

Crafting survival: the importance of using your hands.

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In summer 2012 arts organisation Clayground Collective were invited to teach basic ceramic skills to a group of 11 year-olds via a project on the origins of the cosmos and the Big Bang². One boy showed considerable artistic talent. When encouraged to continue his art however he said he wouldn't be doing that because he was going to be a doctor. He had grown up seeing these two fields as mutually exclusive and the hierarchy of disciplines dies hard.



Ceramic artist Duncan Hooson and producer Julia Rowntree set up Clayground Collective in 2007 to address the decline of clay studies in schools and colleges. Their long-term initiative, *Project Clay*, brings people together across generations, cultures and professional expertise to blur such disciplinary distinctions in an appreciation of clay and its role in cultures across the globe. Loosely inspired by the Olympics and the fact that London is a city built on clay, they set out to celebrate the material by digging underfoot with young people and inviting others around the world to do the same. Clays collected worldwide are being stored for incorporation into a participatory public artwork in London in 2015.³

¹ This article has been jointly written by two individuals whose interests in crafts and the work of hands came together when they independently discovered the significance of surgeons' ability to learn through art and design as well as science. Shirley Brice Heath is Professor of Dramatic Literature and Linguistics, Stanford University, and member of the Science Advisory Board of a brain-research center of the National Science Foundation. Rowntree is Co-Director of Clayground and author of *Changing the Performance: A Companion Guide to Arts, Business and Civic Engagement*, Routledge in association with NESTA, 2006.

² Global Generation, Kings Cross. www.globalgeneration.org.uk

³ Clayground advises the Crafts Council on *Firing Up* a national initiative to revive clay skills and Hooson recently co-authored with Anthony Quinn, *The Workshop Guide to Ceramics*, Thames and Hudson, 2012.

Rowntree's commitment to passing on clay and haptic skills to a younger generation has family origins. Her parents were both medics and life-long craftspeople seeing their engagement in these activities as intimately intertwined and mutually instructive. Why was the detailed attention they developed through their combined practices important now? She knew from previous work over many years at the London International Festival of Theatre that if something is in decline you need to ask: why do we need this to adapt and survive? As part of investigations into this question in relation to theatre, she had sought out linguistic anthropologist Shirley Brice Heath. Heath's longitudinal research into young people's educational chances revealed how engagement in the arts and performance can literally improve young people's development and routes to survival through enriched language, cognitive processes and refinement of performance.

Rowntree asked Heath the same survival questions in relation to clay and craft skills. Was the intimate connection between craft and medicine she took for granted of wider significance?

As an anthropologist, Heath had noted the dramatic decline of creative hand work among primary school children. Most rarely drew or sketched except when directed by their teachers. Almost none worked with clay to mould shapes and figures or learned how to do intricate needlework.

Concurrent with the drop off in these activities had come a sharp decline in the ability of primary school children to discern visual details in illustrations of maps and graphic designs, and other illustrative materials related to children's literature as well as academic subjects.

In 2010, Heath did an informal survey among heads of departments of surgery in the United States to check her hunches about the simultaneous decline of visual acuity and hand work. She asked of the surgical educators the question "Over your career in medicine, have you noted particular changes in the abilities of the young medical students who specialize in surgery?" Several surgeons responded: "Yes, indeed. The medical students I see today have no sense of how to use their hands in diagnostic work, for they have come to rely on technologies as their diagnostic tools. Several problems follow from this situation. These young people have difficulty seeing and comparing critical details that are there to read in the reports that come from their technological tools." Other surgeons pinpointed how the work of the hands complemented visual detail detection. One said: "The students in medicine today do not know how to look or

how to use their hands to help them know which technologies to use in their diagnostic examinations.”

Use of the hands as an instrument of learning has long been critical to advancing knowledge. Since the late 1990s, however, children have little familiarity with games, toys, and other forms of play that give extensive practice in exploring and creating through the haptic powers of the hands and forearms. Through touch, the hands and forearms detect shape, edge, and size of objects; humans can interpret the world around them through haptic perception. Feeling and moving substances with the hand provide feedback that allows us to identify objects and to characterize their features.

Evolutionary biologists and neuroscientists link use of the hand to the human ability to understand the structure of language and numbers. The mechanical capacity of the hand in tool-making, manipulating the environment, knowing the texture and nature of materials, and creating art forms helped shape the brain’s circuitry across our evolution.

Our fMRI technologies reveal what happens to our internal visual images of the world around us when we grip, hold, or touch what we see. Children gain haptic or hand-guided feedback when they squeeze clay in their hands and then reshape this clay into their mental image of what can be. Children can see ahead of what is to what it is that they can create. Children discover and explore with their hands and thereby supplement their visual powers.

Architects and neurologists refer to “the thinking hand,” for the hand investigates and manipulates the environment. As the hand does its work, it calls on other ways of knowing in order to create representations of the world that result from shaping, grasping, drawing, and manipulating materials. While the hand goes about such work, the brain exerts what neurologists call “force patterns” that lead the potter, for example, to seek more information, to be guided by internally asking questions about next steps or effects of certain procedures.

Seen in this light, the loss of haptic skills early in life may diminish life-saving skills further down the line, and certainly results in narrower perception and poorer access to rich language and perception. Working with base clay provides a rich foundation for learning and shaping lives.

Heath and Clayground are embarking on research into how a curriculum based on “the thinking hand” might be developed to improve all round learning, powers of adaptation and even skills of survival.

Clayground recently connected on these questions with Roger Kneebone, Professor of Surgical Education at Imperial College and will, in January, lead a session for his postgraduate surgical students to learn about the craft of surgery through working with clay.

References:

Pallasmaa's Eyes of the Skin, The Embodied Image, The Thinking Hand and Frank Wilson's The Hand.

Other references from SBH if required.