Local community members at aruma (Sandra de Berduccy)'s "e-aruma" exhibition in Territorio Lupaqa, Capinota, Bolivia, 2017, observe the work "Crux - luz esTelar" (Southern Cross - star light/loom light). @aruma (Sandra de Berduccy)

Tactical and Tactile Resistance at the Intersection of New Media and Indigenous Textile Arts

Resistencias tácticas y táctiles en la intersección de las artes de los nuevos medios y las artes textiles indígenas

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Abstract

This article focuses on creative work conducted at the intersection of textile art and new media art in Latin America. In particular, given that Indigenous textile arts often form a source of inspiration for projects led by non-Indigenous artists, it seeks to examine how such projects may be said to work in support of Indigenous resistance, contrasting a tactical resistant modality with a more "tactile" approach. It first offers an overview of Latin American art in this field, before focusing on the work of Mexican artist Amor Muñoz and Bolivian artist aruma (Sandra de Berduccy).

Keywords: Textile art; new media art; activism; Indigenous communities; Bolivia, Mexico.

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Resumen

Este artículo se centra en proyectos creativos realizados en la intersección del arte textil y el arte de los nuevos medios en América Latina. En particular, dado que las artes textiles indígenas a menudo constituyen una fuente de inspiración para proyectos dirigidos por artistas no indígenas, se busca examinar cómo se puede decir que tales proyectos funcionan en apoyo de la resistencia indígena, contrastando una modalidad de resistencia táctica con una más "táctil". Primero ofrece una visión general del arte latinoamericano en este campo, antes de enfocar el quehacer artístico de Amor Muñoz (México) y Aruma (Sandra de Berduccy) (Bolivia).

Palabras clave: Arte textil; arte de los nuevos medios; activismo; comunidades indígenas; Bolivia; México.

1.   Textiles and forms of activism

Handmade textiles and the processes of their production have long been recognised as sites for "quiet" and/or "slow activism"; that is to say, forms of activism that, in Laura Pottinger's (2017) words, may be considered "quiet" because they are constituted by "small, everyday, often overlooked actions and practices," "modest, embodied acts that often entail processes of production or creativity, and which can be either implicitly or explicitly political in nature" (p. 216), and in those of Steven Robins (2014), may be characterised as "slow" because of the time required for the "patient, long-term organisational work" (p. 92) necessary both for handmade textile production and for effecting lasting change within communities and on society as a whole[1]. For example, textile activist Betsy Greer (2014) specifically speaks of the origins of her practice in terms of "quiet activism" (p. 8), and her contemporary Sarah Corbett (2017) of "slow", "inner", "mindful" and "graceful activism," as well as "gentle protest"[2]. As such, textile practices offer a perfect example of a conceptualisation of the relationship between art and politics that avoids hierarchical, nested models and the reification of art/politics and artist/activist identities, instead seeing

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1   Interestingly, while the term "soft activism" has been mooted by some ("Soft Activism", 2019), it has largely been appropriated by those working in the fields of corporate management and financial services (the full term is "soft shareholder activism"), or deployed as criticism of certain forms of activism, alongside other terms such as slacktivism (Craddock, 2019, p. 148). Therefore, despite its allure, it is generally discarded by those working in the field of textile activism.

2   The quoted terms from Corbett are all chapter titles in the book. See also Hackney (2013) for a scholarly overview of the topic.

"creative practices" and "resistant acts" as "part of the same 'process'" (Hussein and MackKenzie, 2017, p. 8), with manifestations ranging from the overtly tactical to the more implicit, "tactile" resistance of materials themselves.

In my choice of terminology here to identify types of resistance, I employ the term "tactical" in reference to "tactical media", a form of resistant creative practice that subverts different media, often in response to current events, in order to "protest, campaign, and organize opinions for anti-government or anti-corporate purposes" (Nayar, 2010, pp. 100-02). In the context of this research, a tactical approach refers to the ways in which textiles as a form of media, as well as the processes of their production, may be creatively, but nonetheless quite explicitly, deployed to raise consciousness about sociopolitical issues. I contrast a "tactical" resistant modality with what I term a more "tactile" approach to resistance whereby, instead of conveying overtly political messages, it is the very materiality of the textiles themselves and their continued production that offers a form of more tacit resistance. I start by briefly surveying examples of the resistant tendencies found in textile arts both in the Global North as well as in Latin America, honing in on the importance of Indigenous textiles and Indigenous resistance in the latter case. I then go on to explore the advent of new digital technologies in terms of the way that they may be seen to relate to Indigenous textile practices and how the suggestive relationship between the two has inspired a wide range of Latin American, and Latinx artists. My overriding interest is to determine the nature of pro-Indigenous resistance that may be found in such artworks and projects (if any), and the two main case studies feature the works and creative practice of two textile artists – Amor Muñoz (Mexico) and aruma (Sandra de Berduccy) (Bolivia) – who offer salient examples of the modalities of tactical and tactile resistance respectively, drawing on in-depth personal interviews with both.

