



Aalto University  
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# An exploration into Apulian human-plants relations:



**uncovering wild flora knowledge  
for educational ways *forward***

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SARA D'ANGELO |

I dedicate this thesis to my mom, my forever warrior.

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# Abstract

The thesis aims to inform personal and collective awareness of the wild edible flora to account for the reported fragmentation in knowledge hindering the preservation of cultural heritage. It envisions the latter being advocated by schools joining the cause and contributing to the thesis' aim.

It uses ethnobotany and its study of human-plant interrelations to locate research and inspire its methodology. The latter employs a phenomenological lens that asks about the scenery of human-plant interrelations in Apulia and the knowledge present within. I ask so to discover the knowledge, understand relations and develop connections. The discovery happens by meeting twelve prime Apulian local realities. Further, I find ways to explore the relations uncovered to unleash insights that re-imagine ethnobotanical encounters. These are co-created through a workshop with seven experts and proposed to schools for fostering wild flora knowledge with an additional 'Memory of the Apulian Flora Storybook'. I affiliate these solutions to elementary schools for hopeful implementation.

Through the process, the thesis intends to show what is possible away from systematised knowledge of ethnobotany and reveals ways in which locality can be lived, learned and uncovered.

**Key words:** Wild edible flora, wild flora engagement, ethnobotany, ethnobotanical knowledge, human-plant interrelations, multi-layered knowledge, learning, body, design for relations





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**“Plants, require nothing but the world, nothing but reality in its most basic components: rocks, water, air, light. They see the real in its most ancestral forms. Or rather they find life where no other organism reaches it. They transform everything they touch into life.”**  
**(Coccia, 2018, p.8)**

These words by Coccia (2018) can beautifully explain the philosophical significance of plants. The latter is the primordial rationale beyond embarking on this journey. In a time where chaos and uncertainty overrun our lives, I find it healing to rejoin the fundamentals. Plants are one of them. “They produce the atmosphere that surrounds us, allowing us to breathe. They are the origin of the oxygen that animates us” (Coccia, 2018). Within the extensive plant domain, I focus my attention on wild plants as I am fascinated by nature that thrives alone, and that is in relation to the place and its elements.

The term wild indeed refers to those plants that grow without being cultivated and controlled by humans. To this, I add another layer of convergence, “edible”, as I aim to explore the relationality\* of human-plant interactions and the knowledge situated within. In my baggage, I carry a substantial Italian gastronomic culture, a desire to enhance what is present and envision what is not there yet.

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# Introduction

Our world continues to roll in discontinuity, and I am instead heartily moved by a need for continuity and connections, often overlooked by progress and power-laden forces. The continuity I seek relates to the one with myself, others, and the place I am situated within, carrying knowledge and an inherited legacy. In the face of the climate crisis and multilayered chaos, returning to our roots while asking questions has been key to staying with the trouble. My roots are in Apulia, southern Italy. Though, my body has been living in many other places. This liminality has allowed me to be more conscious and capable of forming novel connections and resulting reflections about my place of origin. So far, with its intimate relation to nature, Finland has uncovered the need to deepen my entanglements. This motive has filtered the way I perceive locality and led to the questioning of current knots in Apulia. The thesis departs from a personal realisation of lacking awareness of the wild edible flora in the Apulian context. Here, 200 wild plant species have been recorded for culinary consumption (Biscotti, 2020). This attribute collocates Apulia as one of the regions in Italy with the most diverse species used for cooking.

Nevertheless, most of its young inhabitants are unaware of such heritage and thus unable to notice, appreciate, care and relate with the flora. With many ecological threats accelerating anthropogenically, any attempt to overcome or counter these threats calls for increased holistic awareness. Current forms are not designed to help the latter being acquired. The education system in Italy is hardwired in such a way that knowledge of the wild edible flora is not meant to fit in. In other words, what exists presents an obstacle to forming collective awareness. As a result, detachment is created and thus, with this work, I aim for re-attachment to the intimacy of location. An intimacy that re-inscribes current trajectories and finds meaning via close engagements with humans, plants and places. Meaning that defines action and starts to articulate new relations and ways forward. To do so, I embark on a journey to mould my awareness, co-creating knowledge-making with the nexus of relations that dwell in the Apulian wild flora realm. This materialises in diverse encounters with key Apulian figures; gastronomists, farmers, botanists, foragers, and educators. All implicated and in relation with diverse wild edible plants, holding knowledge, temporality and a place.

The underlying drive of this journey is to look for and form relationalities between myself and the locality, transitioning towards a vision. The last sees education as strategic leverage to re-imagine spaces and a formula for fostering plant knowledge. If we are to respond to the messy present, the imperative is to join forces with our plant companions (Haraway, 2016). To achieve so, awareness must be facilitated; only then dialogue follows, and co-existence is nourished. The thesis utilises this driver to undergo empirical research aimed at forming my awareness around wild flora knowledge, understand the motives driving the lack in the first place to then co-create solutions for young targets to prevent the repeating of ongoing broken loops.

