This paper proposes theoretical considerations for elaborating clear and applicable parameters to evaluate and orient the design research in the craft sector in order to recognize and enhance its added values. These reflections stem partially from the international project "Contemporary Authentic", which used design driven strategies for activating craft heritage in Milano. Such heritage is an ecosystem of distributed and quite traditional knowledge and expertises, rooted in places, people and activities (some of which also endangered), weakly connected with industry but still represents an important socio-economic asset. Emerging signals show that local initiatives of co-creation, auto-production and collaboration between craft and design have a potential for bridging this market with a new craft industry and production, characterised by a contemporary style and vision but respectful of the original cultural values. In mapping these initiatives and in elaborating a peculiar design strategy for promoting craft innovation through transmission and re-contextualisation in new cultural intensive products, the Contemporary Authentic project questioned topic such as authenticity (as balance of tradition and innovation), cultural sustainability (ownership, control and impact of the design processes), typicality and identity (territorial touristic promotion and local development) and quality certification system, concepts that makes the design action recognizable and replicable. Proceeding from the projects findings on the role of design in the process of craft activation, the paper aims at further elaborating some evaluating parameters for eliciting the design driven value for craft: this preliminary list includes the measurable grades of situativity, reproducibility, relationality/connectivity, transmissibility, sharing and re-applicability of craft that can be promoted and innovated through design research and development both at the material and immaterial level looking for a smart craft heritage policies platform.

Keywords: craft heritage, activation process, craft innovation quality assessment
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Craft knowledge and skills, like traditions and behaviours, can be considered a form of “typical knowledge”. Even if craft appears physically in objects or products has an immaterial form whose visibility is critical: the craft heritage is strictly connected with the traditional material cultural heritage but include immaterial values too, which concern the needed skills for their use, and their symbolic meanings. It’s often easier to save the physical product of craft (for instance a handcraft object), but saving all information related to the context, the handcraft abilities and techniques it’s ever more complex.

Due to its process nature of “performance embodied in people” (Kishenblatt Gimblett, 2004), in order to be preserved, this typical knowledge needs to be continuously performed, taught and socialized, in other words, “activated”. Typical and traditional craft knowledge could not avoid the interaction with the surrounding environment, its dynamics of exchange, production and fruition. When the context change, it is therefore often necessary to re-contextualize it in a new context, transforming and adapting the knowledge, preserving its specificities. For this reason an effective activation process should consists in a collaborative process of knowledge sharing between the owner and the future users.

Our research hypothesis focuses on the capacity of design to actualize the craft heritage production with an innovative strategy that touches (differently from many other initiatives that focus one single aspect per time, see next chapter and notes 3-6) on all the phases of the value creation chain (documentation, archive, transmission, re-use, promotion and innovation) with a strongly situated approach that analyses the craftsman and his knowledge on a territorial and relational basis and consider them as lever for development and new entrepreneurship, under a certified quality system.

We define this concept of design driven heritage valorisation “activation” (Lupo 2008, 2010) because it is a process that emphasises the “use value” of the heritage, moving forward from the valorisation, more commonly practiced, and mainly based on the improvement of fruition and experience of Cultural Heritage, to its “innovation” in new knowledge, production and services. Activation in fact aims at reproducing and transmitting the craft heritage through a sustainable re-contextualisation and re-use of its values, in particular incorporating its authentic qualities in the contemporary context (i.e. new objects, artefacts, services, events and spaces…), creating new connections or a “frame” of meanings and potential ambits where heritage can be activated, dynamized, reproduced, renewed and re-generated (or “actualised”) in continuity with its tradition, but dialoguing with the contemporary context.

Our research questions concern the dimensions where these processes can be activated: time, space and process. It is possible, with regard to the time dimension, to talk about actualisation of the craft heritage driven by design? It is
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possible, with regard to the space dimension, to activate by design the re-contextualisation, dislocation and re-localisation of craft heritage? And, with regard to the process dimension, to promote incorporation of the craft heritage in new processes?