To return to the question of the resistant nature of textiles and textile production, in Anglophone and/or European contexts key research such as Roszika Parker's *The Subversive Stitch* (1984) traces the resistant tendencies found in textiles back some five hundred years, and the now widely-used term "craftivism" was coined in 2003 by Greer to define a more contemporary wave of such activity, "a way of looking at life where voicing opinions through creativity makes your voice stronger, your compassion deeper" (Greer, 2007). Yet this kind of literature does little to address the issue in other contexts beyond the Global North. Indeed, virtually the only example ever given from Latin America is the appliqué form known as "arpilleras" made in the 1970s and 80s by Chilean women to protest human rights abuses under the

Pinochet dictatorship[3]. In the field of Latin American studies, nonetheless, some research is now being conducted on this topic to start to reveal the full scope of textile activism in the region[4].

The practice covers a multiplicity of different techniques such as knitting, crocheting, quilting, embroidering, basketry and importantly, weaving, most of which can be loosely referred to with the Spanish verb "tejer." The proclivity of such practices towards quiet and slow forms of activism, perhaps better conceived of simply as resistance, is implicit in the doubling up of the verb "tejer" to refer metaphorically to the strengthening of a given social fabric or "tejido social",[5] though concerted campaigns designed to effect change in policy and practice are not unheard of. Resistant textile practices can also be found in an enormous variety of geographical, historical and socio-political contexts[6]. While the vast majority involve women, they are not always explicitly feminist in nature, whereas this is more clearly the case in (predominantly white, middle-class) craftivist circles in the Global North (Sánchez-Aldama *et al.*, 2019, p. 19). Furthermore, in Latin America, the production of handmade textiles, especially of woven and embroidered cloth, very frequently also relates to traditional Indigenous cultural practices and resultant material artefacts. Through such textiles' ability to provide a record of culturally-specific data – symbols, narratives, technological design specialisms, traditional uses and wider sociocultural practices– and the fact that, though not entirely impervious to cultural change, they are still being produced so many centuries after the onset of colonisation, they offer a most particularly quiet and slow form of resistance. Indeed their resistant nature was the reason why attempts were made by European colonisers to eradicate their production, as it was also the reason why they survived such attempts,[7] and in contemporary times Indigenous textile producers and their communities often find themselves fighting increasingly less "quiet" legal battles to resist appropriation and commercialisation of their remaining traditional designs by the fashion industry[8].

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3   There is, for example, a chapter dedicated to "arpilleras" in Betsy Greer's edited anthology, *Craftivism* (2014). They also loom large, alongside chapters on similar initiatives in Peru and Uruguay in Chilean-American writer and scholar Marjorie Agosín's edited anthology, *Stitching Resistance: Women, Creativity and Fiber Arts* (2014); and there is a chapter dedicated to them, alongside one other on the work of Chilean-American artist and poet Cecilia Vicuña, in Julia Bryan-Wilson's *Fray: Art and Textile Politics* (2017).

4   In particular, see Sánchez-Aldana *et al.* (2019).

5   For more detail on this use of the term "tejer," particularly in Colombia, see Pitman (2018, pp. 23-24).

6   For just a couple of contemporary examples from Mexico and Colombia, in addition to those studied by Sánchez-Aldana *et al.* (2019), see Rivera García (2017) and Zamora (2019).

7   For more information, see Fábregas Puig (1993) and Phipps *et al.* (2004, pp. 25-27).

8   See, for example, the case of French fashion designer Isabel Marant and the Mixe "huipil" (embroidered blouse) as discussed in Vézina (2019, pp. 2-3).

While the production of Indigenous textiles is resistant *per se*, because it has survived thus far and provides ongoing proof of Indigenous cultural resistance, the spread of new digital technologies across the region from the 1990s onwards has inspired new forms of both creativity and resistance that draw on Indigenous textiles. As is well known, the technologies that give us woven textiles also lie at the base of newer digital technologies. While in the Global North this association, focussing on the development of industrial weaving, has generally fed the activist imagination of cyberfeminists who ultimately seek to secure better recognition of women's participation, and opportunities for them to do things differently, in our technocultural times,[9] in Latin America it has arguably more often inspired creative practices and/or resistant acts located at the interface between electronic, digital, new and/or tactical media artforms and artisanal Indigenous textile arts. While some preliminary research has been conducted to produce an overview of the imbrication of new technologies and textiles in Latin America and elsewhere in the Global South,[10] it has neither sufficiently accounted for the importance of Indigenous textile arts in this field, nor explored the kinds of resistance that projects working at this interface might espouse. It is here that this article proposes to make its original contribution to knowledge.

