Seams and Scars, Or How to Locate Accountability in Collaborative Work[i] by Anne Galloway

My research, in part, deals with technology design cultures and my attention was recently focussed on emerging textile technologies. I found myself imagining the arts and sciences that come together to make them real, and since I was originally trained as an archaeologist, I kept coming back to material culture and practice. First, I considered all the organic and inorganic materials used to create these new technologies and applications. Then all the artists and scientists and laboratories and studios. All the tools and tricks-of-the-trade that make them. All the administrators and committees and institutions that manage them. All the local businesses, global industries, national governments and international policies that move them. All the people who desire and shun them. All the rules and all the ways around them. It was overwhelming.

But I knew that these kinds of collaborative research and design projects are increasingly expected, and I knew that the messiness of all these connections makes it difficult to locate accountability. I knew that if I wanted to look at how all the players in these research and design projects come together—and fall apart —I needed to be able to locate boundaries and points of attachment between them.

Given the techno-scientific and artistic domains at hand, two things immediately came to mind: seams and scars. Both are intimations of past actions and interventions, of things joined together and things cut apart. They mark the places where different subjects and objects were separated and connected. The whole each creates is a hybrid, something both old and new. Yet, by the time we see a seam, the fabric has been sewn; by the time we touch a scar, the cut has healed.

In other words, seams and scars point to where we have in the past made or become something else—and yet they also remind us that we can do so again in the future. If we treat them not as irregularities to be hidden but as indicators of our abilities to intervene in the world, seams and scars offer us glimpses of how we shape and re-shape ourselves, each other, and the worlds in which we live.

Now, before I go any further I should point out that I am far from the first to discuss technological 'seams,' but perhaps readers are more familiar with discussions of 'seamless' technologies, so I will start there. Whether called pervasive, ubiquitous, tangible or ambient computing, there is often the assumption or expectation that new technologies will somehow fade into the background of our everyday lives. With interfaces embedded so expertly into our

environments and objects, computing would effectively become invisible if not transparent.[1]

Early discussions of seams in ubiquitous computing were lead by Mark Weiser at Xerox PARC, and while his work advocated 'calm computing' he later felt the need to clarify that calmness does not necessarily imply seamlessness.[2] As Matthew Chalmers restates his position: 'Weiser describes seamlessness as a misleading or misguided concept. . .[H]e suggested that making things seamless amounts to making everything the same, reducing components, tools and systems to their "lowest common denominator". He advocated seamful systems (with 'beautiful seams') as a goal.'[3]

I was particularly taken by this idea of seamlessness as a form of reduction. Put in the realm of collaborative work, a 'seamless' team or project might be one in which consensus is preferred, or one in which boundaries between disciplines and sectors disappear. This reminded me of how often I hear people acknowledge, or even lament, the difficulties of collaborative work—and how rarely I witness anyone challenge the idea that our ultimate goal should be harmonious products, if not processes.

But what if messiness, disjuncture or tension were not considered enemies to collaboration? What if these seams (or scars) were things we did not try to hide, avoid or overcome? Following a call to both reveal and take advantage of infrastructural failures normally considered problematic, the notion of seamful computing has been most recently used to focus on 'connections, gaps, overlays and mismatches—within and between physical, digital and social space'.[4] Put otherwise, some designers are explicitly re-framing 'failures' in terms of how people route around technological glitches, and how the messiness at hand can be seen in terms of potential.

Anthropologists call spaces of transition, or thresholds between one state and another, liminal spaces. In physical terms, the beach is a liminal space: it is neither ocean nor land, but somewhere in-between. In cultural terms, liminal spaces tend to be navigated by ritual. For example, weddings mark the transition between single life and married life, funerals mark the transition from life to death, and both mark passages and processes that shape individual and collective identities. So liminal spaces are spaces of potential or becoming; they are places where things change and interesting things happen. As such, I find remarkable hope in seams and scars. But because liminal spaces, like all potentials, are also rather uncertain I find good reason to proceed with care.

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[1] See for example, Galloway 2004a; Greenfield 2006; McCullough 2005; Mitchell 2003; Norman 1999; Sterling 2005.
[2] See for example, Weiser 1991, Weiser and Seely Brown 1996
[3] Chalmers 2003
[4] Rudström et al. 2005

Returning to discussions of ubiquitous computing and seamful design, Chalmers and his colleagues again paraphrase Weiser: '[M]aking everything the same is easy; letting everything be itself, with other things, is hard'.[5] However, in human-computer interaction research the politics and ethics of these kinds of practices are most often treated as side-notes, or simple acknowledgements that there are, indeed, politics and ethics at hand. I wanted to better understand these politics and ethics, and how they might manifest in collaborative work.

To start, 'letting everything be itself, with other things' is an interesting position. It values singularities, acknowledges multiplicities, and implies a kind of convergence without consensus. This struck me as an interesting way to look a little closer at the hybrids created in the collaborative work of emerging textile research. In the case of seams more literal than the technological ones I just described—yet equally applicable to xenotransplantation and dressmaking— something is cut from one thing, and sewn to some other thing, to create yet another thing. The kind of hybrid that emerges depends precisely on what was excised and what remains, as well as what was brought together and what was kept apart.

In other words, with each new creation or collaboration we arrange and re-arrange different risks and responsibilities. The resulting assemblages can be so messy that it can be difficult to figure out how one is accountable to, and for, these arrangements. These scenarios are further complicated by what gets washed off, or thrown away, in the process. This is important because whether by deletion, erasure or purification, processes of differentiation and convergence become difficult to identify, let alone change—and that has serious political and ethical implications.

