic view of a past. Working with ones hands holds many of the same desires associated with untainted nature. In reality, textiles often lead innovation and technological change.

I am also interested in exploring issues of 'decoration' and its relationship to the 'feminine' reflected textiles. I use Muybridge's images from the 19th century, which show women doing domestic tasks. They explore/contradict assumptions between nature, culture and technology as gendered fields. Muybridge's interesting images represent conflicting views of women, exploited as image and a worker.

And lastly, the definitions of 'nature' reveal a range of contradictory meanings. Nature often *"suggests that which is separate from human activity and is used to project desires seemingly unattainable"*, thus *"nature becomes romanticized, patronized and forever the passive recipient of our desires"* (Kate Soper, ***What is Nature? Culture, Politics and the non-Human***). Donna Haraway in the ***Cyborg Manifesto*** proposes more fluid boundaries between humans, animals and machines instead of defining them as oppositional or binary positions. She suggests: *"We are all chimeras, theorized and fabricated hybrids of machine and organism; in short we are Cyborg"* and *"The Cyborg myth subverts myriad organic wholes, in short, the certainty of what counts as nature - as a source of insight and promise of innocence - is undermined, probably fatally."* (the ***Cyborg Manifesto***). Computers and weaving have also been connected in Sadie Plant's essay: ***The Future Loom: Weaving Women and Cybernetics'*** and her book '***Zeros and Ones'***, which discuss weaving as digital processing of data. Weaving, of course, is, and always has been a digital process.