In our hypothesis these processes are capable of mediating between continuity (recognition) and dynamic transformations (evolutionary trends) of craft heritage in a sustainable way (Lupo, 2011). This dialectic between persistence and transformation, continuity and change, introduces the necessity of framing the concept of “authentic”, its recognisability and reproduction: the “reproducibility of the authentic” is based on models of interpretation and representation of a specific heritage, whose authenticity factors (typicality, recognisability...) are constituted by material and immaterial dimensions (artefacts, materials, processes, techniques, knowledge). These factors can be “extracted” from forms and processes of a specific cultural patrimony to become object and matter of design towards creative transformation and re-contextualisation, or an “activation in continuity” that drives from traditional to contemporary, from a native authentic to an original authentic (Lupo 2011).

<table>
<thead>
<tr>
<th>AUTHENTICITY</th>
<th>FORM (MATERIAL)</th>
<th>PROCESS (IMMATERIAL)</th>
<th>RE-PRODUCIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native Authentic</td>
<td>constant</td>
<td>constant</td>
<td>Not re-producible</td>
</tr>
<tr>
<td>Authentic original / &quot;New contemporary authentic&quot;</td>
<td>traditional</td>
<td>innovative</td>
<td>re-producible</td>
</tr>
<tr>
<td>Authentic original / &quot;New contemporary authentic&quot;</td>
<td>innovative</td>
<td>traditional</td>
<td>re-producible</td>
</tr>
<tr>
<td>NOT authentic</td>
<td>innovative</td>
<td>innovative</td>
<td>producible</td>
</tr>
</tbody>
</table>

Table 1 – The Authenticity matrix (Lupo, 2010)
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According to this possibility of re-production, the design driven craft activation combines the chain of generation of craft heritage with the chain of the design driven valorisation processes. The chain of generation of craft heritage refers to those cyclical and evolutionary processes along time, identified by ownership, transmission, re-reproduction and eventually discharge and oblivion of cultural practices, in which a negotiation happens (consciously, collectively, institutionally or not) in order to select which part of these practices is transmitted or not as heritage and in which form. The chain of the design driven valorisation processes instead refers to those deliberate enhancement processes that enable a heritage acknowledgement, safeguarding, documentation, interpretation, promotion, experience, transmission and, lastly, innovation.

In the case of craft heritage characterised by a performative and processual nature, the more these chains tend to overlap and coincide, like a genetic “double helix”, the more the heritage activation is fruitful because a deliberate design action can become also an action of generating cultural heritage, making synergic the processes that are naturally or historically determined with the processes that are artificially and designerly activated. We call this “innovation potential” of the cultural asset, in which we can insert, by the design strategy, a sustainable “delta of transformation” in the evolving nature of intangible heritage so that the double helix behaves as a cyclic process of re-recursive and virtuous continuous generation and evolution.

Figure 2 – The chains of generation of cultural heritage and of the design driven valorisation processes (Lupo, 2012), graphic by O. Mangiante.

2 THE CONTEMPORARY AUTHENTIC PROJECT

The “Contemporary Authentic/Milano” project\(^1\), developed by the research group

\(^1\) [http://www.contemporaryauthentic.com/](http://www.contemporaryauthentic.com/), the repository collecting all the results is on line at [http://archivio.contemporaryauthentic.com/](http://archivio.contemporaryauthentic.com/).
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Design for Cultural Heritage of Politecnico di Milano\(^2\), was the occasion to develop an articulated strategy of “craft activation”. The Milanese craftsmen (from now on often called simply “masters”) and their knowledge in its different forms (defined as performative and productive, Lupo 2008) have been considered an endangered intangible heritage in need of being “activated” (from documentation to transmission, from fruition to use) and promoted under the brand of “Contemporary Authentic/Milano”.