Although Indigenous people are very capable of being inventive and appropriating new digital technologies to suit their needs, it has tended to be the case that it is non-Indigenous artists who are first inspired by the striking and perhaps surprising links they perceive –in technology, function and aesthetics– between weaving technologies and Indigenous textile designs, on the one hand, and digital technologies and their different manifestations in codes and pixels, on the other. The burning questions I will ask, then, relate to the role that Indigenous people play in any of these non-Indigenous-led projects –either in their design, execution or exhibition– and the extent to which the projects propose forms of resistance that work for Indigenous communities, as opposed to louder/flashier forms of protest art more clearly designed to appeal to the world of viral social media snaps and soundbites and/or the higher echelons of the art world.

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9   For a revisionist history of women's contribution to the development of digital technologies and the relationship with weaving and other textile arts, see Sadie Plant, *Zeros and Ones: Digital Women and the New Technoculture* (1998). Donna Haraway also uses weaving as her metaphor for the female-centric, non-hierarchical, participatory construction of communities of practice and contrasts it with the more utilitarian, hierarchical, masculinised model of "working." As she argues quite bluntly in "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," "weaving is for oppositional cyborgs" (1991, p. 170).
Approaching the topic from the side of craft, for a study of the links between craftivism and cyberfeminism, see Minahan and Wolfram Cox (2007). Furthermore, a significant number of female artists explore the intersection of textile and digital, electronic or new media art, often also working with a resistant feminist agenda. See, for example the work of Beryl Korot, Maggie Orth, Laura Devendorf, Barbara Layne, Kate Hartman, and, at the more fashion market-focused end of the spectrum, see the WoW (Women of Wearables) group.

10   For example, Pérez-Busto (2017).

2. Latin/x American art at the intersection of the digital and the textile: an overview

Given that the numbers of Latin/x American artists working at the intersection of textile art and new technologies are still fairly small, generalisations are difficult. Nonetheless, particularly in terms of engagement with Indigenous communities and their contribution to Indigenous resistance, there is a crucial difference in approach between artists whose work we might locate as more firmly at the digital/new media/high-tech end of the spectrum and who are "inspired by" Indigenous textiles, with or without direct contact with any specific Indigenous communities, and those who work directly with traditional textiles, drawing on digital but also frequently electronic and other non-traditional but low-tech materials as part of their creative practice, and who evidence sustained engagement with specific Indigenous weaving communities of practice as part of a committed, resistant ethos to their artistic practice.

On the digital/new media/high-tech side of the equation, there are those whose core artistic medium is the digital, even if their work is subsequently displayed as part of a multi-media installation or remediated in textile form, and who generally evidence some degree of research, including fieldwork, in their often long-term projects for the inventive remediation of specific Indigenous weaving traditions. There are also conceptual artists working with high-end new media installations and who see in the relationship between Indigenous textiles and digital technologies a highly suggestive conceit for the production of artworks that may or may not prompt them to engage directly with any specific community. In the first case, one might cite the work of an older generation of US-based Latinx artists such as Bolivian-American Lucia Grossberger-Morales, Chilean-American Guillermo Bert and Colombian-American Monika Bravo;[11] in the second, that of a younger generation of Latin America-based artists including Colombian Gabriel Vanegas working as solo artist and in collaboration with Ecuadorean artist Kuai Shen and German artist Katharina Klemm, as well as Chilean Constanza Piña, and Brazilian-Chilean Bárbara Palomino Ruiz[12].

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11 See for example Grossberger-Morales's experiments with "digital weaving" of motifs from Andean textile traditions, such as "khuritos," "pallai" and "tocapus," made between the mid-1990s and late 2000s, exhibited, for example as "Pallai: Digitally Weaving Cultures" (San Bernadino, 2004) and "Lightbox Mágico" (Cochabamba, 2009), and Bert's ongoing and ever-expanding *Encoded Textiles* [2012-] project), which embeds QR codes into Mapuche (and other Indigenous) rugs, although the textile fabrication was the work of local masterweavers rather than Bert himself. Bravo's *Urumu (Weaving Time)* (2013) is a large scale, two-channel video installation inspired by Arhuaco textile designs. For more information on these artists and their works, see Pitman (2015).

