

Learning from Craft:

Tool-building and Poiesis in Artistic Research Practices

Kevin Toksöz Fairbairn (kbcfair@gmail.com)

Leiden University

This word, Poiesis, which we inherit from the Greek, is extremely difficult to succinctly translate. Despite that difficulty, though, it has proven to be an exceptionally popular and fertile concept, applicable across a multitude of different disciplines, especially within the arts and the humanities. In the original Greek, the word poiesis, suggests an idiosyncratic confluence of craft and creativity. In addition to tasks considered craft today, like actual handwork, Greeks also used poiesis to describe the arts of, for example, poetry and legislation, and so, in viewing these activities within a framework of craft, they acknowledged that things like poetry and legislation require forms of both technical and aesthetic creativity. In this concept of poiesis, aesthetic and technical creativities meet. They are absorbed into the same flow of energy and agency, and they can be used as means towards similar ends.

From this perspective, poiesis is a creative task that serves other tasks. It creates forms more than functions, establishing a framework or scaffolding for other tasks to be accomplished with greater efficiency or efficacy. This makes poiesis both very open-ended, and also very utilitarian. The end product of poiesis is not just an object that can be used or enjoyed once, or in one context, it is instead the production of a new tool, or relationship, or idea that can in turn produce many other things.

Giorgio Agamben describes how poiesis becomes this enabler of other forms of creativity, writing::

“[C]entral to poiesis was the experience of pro-duction into presence, the fact that something passed from nonbeing to being, from concealment into the full light of the work. The essential character of poiesis was not its aspect as a practical and voluntary process but its being a mode of truth understood as unveiling.” (Agamben 1994, p. 42)

This unveiling is goal-oriented, it is focused—it is teleological within a localized context—and yet, despite this focus, poietic activity opens outwards with an entropic, irreversibility. It occurs within an incubation period, in which very specific, practical problems are solved in order to allow a much more open-ended utility to emerge.

Hannah Arendt evokes this interpretation of poiesis in her analysis of what she calls the *Vita Activa*. In *The Human Condition* (from 1958), Arendt presents this *Vita Activa* as a counter-argument to much preceding Western philosophy, in which, according to Arendt, the human condition was examined primarily through a lens of inner reflection, that is, the human condition was viewed as primarily the experience of individual reflection on and reaction to the world. Arendt questioned this centering of individual experience and she proposed instead that the human condition must be analyzed within the pluralistic domain of social interaction, suggesting that the human condition is at all moments and in all situations framed and shaped by

social relations and communal activity. In assessing how these dynamic social relations contextualize and create this human condition, she divides the activities of human life into three categories: labor (*animal laborans*), work (*homo faber*), and action (*zoon politikon*). She writes:

“Labor is the activity which corresponds to the biological process of the human body, whose spontaneous growth, metabolism, and eventual decay are bound to the vital necessities ... The human condition of labor is life itself ... Work provides an “artificial” world of things, distinctly different from all natural surroundings. Within its borders each individual life is housed, while this world itself is meant to outlast and transcend them all ... Action, the only activity that goes on directly between men without the intermediary of things or matter, corresponds to the human condition of plurality, to the fact that men, not Man, live on the earth and inhabit the world ... this plurality is specifically the condition ... of all political life.” (Arendt, 1958, p. 7)

What Arendt calls labor and action both occur within time. Labor is a metabolic cycle of basic tasks that allow us to build society: producing food, housing, and other services. Action is then what we do in society, when we take part in communities and engage politically. Both of these unfold in very linear timeframes. What Arendt calls Work, though, which is undertaken through the process poiesis: it is outside of these other rhythmically unfolding activities. And so poiesis describes the production of tools and resources that allow Labour and Action to proceed. Poietic Work doesn't produce goods or relations in the same way as these other two categories, but it produces everything that makes Labour and Action possible. This could be physical tools for enabling labor, or it could be conceptual tools, like the legal codes established by legislation that then foster and support social relations. Arendt takes care to note how this concept of poietic tool-building can describe both physical tools as well as conceptual tools.