The project, developed during the years 2012-2013, was born also with the idea of overcoming a naïf vision of regional or ethnic craftsmanship, often linked to developing economies and exotic and vernacular contexts, adopting that of craft linked to innovation. It has incorporated the idea of craft as a productive model with that one of craft as tangible and intangible cultural heritage. This is a distinctive peculiarity of Milano where craft is perceived not with a nostalgic view but as a sort of individual/collective industriousness rooted in the local \textit{milieu} and excellences and can benefit from a quality mark. Nonetheless, this approach that mixes authenticity and contemporariness in a system of high quality local production could be exported also in other contexts, characterized by a traditional perception of craft in order to change it.

Numerous approaches operate on craft (as a form of artistic skill\(^3\), as an intangible asset to document\(^4\), as a productive model\(^5\), as a lever for local and territorial promotion and development\(^6\)), concentrating only on a specific enhancement action, such as the documentation, reapplication or transmission. The CA project, at the opposite, proposes an extended design driven valorisation chain that touches on all the phases of the value chain (from archiving to innovating the Milanese craft heritage and its touristic promotion) and designs a craft-based quality protocol founded on dynamics of activation of typical know-
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how and on a "craft production quality mark".

The activation dynamics are actions to share knowledge with two targets: between the master (holder) and system of fruition (extended community, public...) through experience and participation; and between the master and the production system (companies, designers, makers...) through incorporation and innovation.

The craft production quality mark and brand joins the values of a brand to the ones of a quality certification system. The concept of quality, at the opposite, is still more commonly referred to products or production than to geographical areas. However, quality can refer to a territory in few cases, like the one of typical products whose origin is protected by different norms and marks in EU law7. Contemporary Authentic, mixing the values of a place and the ones of a craft production into a "situated craft" becomes a quality certification for the innovation of the typical craft production of a territory, and in particular Milano. Above all, Contemporary Authentic strives for making synergetic the methodology of certification of traditional production with branding strategies, to communicate new touristic and development opportunities of a city.

Within these macro objectives, many solutions have been developed to respond, through strategies and design tools, to the need of effectively documenting the intangible living heritage possessed by the masters (especially knowledge and its immaterial nature - i.e relational, performative and territorial qualities), and activating, transmitting, renewing, revitalizing, re-using and socializing it in a sustainable manner, in relation to authenticity, typicality and possibly intergenerational and intercultural exchanges.

The project started from a documentation action aimed at both the safeguarding and the understanding of these typical milanese identity features through the development of a web based visual and multimedia catalogue (or repertory) of the masters and their knowledge ("the endangered Master list"); then it turned this catalogue into a system of diffused events and laboratories with the aim of both celebrating the masters and helping them in establishing new relations and innovative re-contextualisation of their knowledge in the contemporary system (through pilot actions called "botteghe" and "convivia").

In more details, the CA project included various pilot actions.

The pilot actions finalised at the documentation, narration and offer of fruition of Milanese craft, for expanding knowledge and transmission, are:

1. the repository on line8, which collects materials on case studies of good practices of activation at international level and on the endangered Milanese masters surveyed by the project. It has been designed to make accessible all the research outcomes and to provide to the public a permanent narrative and polyphonic information system about the "Endangered Milanese masters list".

7 http://ec.europa.eu/agriculture/quality/index_en.htm
8 http://archivio.contemporaryauthentic.com/
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More than 80 masters have been collected according to specific selection criteria and documented on visual basis.

For the repository, various analytical visual tools have been designed: among these the "master-knowledge system model" is an info-graphic model to visualize the master’s knowledge system, its relations and knowledge activation processes within the territorial dimension.
2. video-documentaries, audio-visual narrations that offer a more articulate representation of the complex production processes of the knowledge subject to analysis. These documentaries are not simply video-recordings but ways to explore and visualize articulated processes concerning typical craft knowledge, therefore they are integrated by different visual layers of info-graphics and tools that mix different media and data based on the idea of timelines and layers.

3. craft shows, events which include informative activities aimed at an extensive public such as exhibitions, live craft performances, convivial events, etc. capable of placing different type of artisan knowledge in the centre and having them interact with one another and with users. Design results of the whole process have been officially presented in May 2013, at Spazio MIL -Museo Industria e Lavoro e Archivio Giovanni Sacchi in Milano with a public conference and exhibition.

http://www.spaziomil.it/index.htm
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4. cultural itineraries, a physical circuit and a smart app for visiting the historical workshops in the city of Milan, augmented by digital contents accessible online.