12 For Vanegas, Shen and Klemm's collaborative work on the topic of "quipus" and "yupanas"–ancient, now disused, Andean recording/counting devices made of knotted strings in the case of the former–, see the project *Yupana emergente: biológicas ancestrales y cosmovisión andina reanimada por hormigas* (Shen *et al.*, 2012), as well as Vanegas's

While all of these artworks and projects are really engaging, often both aesthetically attractive as well as conceptually challenging, and while, particularly in the case of works that feature disused Indigenous technologies such as the "quipu," finding a source Indigenous community to work with may not seem either necessary or practical, it is the case that, at the present state of play, the vast majority of these works function with a broadly extractivist model in relation to Indigenous culture. That is to say, the communities might be consulted, even paid good wages for their labour, during the production phrase, but the artworks, their inspiration and their ownership, remain that of the artists, with only the occasional mention by name of a collaborating Indigenous artisan. Furthermore, their exhibition has taken place almost exclusively in art galleries and festivals for new media arts located in the United States and Europe rather than within easy reach of the Indigenous communities themselves. While, in personal conversation over the years, several of these artists have revealed their frustrations at not having been able to work more closely with Indigenous communities in the development of their projects or to be able to exhibit their works in a way that is more readily accessible to the communities that inspired them, it remains the case that there is little sense in this body of work as a whole of a sustained activist commitment across the lifespan of a project, from inception to dissemination, to the Indigenous communities whose textiles inspire it.

On the textile arts side of the equation, there are just a couple of artists of note who are first and foremost textile artists and more broadly crafters/makers at heart, although this is not to say that they are not also attracted by some of the conceptual aspects of the practice of artists in the more digital/new media/high-tech group mentioned previously. However, they tend to approach Indigenous textile arts not (just) as pattern, colour or form of coded narrative that happen to have interesting parallels with digital technologies, but as texture and technology, and as epistemology as well as embodied social practice.

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The artists in this group and who are the focus of the remainder of this article are Mexican artist Amor Muñoz and Bolivian artist aruma (Sandra de Berduccy)[13]. Both started working in the early 2000s and have now consolidated

2013 "reactive sound installation" *The Lost Sounds of the Quipu* (*Digital Latin America* [2014, pp. 60-61]). For Palomino Ruiz, see her *Cross Patterns: Paths to Be Able to Return* (2015-17), a generative sound and graphic art installation inspired by an "invented tradition" associated with the Peruvian Shipibo-Conibo Indigenous community's "kené" fabric designs, as exhibited in "Personal Structures", an exhibition dedicated to up-and-coming artists that ran alongside the Venice Biennial in 2017 (Palomino Ruiz, 2016). For Piña, see her "electrotextile prehispanic computer" *Khipu* (2019) as exhibited at the Ars Electronica Festival in Linz, Austria that same year (Stocker *et al.*, 2019, p. 367).

13   De Berduccy prefers to use the artistic pseudonym aruma without capitalisation. In what follows, for the sake of even-handedness, I propose to refer to both artists by their chosen name rather than their surname. Much of the data used stems from personal interviews with aruma (3 August 2020) and with Amor (4 August 2020).

quite considerable national and international reputations, though this does not imply a distancing from the communities with/in which they live and/or work. Both also recognise a major source of influence in the Bauhaus textile artist Anni Albers who dedicated a major part of her career from the 1930s onwards to studying Indigenous weaving techniques and designs from South and Central America and who is also notable for experimental work incorporating non-traditional materials such as cellophane into her own textiles[14]. Similarly, Amor and aruma both study traditional Indigenous textile techniques as well as bring new technologies –typically taken from the cheaper, more lo-fi and open-access end of the range– into dialogue with those old textile traditions. This dynamic between tradition and innovation is an integral part of their resistant praxis; one that is a more explicit or tactical form of resistance in Amor's case, and one that is a more implicit or arguably "tactile" form in that of aruma.

3.   Amor: tactical resistance

Amor Muñoz (*née* 1979) defines herself on her website as an artist "work[ing] across textiles, performance, drawing, sound and experimental electronics", noting that "her process is linked to DIY strategies and the Maker movement"[15]. The purpose of her art, in her own words, is "to explore the relationship between technology and society" and in particular, "how technology affects fabrication systems and how manual labor and handicrafts are changing in a contemporary global economy" (website). The profile of a socially-committed artist is evident from the outset[16].

She was born and bred in Ecatepec, a suburb located on the Northeastern edge of Mexico City. While in 1970 Ecatepec was a town of some 200,000 inhabitants, by 1980 it had over tripled in size (INEGI, 2016, p. 33). During the space of Amor's childhood, it continued to grow exponentially through internal migration from rural areas of the country to find work and a better life in and around the capital city, and in most recent counts (2015) is the most densely populated municipality in the country, with a population of nearly 1.7 million people. The community today is predominantly low-income, and some of the most extensive informal neighbourhoods in the country are to be found there.