For example, the seam or the scar can always tell me that something happened, and while I can always look to the joined object (the hybrid) I may never be certain about the details of what was removed or added to make it, and how that was accomplished. I knew that some cuttings and joinings are very violent and painful, and the results can be rather monstrous. Some seams and scars are ragged and worn, or the connection is always under threat and failure is immanent. Some seams and scars are repeatedly repaired, and new lines are laid down beside, and through, the old.

It struck me that the politics and ethics at hand in all these cases challenge us to witness—not just gaze upon, but genuinely witness—these processes, or how seams and scars are actually made. And this is a rather serious challenge because we have the opportunity, if not the responsibility, to identify what we both desire and allow to be connected and separated. After all, by making decisions about what is relevant or irrelevant, inside or outside, us or them, we not only shape a new kind of hybrid, but we also reshape each of its constituent members— including ourselves.

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[5] Chalmers et al. 2003

As I have argued in the past, in these kinds of assemblages 'design is not objective, not given, not matter-of-fact. Instead, design is a matter-of-concern that requires the convergence of difference, of taking into account and being accountable to things that appear irrelevant or contrary to our personal interests'.[6] Although seamlessness may remain a powerful and effective metaphor to guide particular projects, when it comes to actually getting the work done—and the challenges of having to do it with people who can be very different from each other—then I suggest it is in everyone's best interests to recognise the importance of seams and scars in marking places where interventions can be made, or where potential can be found and acted upon.

Getting back to the shaping processes, or to the things that make seams and scars, we can start by acknowledging that there are multiple forces at hand and they are never neutral. In order to modify and maintain—to control—all these new technologies and new ways of working there are always a variety of different, and sometimes divergent, cultural interests and values in play. And where people actually 'draw lines' and 'take sides' is arguably where we need to pay the most attention.[7] Returning also to the notion of liminality, we can look to the 'rituals' or practices of collaborative work in order to better understand how people actually negotiate uncertainties and potentialities.

Given increasing opportunities and support for collaborations between universities, industries, artists and others, a deeper and richer understanding of the associated material and symbolic cultures can only help everyone involved make more informed decisions, and hopefully, to take greater responsibility for themselves and others. I think that many of us are familiar with notions of citizenship and democracy that rely heavily, and in rather tricky ways, on tolerance and consensus. Although it is no less an attempt to organise things, what I am suggesting instead is convergence—and that inevitably means that we will have messes and sometimes there will be conflict. We can try to reduce the intensity of the conflict, or we can avoid antagonising others, but the desire to eliminate tensions entirely is similar to the desire to get rid of, or hide, seams and scars.

Now, in order to bring all these loose threads together, so to speak, I would like to take a closer look at ethics in the processes I have described. Rather than having to do with morals, ethics also refers to *ethos*—or the characteristic spirit and sentiment of a people. This bottom-up rather than top-down approach to social conduct is also related to Bruno Latour's call for assembling around matters of concern rather than matters of fact: 'There are no more naked truths, but there are no more naked citizens either. The mediators have the whole space to themselves.'[8] Aesthetics, not in the sense of art but in the perception and

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[6] Galloway 2005

[7] Galloway 2006; Galloway and Ward 2006

[8] Latour 1993

declaration of the beautiful, also arise from ethics.[9]   How we mediate these relationships then is of paramount importance.

These understandings of ethics and aesthetics can be used to help social scientists, artists, businesses, governments and citizens engage and evaluate social and material interactions within increasingly messy collectives of humans and non-humans. Following Michel Maffesoli, ethical action and aesthetic experience are always already productively combined in social and cultural life.[10] And as Rob Shields further explains, 'Ethics alone is insufficient to make changes or guide actions. It is a content that requires a form—an aesthetics . . . Aesthetics alone is equally insufficient, for it leads to an aestheticized politics of manipulation and of form alone without content.'[11]

The remaining challenge, then, is to assemble and mediate shared matters of concern in an attempt to negotiate—and create—goodness and beauty in our lives and work. In many ways we already do this everyday, but right now I am talking about making the implicit more explicit. I am talking about bringing the seams and scars into full view. I am talking about witnessing them, and each other. About making decisions and taking action. About accepting responsibility.

In doing so we cannot help but to also stitch together—and pull apart—the social and cultural concerns that shape and are shaped by collaborative work. In paying attention to seams and scars we can all ask what, and who, are being made. We can ask how they (and we) were made, and how all of us might be unmade or remade. These are not easy questions, but I am convinced that they are amongst the most important questions if we seek a critical and productive understanding of our actions in the world. I believe that we need to openly and critically reflect upon, and talk about our own concerns, expectations, values, decisions, practices and actions—and what roles they play in collaborative work.

And now, in the spirit of discussion, rather than closing the matter I would like to open it up with a few questions: Who is making the cuts? Who gets left behind? What goes forward?   Who does the suturing and sewing?   Has there been suffering? Healing? Are the seams ugly? Are the scars beautiful? What can we learn about ourselves and others by attending to the seams and scars our work creates and leaves behind?

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[9] Galloway 2004b
[10] Maffesoli 1995
[11] Shields 2002

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ⁱ In November 2006, I was kindly invited by V2_Institute for the Unstable Media and Virtueel Platform to speak at an event called *Fleshing Out: Wearable Interfaces, Smart Materials and Living Fabrics*. Bringing together people from art, design, academia and industry, a central goal was to explore some of the social and ethical dimensions of current collaborative practice in these areas. As a cultural researcher who studies the development and design of new technologies, I am particularly interested in how these collaborations might work—or not work—and I set out to ask a few questions about the different interests, values, politics and ethics that encounter each other in these practices. This essay includes and builds on the presentation I gave in Rotterdam on 9 November, 2006. I still consider it an exploratory work, meant to stimulate further thinking and discussion rather than provide definitive solutions.
www.virtueelplatform.nl/article-3553-en.html.