All the above mentioned actions clearly increase the opportunities of fruition (direct access, knowledge, understanding and experience by people) of the craft heritage in Milano providing an innovative digital and physical eco-system of the craft community working in the city.

The actions aimed at the structured transmission of knowledge and its innovation are:

1. design workshops aimed at transmitting, sharing and sustainable innovation of the knowledge of the master through the collaboration between master and new young designers–apprentices. The design workshop goal has been to make explicit the “use value” of three selected endangered Masters knowledge (Costante Cavalleroni, carpentry; Alessandro Grassi, glasswork; Piero Oberti, typography) in new cultural formats, enabling both the dimension of fruition/experience and the dimension of incorporation/innovation of those...
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typical knowledge. The process was led by Siu King Chung, visiting professor from Hong Kong Polytechnic, using the photo stock-taking technique to observe, map and interpret the craft knowledge processes: the maps realised were visual displays to unveil and discuss, during the meta-design phase, the authentic qualities of the craft knowledge and its potentiality, and to generate, share and negotiate with the masters new visions and opportunities.

Figure 9 – Pictures of the workshop: students in Piero Oberti (typographer) atelier.

Figure 10 – An example of photo stock-taking map (glasswork).

2. craft dialogues, which are discussion and comparison panels for activating connections and networks between masters who hold typical knowledge and other players, like designers, institutions and trade associations, with the aim of exploring the new business potential of craft within the most complex production chains.

10 Scientific coordinator of the Community Museum Project (http://www.hkcmp.org/cmp/)
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3. the concept catalogue\textsuperscript{11} of the nine new design concepts created, some of which were launched in the prototyping and production phase in small series. The 9 design concepts developed exemplify the different approaches adopted in order to innovate peculiar aspects of craft knowledge: beyond the dichotomy of the material-formal and immaterial-processual aspects of the authenticity/innovation matrix for craft activation evaluation, the design concepts achieved changes of typology, mercceological sector and ambit of application of craft (from typographical printing to portable lamps or temporary exhibition design, from glass windows to lamps and furniture); changes of business model (on line communication and promotion, co-creation with end users); changes of production process (usage of waste material, different use of tools, imperfections and finishing).

\textsuperscript{11} http://archivio.contemporaryauthentic.com/catalogo/
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The abovementioned actions are finalised to the trasmission and dissemination of the craft knowledge and its re-use in innovative way (by creative visual tools and collaborative new products development) and are not addressing a direct fruition, except for the involved participant from each part (crafters, designers, associations etc). Anyway the larger community can benefit from the fruition of the results of this collaboration, being them events, seminars or prototypes and products.

The assessment of the activation processes is based on a matrix in which tradition and innovation are evaluated on "authenticity factors", i.e.: formal parameters (tangible) and process parameters (intangible) deriving from the specific context and knowledge that can be used as inputs and drivers for a process of innovation, which sustainably negotiates between persistence and transformation, continuity and change. These parameters restore a percentage value of "innovative excellence" or capacity to regenerate through an innovative tendency which respects the original values, making the different combinations of tradition and innovation intelligible. This matrix, that responds to the objective of knowledge sharing with the entrepreneurial system, has been developed in order to serve for the evaluation of the grades of authenticity and innovation of the new craft production processes without being prescriptive: in fact, it is open ended to multiple combinations, represented by the different percentages and the visual images "/" of the brand that are shown in the label. Within the processes of reproducibility of the authentic it will simply function as a warranty that a certain grade of authenticity has been preserved and combined with innovation in the realisation of a new product or process and as system to trace and make visible this authentic knowledge and its origin in the whole productive chain.