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14   See Albers (2017), and Liesbrock and Danilowitz (2008).

15   For a detailed study from a feminist perspective of the relationship of Amor's work with the maker movement, see Costa Pederson (2016).

16   For more on Muñoz's background and self-definition as a socially-committed artist, see Muñoz (2015).

Having grown up in a community in the grip of such radical transformation, Amor was acutely aware of the social issues experienced within the community and opted to study law in order to make a contribution to social justice in the area. Nonetheless, in the course of her studies at the UNAM (National Autonomous University of Mexico) in the late 1990s she became interested in art. During a period of extensive residence in the Southeast of Mexico in the states of Chiapas, Yucatán and Oaxaca, Amor developed an interest in, and started to amass a collection of Indigenous textiles, particularly the embroidered blouses or "huipiles" made and worn by Indigenous women in Mexico and Central America. It was thus that embroidery, and later weaving, started to become part of her own artistic repertoire, not as a form of mimicry of specific Indigenous designs but as an artistic medium in its own right.

By 2006, Amor had set her heart on working as a full-time artist, yet she was aware that, as an "artista a ceros" (an artist starting from scratch; lit. with zero), without extensive formal study and contacts with the Mexico City art world, she would struggle. Her plan to overcome these barriers was to sell her services first as a curator and coordinator for other art projects, particularly in the field of "arte emergente" (new, emerging art forms and practices), and working with other non-Mexico City born-and-bred artists and groups to combat the highly centralised nature of the Mexican art scene. Eventually, by 2010, she obtained grant funding for a project of her own[17] and her career has developed from there, balancing projects to create her own artworks in her studio with other art-based "social projects", as she terms them on her website.

In terms of her personal artworks, the interest in the intersection of textile art with electronics is evident from the beginning, shifting from the embroidery of analogue electronic circuit diagrams in *Schematics* (2011) to the creation of a range of woven artefacts produced in dialogue with digital technologies in the projects *Matter and Memory* (2018) and *Data Digital Codes* (2019), developed as a result of her residency in the Bauhaus, Berlin, in 2017. These projects balance both low-tech and high-tech elements. The low-tech elements gesture towards the Latin American tendency to be creative with what materials one has at hand and towards traditional crafts in order to suggest the works' geopolitical standpoint, whereas the high-tech and high-concept components of the works' make-up negotiate their relationship to the international contemporary art world. Particularly in her most recent work, Amor, like other Latin/x American artists working at the interface between the digital and the textile mentioned

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17   *Schematics*, funded by Centro Multimedia, Mexico City, 2010.

previously, seeks to explore the imbrication of weaving technologies and digital (and other forms of) coding and is clearly interested in the possibility of textiles to store and display data that can be decoded, either into human language or into other forms of output such as sound or light, and she chooses to display this as large rugs, handwoven by Indigenous artisans, whose two-tone pattern is a form of binary code. While in some of her own artworks, such as the early *Schematics*, there is evidence of socio-political intent in the work –embroidery is associated with low-tech circuitry and may perhaps provoke the viewer to think about the nature of those labour markets in Mexico, the low-value placed on those kinds of works and who does them–, in the latter projects mentioned above, the real object of enquiry is the nature of code and programming rather than questions of labour, class or even ethnicity.

Nonetheless, a real hallmark of Amor's work is her design and implementation of potentially transformational community arts projects where the socio-political message is very much clearer. A project that sits at the tipping point between her own artistic projects and those designed for specific communities, is *Maquila Región 4* (2011-2013), a project that encourages a re-evaluation of the nature of assembly-line work in free-trade-zone factories ("maquiladoras") located in great numbers on the Mexican side of the US-Mexico border[18]. Again playing with the low-value attributed to the manufacture of both textiles and electronic goods in the "maquiladoras," in a tactical multimedia performance inspired by the work of performance artivists such as Cuban-American Coco Fusco, Costa Rican-American Elia Arce and others, Amor set up her own mobile "maquiladora" that she toured in low-income neighbourhoods both in Mexico City and other areas of the country, paying members of the public the US rather than the Mexican minimum wage[19] to embroider functioning electronic circuits that include proximity sensors and alarms together with embroidered BiDi codes that can be scanned with a QR code app on a mobile phone to provide further details of the craftsperson behind the work: name location, date, rate of pay, and so on[20].