In discussing artistic research in music, I think that many of the tools we develop are indeed conceptual, or at the very least are derived from theory. However, I would still like to look at the way in which physical tools are developed and used in more traditional handwork situations. Handwork does, after all, offer a long, long history of careful, thoughtful evolution as humans have engaged with materials and with their environment, honing their craft from generation to generation. And as such, craft and handwork provide a fertile source for interdisciplinary knowledge.

In discussing tools, craft, and handwork, I will also be speaking from personal experience. I apprenticed for many years making brass instruments, learning the trade from bottom to top, and I have continued to work in that field alongside my careers as a performer and academic. Altogether, I've built hundreds of world-class brass instruments and have, alongside that work, developed my own designs and experimental instruments, as well. As a specialist in unique, custom instruments, I am often in a position where I am developing new designs that aim to optimize acoustic performance, or aim to make the instrument's response easier, or to make the instrument easier to manipulate, etc. In each of these cases, when there is a slightly different bend in a tube, or a new taper in the bell, or a different mechanism to operate a valve — in each of these cases, the first step will normally be to redesign the tooling, rather than to start

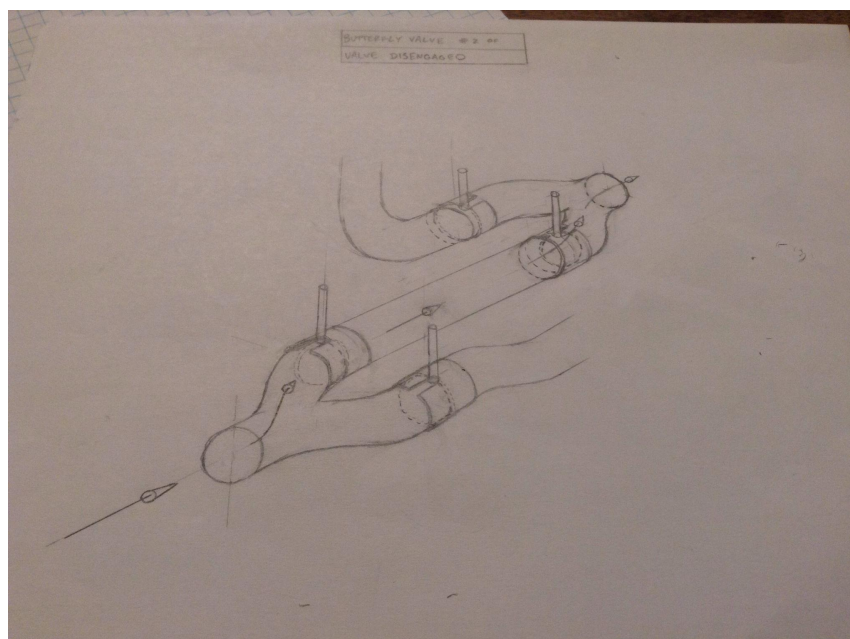
hammering the brass from the beginning. The goal is not to force the metal into a new shape, but to generate the tooling and scaffolding that make that new shape, in its own way, inevitable.



Left: new valve design

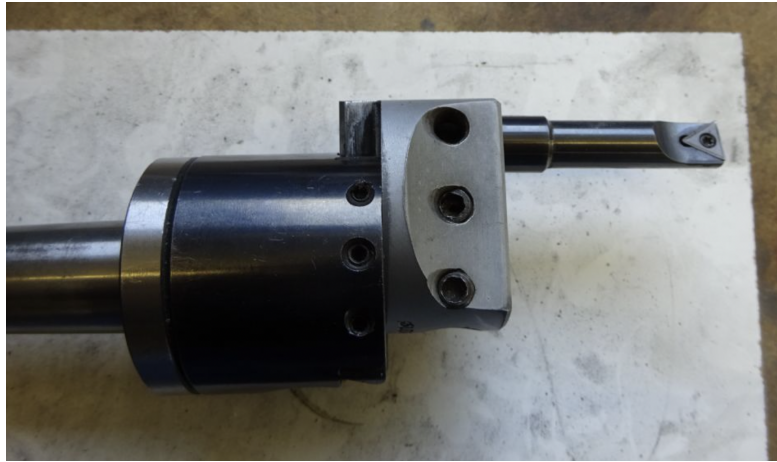
Right: traditional valve design

Here you can see a strange new trombone valve that I designed last year. I will not bore you all with an explanation of exactly what's going on here, but it replaces something that looks more like this, on the right. As you can see, they look very different! And because of that, everything about making the new valve is also different. Once this design was sketched out on paper, which is the easy part, the first and most important step was to design and construct the tools that could manufacture the parts I needed to the level of tolerance required.