<table>
<thead>
<tr>
<th>Forms (&quot;material&quot; aspects)</th>
<th>Processes (&quot;immaterial&quot; aspects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphology</td>
<td>Production approaches</td>
</tr>
<tr>
<td>Material</td>
<td>Tools</td>
</tr>
<tr>
<td>Finishing</td>
<td>Assembling</td>
</tr>
<tr>
<td>Innovations</td>
<td>Business model</td>
</tr>
<tr>
<td>Component</td>
<td>Co-design/dynamics</td>
</tr>
<tr>
<td>Sensual qualities</td>
<td>Sustainability</td>
</tr>
</tbody>
</table>

Figure 13 – The authenticity/innovation evaluation criteria (Lupo, 2011).
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The project is characterized by a strong graphic identity, in which the diagonal and its shift, between the two opposites (authentic and contemporary), emblematically represents the value of the brand/quality system.

Figure 14 – The Contemporary Authentic brand visual image (design by O. Mangiante).

3 CONCLUSIONS: VALUES ADDED BY DESIGN RESEARCH AND PRACTICE

Craft, as a combination of knowledge-centred processes, presents a certain degree of suitability for reproduction and performance, innovating and transmitting, which can be positively activated through design. The Contemporary Authentic project approach shows more than a process of contemporary actualisation of traditional craftsmanship: through design research and innovation some values are added and made visible in the craft value chain and industry system.

Craft has been framed not as a nostalgic naïf environment of ethnic traditions or as a niche market in not technological developed countries, but as part of a mature economy and productive system, linking cultural and identity values with innovation, and therefore subject to contemporary dynamics of value creation: branding and communication strategies, social and community empowerment and engagement, touristic opportunities, new business models, impact on the digital environment. In this vision craftsmanship is not a close and self-sufficient eco-system from inspiration to production, and it’s not only delivering final products for the users end market: it is a production chain intertwined with the more complex industrial chains, that can deliver also semi-finished products that serve as input or components for other products (b to b market). It is often underestimated the necessity to acknowledge and give visibility to the craft knowledge and skill incorporated in complex industrial products, otherwise any more indistinguishable (Lupo 2013).
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Through design research and experimentation, in the Contemporary Authentic project a systemic perspective has been adopted to look at the craft practice extending the craft value chain opportunities from the ownership and reproduction of craft knowledge (designing the process of documentation and interpretation), to the transmission and renovation of the craft practices (designing modalities for passing and sharing them through generations and professionals, creating a cultural offer, finding new applications).

In doing this, sustainability factors have always taken in account, ensuring the knowledge ownership and control to the craft masters during the all pilot actions (ownership means that craftsmen are not spoiled of their knowledge; control means that craftsmen can always address and guide the process), and getting back the positive impact on their community (impact means that the craftsmen are the first beneficiary of the process) (Lupo, 2008).

Concerning the need for visibility, design envisioning and visualisations have been used not only for the end-market communication strategy (brand, labels, ads, app, web site etc) but especially for the research and documentation phases of the project, developing visual tools in order to elicit the tacit knowledge inherited by the craftsmen in term of skills and procedures (the video-documentaries) but also of territorial milieu and relations (master-knowledge system model). Such systemic visualisation strategy makes really the difference from other approaches on craft exploitation not design led.

Finally, but not less important, some design led criteria have been used for the assessment of the innovation incorporated by the newly co-designed products. Morphology, materials, finishing, components, productions techniques and tools, assembling etc, are the elements on which the authenticity (reference to the tradition) of the new products has been evaluated in its permeability toward innovation. The evaluation serves as a mark or warranty of a high quality innovation process that functions not prescriptively (directing fixed procedures) but in making explicit and understandable its components time by time.

The eco-ecosystem of the craft/design relationships is anyway a multifaceted universe: the worlds of auto-production, co-production, makers, digital craft and so on are by time well known and visible to everybody, al least in Italy and especially in Milano, see http://www.polifactory.polimi.it/home or http://www.makefactory.org/ (Celaschi, Lupo, Noriega, 2014). Anyway these are simply other dimensions of this interesting relationship, that probably will very quickly impact also on the one of the heritage centred craft, making possibly positively synergic the visions of craft heritage and craft productive models.

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