Maquila Región 4, despite its tactical, craftivist nature, remains a project within Amor's personal artistic portfolio because, according to the artist, while it does involve other people, they are paid for their labour and not

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18 "Región 4" refers to the regional classifications used for DVDs where R4 is the code that refers to Latin America. In contemporary parlance in Latin America, "Región 4" is a self-deprecating reference to something made "on the cheap". It exists as a meme in popular digital culture. A video made by the artist to give a snapshot of the project, is available as *Maquila Región 4 (2011-2013)*.

19 At the time this was $8.00 per hour, compared to $0.60 per hour in Mexico, as per data given on the artist's website.

20 BiDi codes are a much simpler version of QR codes and hence easier to embroider relatively quickly.

more substantially involved in the project beyond their hour or two of work. The resultant embroideries remained in the artist's possession for her to sell on as "manufactured products." However, a series of projects that she has conducted since 2015 provide evidence of a more long-term transformative engagement with predominantly Indigenous communities. These projects – *Yuca_Tech* (2015), *Oto_Lab* (2017), *Chiapas-Tech Lab* (2018), and *Chihuahua-Tech Lab* (2019)– all involve such communities in the artisanal manufacture of ingenious useful objects that combine traditional textile techniques with low-tech, easily-available electronic innovations[21].

For the original *Yuca_Tech: Energy by Hand* project,[22] Amor was motivated both by a desire to explore the fast vanishing art of weaving with sisal fibres, as well as other textile arts, practiced by Maya communities in the Yucatán Peninsula and to offer creative solutions to problems experienced by rural communities that do not have access to electricity[23]. Together, the artist and the local weavers embedded solar panels, conductive thread and LEDs into woven sandals and traditional hats to provide light for people to see their way home at night. And in another branch of the project working with unemployed people, solar panel aprons with USB ports were created that were then used to sell energy by the peso for those in the state capital, Mérida, who wanted to charge their mobile phones up while out and about. (Subsequent projects such as *Oto_Lab*, have turned low-value "María" dolls sold precariously on street corners by Otomí migrant women in Mexico City into dolls with solar panels and LEDs that serve as torches or lamps or Christmas tree decorations, retail at ten times the price of the traditional doll and can be sold through more formal outlets such as museum giftshops[24] (figs. 1-3).

These projects all involve relatively intense co-creative collaboration with specific communities and families: *Yuca_Tech*, for example, involved a year-long residency living in Mérida and working with a Maya community in the municipality of Maxcanú, about an hour and a half's drive to the south, as well as with another group of unemployed people in Mérida. In terms of the agency available to participants, community members are not paid for their labour but involved in the design and manufacture of artefacts where they remain owners of the objects produced and can continue to produce others if they choose to

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21   Muñoz cites as sources of inspiration, the work of Danish art collective Superflex, Danish-Icelandic artist Olafur Eliasson, and Mexican artist Eugenio Tisselli (Muñoz, 2015).

22   For an excellent overview of the project, see Amor's video entitled *Yuca_Tech: Energy by Hand* (2014-15).

23   For an overview of the project, see Muñoz (February 21, 2015).

24   The artist reported in interview that the first edition of the electronic dolls had completely sold out and that further workshops had been arranged to create more.

do so. Furthermore, in terms of community reception, all of the subsequent projects to the original *Yuca_Tech* stem from the positive reaction to that project, both in the art world and at community level. For example, Amor was commissioned to run *Oto_Lab* by the MUCA (the University Museum of Science and Arts of the UNAM), a museum dedicated to community arts and social projects, and that was, at that point, working to support a group of Otomí artisans in Mexico City. The reaction of the artisans themselves to the first "lab" has been so positive that a second one is currently being organised.

Fig. 1. *Yuca_Tech* project, workshop in the Maya community of Granada, Maxcanú municipality, Yucatán, Mexico, 2015.

Fig. 2. Yolanda demonstrates a traditional woven palm hat with LEDs made as part of the *Yuca_Tech* project.

In terms of Amor's relationship to Indigenous textiles and the communities that make them, while clearly she is inspired by and appreciates traditional Indigenous textile design, she neither seeks to replicate the designs nor romanticises Indigenous people in her work. She is not interested in the identity politics of Indigenous communities *per se* but in addressing, through tactical multimedia performances and projects, issues of inequality in the labour market and offering creative but replicable solutions to basic problems such as lack of electricity.

Fig. 3. A sandal with LEDs made as part of the *Yuca_Tech* project.

Fig. 4. The sale of solar energy to charge mobile phones, Mérida, Yucatán, as part of the *Yuca_Tech* project.