For example, most parts for brass instruments like this need to have a certain number of holes milled into them. This is an extremely common, even mundane, task, and lots of tools for this

already exist. However, these tools are often optimized for particular size holes, or they are designed to address the part from particular angles, and every time I create a new valve with a new size and a new shape, I often have to reimagine these very basic drilling tools in order to most effectively make the new design.



And so in situations like this, I will make versions of this tool you see here, which allows me to drill holes in strange parts to within 10-thousandths of an inch accuracy. Unfortunately, as you can see in the picture, it has two parts that stick out from each other, and the further apart they get, the more dangerous it can be, and the harder it is to maintain accuracy, so for new instrument designs, I often end up making new tools to suit the task.

This is just one example, and I do not want to waste too much time describing these specific tools, and I thank you for bearing with me this far. The moral of this story is: that making a new tool like this can cost me an entire week of work. It requires a lot of very careful preparation, incredible attention to detail, and very fine work on extremely work-resistant materials. Once I have finished this tool, though, actually using it can take as little as 5 to 10 minutes. In many cases, the tool I build is more complex and more time-consuming than the instrument it works on, but this is necessary in order to build the highest quality instrument possible. And It is this balance—or perhaps rather, imbalance—that I want to examine today.

The art of tool building is all about front-loading careful preparation in order to subsequently enable higher order work to be done much more efficiently and effectively. As the old English saying goes, “measure twice, cut once.” Which is to say, if care is taken to set up the job, then it will unfold without incident.

If we return briefly to Arendt’s *Vita Activa*, we can see how her categories of labor, work, and action map onto artistic practice and artistic research. At the risk of over-extending the analogy, let us say that Labor corresponds more or less to the practice room—to the work we do learning instruments, learning notations, mastering skills, rehearsing ensembles, etc. Similarly, her category of Action corresponds roughly to the concert hall—to the public presentation of creative work, performance, documentation, dissemination, etc. Her category of Work is in many ways the facilitator between these two spaces, but it is crucial to note that, even though it serves as a link,

it is not positioned in between. It is rather, a process Arendt describes as ‘out of time.’ She describes it as an atemporal process that unfolds almost external to society, which then comes to bear as it is applied in real life through the activities of Labor or Action. It is, in that sense, a link between the practice room and the concert hall that is positioned outside of both of them, and in many senses preceding both of them.

In the arts, and in particular in artistic research, we speak and we think quite a bit about reflection. I use the word reflection because of its prevalence and its generality, despite the fact that many people, myself included, find that the word reflection too biased towards reactivity—we could use words like diffraction, instead, following Donna Haraway and Karen Barad, as I normally would do—but today I do not want to delve too deeply into these terminological debates. And so I will speak simply about reflection.

Arendt’s poiesis, which is to say, the art of tool-building—this is a reflective activity. It occurs outside of time, and it is used to contextualize and implement other activities. But it is a reflective task that notably *precedes* and *enables* other activity. When she speaks of conceptual tool-building, it is notably different from the idea of analysis. A poietic approach is not about studying theory in order to retrospectively analyze creative, artistic practice. Rather, a poietic approach requires a front-loading of conceptual work, learning theory in order to construct creative approaches before they are ever used, well before we enter the practice room. In this sense, theory is a tool to reimagine how we even pick up our instruments, rather than a means to reflect on our work once it is already underway, or perhaps even once it has finished.

For students in artistic research who are not yet accustomed to pivoting between modes of research and modes of practice, this can be a big perceptual shift. Often, we approach our artistic practice as something that we already know how to do, as something that is itself a tool to be directed towards an end, which end we can then analyze using the theoretical and conceptual aids we have researched. Hannah Arendt pushes us to reconfigure this approach, though, driving us to see the connections between artistic work and the tools and tool-building that occur in non-academic, craft-based situations.