4.   aruma: tactile resistance

aruma (*née* 1976) defines herself on her website as a "new media artist, weaver, specialist in Andean Textile Techniques and researcher". She grew up in and around the small town of Capinota, in the semi-arid mountainous region about an hour and a half to the south Cochabamba. The town's population is a mixture of mestizo and Quechua people. It has been experiencing a process of significant population growth since the early 1990s through internal migration from more rural areas and, as a consequence, of a shift towards mestizo cultural identification as new inhabitants seek to fit in to the urban environment. Quechua language and traditional practices, including weaving, are inevitably fast ceding cultural space to a mestizo mainstream Bolivian culture.

While not of Quechua origin herself, aruma learnt traditional weaving techniques from her neighbours from childhood onwards[25]. Despite pressure at art school first in La Paz and later in Salvador, Brazil, to work in other media more highly valued by the art world, including audiovisual production and new media art forms, by 2000 she had committed herself to specialising in self-managed artistic investigation through production in the field of traditional Andean textile techniques. In 2010 she set up her permanent base in a forest just outside of Capinota —an area of land that she has named Territorio Lupaqa. For aruma, this is an ethico-political choice that says a great deal about her relationship to the Indigenous cultural knowledge and the people at whose knees she has studied, and it allows us to understand the particular kind of resistance that she espouses in her work. In interview, aruma spoke of how deeply identified she is with this community and the traditional cultural practices that are fast dying out in the area[26]. While she has had the opportunity to travel extensively to study the weaving techniques of other Indigenous communities in Latin America, such engagement with other forms of Indigenous weaving techniques continues to constitute a form of artistic tourism for her, whereas she positions herself as experiencing a deep form of belonging in relation to Andean weaving. And although, as noted above, she was originally taught to weave by Quechua (and Aymara) weavers and would not offer lessons to others in her home context, she does now identify as a "maestra tejedora" (master weaver) herself and as playing an

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25   In interview, aruma spoke of her commitment to flattening social hierarchies as much as possible through her longstanding personal friendships with the weavers who taught her, but also of the importance of recognising the pupil/teacher by paying the women for their lessons and crediting them in early works where their input was evident.

26   For a pertinent study of the quite considerable pressures on traditional Andean textile production in an even more rural locality in Northern Bolivia, see Fischer (2011).

important role in ensuring the continuing "resistance", through the alternating currents of tradition and innovation, of the practice of Andean weaving.

aruma's choice as an artist to work in relative reclusion in her home community and at a pace dictated by the time required for weaving, is also resistant to the pull of the art world, of galleries located in major cities across the world, and the constant demand for novelty and new works. Instead she prefers to disappear "seamlessly" into the warp and weft of her own work, and to create art that is an integral element of the forest that surrounds her. Indeed, her artistic pseudonym is a richly polysemic term in Aymara that was effectively given to her by the Aymara weavers with whom she had been working in La Paz at the point when she left to conduct research in Guatemala. While in the context in which it was first said to her it most probably meant "good-bye",[27] it also means, among other things, "night," and more specifically "the colours that we see when we close our eyes". While the term in the first case was taken to refer to her person, to be a kind of name, it is also so closely identified with the kind of art she has gone on to produce that she also uses it to speak of the body of work she has produced.

In terms of her art, aruma experiments with all aspects of the weaving process, from producing her own plant dyes, spinning threads and then producing weavings using a wide variety of traditional techniques such as "kurti" (double-face), either on fixed-frame looms or traditional back-strap looms strung around a tree of choice. While over time she has introduced many non-traditional elements into her weavings such as banknotes or photographs,[28] since the early 2010s much of her work has explored the contrast between the traditional technology that is weaving and newer but still fairly low-tech and/or cheap technological elements through the inclusion of fibre-optic cable, conductive thread, LEDs, microcontrollers, movement, colour and pulse sensors, and other devices. In the artist's statement on her website she concludes: "All those practices merge with each other, resulting in works that give continuity to the ancient textile tradition of which I consider myself part". Her approach to Indigenous textile art is also very much "hands on" or "tactile," a form of knowing by doing.

Some of aruma's works evidence a certain consonance with the work of some of the other Latin/x American artists working at the interface between the digital and the textile mentioned earlier through their conceptual exploration of the

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27   The women said "Ándate, aruma, vete que te vaya bien", which means literally in Spanish, "Leave, aruma, leave, I hope things go well for you", while the word "aruma" relates to the expression "arumanthikama" in Aymara which means "until we speak again" (the root "aru" means "word") (see Chinchilla, 2019).

28   In interview, aruma noted how the more obvious contestatory politics of weaving with banknotes had gone down particularly well in the UK where one of the works has been bought by ESCALA, the University of Essex Collection of Art from Latin America. For more information, see Paz Moscoso (2012).

iconography of traditional Andean textiles as a code that can be read in the same way as digital code (for example, the series of works produced as part of the *Texto Textil Código* project [2011-2012]), as well as more abstract correlations between the patterns produced by ancient textile techniques and digital codes (for example, the works produced as part of her *QR Code* [2017] and *e-Chimu* [2018] projects). However, the tendency in aruma's work is not to focus exclusively on an aesthetic approach to similarities in appearance or a narrative approach to similarities in "reading" embedded data found in both textiles and digital artefacts. Instead, her work really focuses on the materiality, the phenomenology of the textile she is working on, providing both evidence of the resistance of traditional techniques at the same time an exploration of the innovative possibilities offered by the inclusion of low-tech and/or cheap materials and devices into her work. This has given rise to a growing body of textile works that explore the potential of (typically naturally-generated) energy as light or as sound, and with the potential to interact haptically with the audience[29].

Given the context of a general decline in traditional weaving in the community, the vast majority of this body of work is produced individually and aruma does not produce works as part of an active community of practice. However, she is respectful of its relationship to the traditional practice of the weavers of her home community and has sought to involve the local community in her work, in particular through a substantial retrospective exhibition called "e-aruma" that was held at night in the forest where she produces the works, documented in the video *e-aruma: las líneas del planeta* (2017). The exhibition was open for just one night in May 2017 and aruma distributed printed invitations by hand to members of the local community. In the event around 130 people from the Capinota and environs attended –a number that gives a good idea of the strength of the relationship that aruma has with the community. Video and photographic evidence of the event give a sense of the positive reception of her work by the community and, in particular, of the ways that the community members interacted with the works, reaching out to point out features of textile design and even simply to touch the works (figs. 5-6). As aruma noted in interview, touch is an essential way for other weavers to appreciate a piece of weaving[30].

In interview, aruma reported that weavers present at the "e-aruma" exhibition had expressed both recognition of their traditional weaving techniques but also respect for the technical complexity and innovative nature of her works. In

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29 For an overview of aruma's oeuvre up until 2014, see her self-published e-book, *aruma* (2014). For a recent academic study of her artistic practice and works, see Montero Peña (2020).

30 For a local response to the exhibition, see "Arte desde el bosque" (2017).

Fig. 5. The local community visiting the "e-aruma" exhibition in Territorio Lupaqa, Capinota, Bolivia, 2017.

Fig. 6. A photographic composition made by aruma showing one of the works displayed –"Crux - luz esTelar" (Southern Cross-star light/loom light)– and two members of the local community appreciating it at the "e-aruma" exhibition in Territorio Lupaqa, Capinota, Bolivia, 2017.

terms of the engagement of non-Indigenous Latin American artists with the Indigenous/traditional communities from which they draw inspiration, this community-focused exhibition is a quite unique event. Most resultant artworks end up in major museums or private collections far from the community that inspired them and/or were involved in the process of their creation. The motivation felt by aruma to stage an exhibition specifically for the community

really evidences her political commitment, her way of contributing to the resistance of Indigenous traditional artistic practices.

5. Tying up loose ends

When a weaving is complete, the warp threads are cut and knotted to prevent fraying. Similarly, an article has a conclusion to tie up loose ends. And if weaving is also, as aruma has argued, a form of thinking in itself, what I propose here is a (tightly) "woven conclusion," a conclusion where I attempt to think through weaving. While individual works and the particular themes they explore might be said to constitute the weft of an artistic career, this article has pursued a form of warp-based thinking, with respect to each of the two artists studied in detail, in its attempt to identify the different forms of resistance and relationship to Indigenous people and their material culture found in their textile art as a whole. Yet when we look at how warp and weft combine, as technique and texture rather than as superficial pattern, hidden structures emerge in the career of an individual artist or shared between different artists that may help us better understand their engagement with Indigenous communities and their cultural heritage.

What is salient in this regard is that one should look at these artists' work, their projects, not in terms of actual outputs (works of art) alone but as evolving artistico-social phenomena. If we do this, considering the lifespan of a project from design to production to exhibition, the level of Indigenous engagement and thus the project's genuine contribution to Indigenous resistance through textile art becomes clear. In Amor's case, I am referring to the way that she balances her own artistic practice and sources of inspiration with her investment in creative social projects that have taken on a life of their own among communities of Indigenous weavers. Arguably, she is more widely known for her role in the latter than for her own outputs as an independent artist. In aruma's case, while she does predominantly produce her own creative textile works that can be exhibited in metropolitan galleries or sold to private collections, it is the commitment to both make and display – albeit temporarily – those same works within reach of the local community that has inspired her throughout, to sustain that contact as well as the community's textile practices, that is key.

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