There are a million ways to try and learn from this approach, and to implement these ideas of tool-building. I will very briefly share one, because I feel that I would be remiss not to do so. In my own work, I have spent a lot of time investigating embodied cognition and the ways in which agency and knowledge can be distributed, not just throughout the human body, but also stretching to the instrument itself, and to musical notation, etc. It would be very easy to examine, really, any instance of learning music through this lens. Embodied cognition can be in play literally every time we pick up an instrument. I could look at the ways in which we learn scales and etudes, or at the way we learn to play interactively in chamber music. In each of these examples I could isolate instances in which embodied knowledge is utilized and, therefore, retroactively assess the role of embodied cognition in musical performance.

However, I chose to approach it a different way, beginning from learning more about embodied cognition, about distributed agency, about intelligences and the ways in which they can be shared across perception-action relationships bridging the body and its environment. And having

learned more about how these relationships can function, I then turned to music, isolating particular repertoire and particular notational practices that could more effectively foreground the role of embodied cognition in the learning process. And so, I turned to physically polyphonic notations, wherein different parts of the performer's body are notated separately and polyphonically.

excerpt from Klaus K. Hübler: Cercar (1983)

In this piece, for example, which is for solo trombone, you can see separate staves for the embouchure, for the right hand, for the left hand, for the diaphragm and tongue, for the voice, and for a mute (which is mounted on a stand). Because these notations are already quite distant from traditional Western classical notation, they demand a certain amount of learning and relearning. They are also very physical, allowing the body itself, and the instrument it holds, to influence the learning process and the performative approach. And so, for me, these notations served as a really useful window into structuring learning strategies that incorporated and took advantage of the human capacity for embodied cognition. As I said, having already researched the field and having already sketched out a scaffolding of how it might influence my actual practice, I then isolated this repertoire that allowed me to problematize these elements of learning and performance and was able to implement them in a straightforward rehearsal period geared towards public performance of these pieces.

Video example, excerpt from Klaus K. Hübler: Cercar (1983)

<https://www.youtube.com/watch?v=1u4RngtRJEw>

This is just one potential example, but I hope that it is interesting to see how I was able to embark on learning new pieces of music while applying tools of embodied cognition proactively, and engaging with this conceptual and practical tool as a means to transform my artistic practice rather than merely as an aid to analyzing what I am already doing. By front loading some elements of research, I was able to craft the conceptual and physical tools that allowed my research to unfold organically in the process of learning new pieces, and not as conceptual tools used primarily as reflection on artistic work I had already accomplished.

Arendt's concept of poietic tool-building can help guide artistic research in order to shift modes of reflection away from retrospective analysis and towards an antecedent engagement, which can be used to proactively shape the intertwined undertakings of both research and practice.

poiesis and arendt
what is a tool

brief foray into craft
butterfly valve
making/machining new tools/dies/etc.

relationship to reflection

not only a critical tool during and following artistic activity, and not only a process of *analysis* occurs at multiple points

i.e. to set up research questions

but then *also*, particularly with artistic projects, in setting up artistic activity reflection is misnomer, because it must not always follow, but can precede: contextualizing, supporting, informing, nourishing
—it would be possible to propose alternatives to reflection, e.g. diffraction, but the point of this presentation is not to propose isolated terminologies or fight about the semantic accuracy of concepts like reflection, the goal is to open up the artistic research process to encompass physical and mental awarenesses in anticipation of research, and learning how to utilize and mobilize those moments towards artistic research goals.

adapting/crafting conceptual tool *before* embarking on creative trajectory

e.g. embodied cognition (building awareness of tool, discovering and working on how it can be brought to bear on musical pedagogy, isolating repertoire to optimize this, only then engaging) at this point the artistic research experiment is already fruitful, regardless of the outcome
e.g. monochord (embarking from conceptual framework, building relationship to different components of the Pythagorean ‘problem,’ and then just letting it flow)

Poiesis evokes tool-building as a function of both ideas and objects, and it remains rooted in indeterminacy, open to the eventual repurposing or reclamation of these tools in new, shifting, and unpredictable contexts.