## 1.2 Research area and objectives

The research is situated in the field of ethnobotany, a scientific discipline studying human-plant interrelations, historically and cross-culturally (Caneva et al., 2013). The main focus of ethnobotany is the recovery of oral knowledge about plants to assist bio-cultural conservation and sustainable development, further discussed in [section 2.2](#). The investigation occurs through ethnographic visits to local communities, the data of which are systematically organised through taxonomies, culinary usages, and their regions (Biscotti et al., 2018). My thesis borrows from this field the interest in investigating human-plant interrelations and confines its scope to understanding relations via culinary usages, memories, experiences, aphorisms and traditions. Thus I do not touch upon the cross-cultural implications of such interrelations and their system-level analysis. To dive into the defined scope, I concentrate on tracing who's present in the scenery of relations and the knowledge shared within. In other words, I look to identifying and meeting the people and plants in the locality with the ultimate goal of passing on what I gathered, from the encounters to elementary school kids. Furthermore, what is passed is highly qualitative in nature and goes beyond systematised knowledge. I instead draw emphasis on the real, "understood as an ongoing and continuous flow of forms and intensities of all kinds" (Escobar, 2018: 87), in which I see it encompassing various forms of knowledge, experiences and possibilities. To explore so, I conduct an ethnobotanical investigation of human-plant interrelations that is informed by phenomenology and its attention to the immediate experience of the real for new meanings to emerge (Gray, 2018).

With this research area established, the thesis responds to the following research questions;

- 1 **What is the scenery of Apulia human-plant interrelations and the knowledge present within?**
- 2 **How can I explore the knowledge present in such relations?**
- 3 **How might I then extend this knowledge to young targets of elementary school kids?**

These research questions (see [section 3.3](#)) are scrutinised through an ad-hoc methodology advanced in response to and in reciprocity with the Apulian context. The journey comprises three research phases: the first phase of 'discovery' engages with the first research question through on-site visits, in-motion semi-structured interviews and foraging sessions. As well as explores personal and introspective relations with locality, feeding into the second question, via photographing, poetry and cooking. Thereafter, in the second phase of 'observation', I transition towards the third question by wanting to understand educators' approach to kids in wild flora engagement activities, and therefore I observe and engage in an urban garden workshop. The last phase of 'action' then culminates with a co-creation workshop aimed at uncovering, together with experts, concrete solutions around how to teach flora knowledge in primary schools.

In exploring Apulian people-plants interrelations, this research contributes to a broader conversation around highlighting the tacit dimension of locality, its diverse forms of knowledge, and how these, if dwelled, can lead to meaningful engagement and care (Pyry, 2014). Through its place-based research tools and outcomes, it speculates on the different ways “rooting” in one’s place might facilitate personal and collective awareness and incite action amidst the disarray.

## Rooting

I use rooting to convey returning to one’s place. This act requires a thick presence that allows us to stay with the trouble, “not as a vanishing pivot between awful or edenic pasts and apocalyptic or salvific futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings.” (Haraway, 2016:2). The eco-feminist scholar Donna Haraway’s with her notion of Chthulucene has inspired my notion of rooting.

The Chthulucene is a word that has a multi-fold meaning; *kainos* refers to the present, a time for beginnings that do not wipe out what has preceded the now; instead, it insists on creatinsuch futures with inheritances of remembering for going forward with paths infusing all sorts of temporalities and materialities.



Murgia Plateu 12 July, 2022





# Background: Context & Scope

## 2.1 Apulia and wild species

Apulia is situated in the south of Italy, bordering the Adriatic Sea in the east and the Ionian Sea to the southeast. The region extends for 19,345 square kilometres and its population amounts to around 4.1 million. Additionally, the capital city is Bari. Despite the increasing development of the region, Apulia is still strongly reliant on agriculture, standing out for its local products and long-existing culinary tradition. The latter is vastly diverse despite its territory being homogeneous on a geographical level. This diversification is enabled by the usage of spontaneous plants in the Mediterranean diet. According to Biscotti et al. (2018), the wild edible species in the territory are 532 of a total of 2.500 that comprise the Apulian flora. A study conducted by Bianco et al. (2009) details the families of species most representing the reported number; Asteraceae with 104 species (19,5%), following Lamiaceae with 44 (8,3%), Brassicaceae 40 (7,5%), Fabaceae 38 (7,1%), Amaranthaceae 29 (5,4%) and Apiaceae 29 (5,4%). This amount of wild edible species found is considered to be the highest in Italy, as reported by the Italian ethnobotanical literature. Although out of the mentioned 532 species, 54 are most commonly used and consumed in the mundane and are below listed (in Latin);

*Asparagus acutifolius*, *A. tenuifolius*, *Asphodeline lutea*, *Atriplex portulacoides*, *Betavulgarissubsp. maritima*, *Borago officinalis*, *Capparis ovata*, *Capsella bursa-pastoris*, *Chenopodium album*, *C. murale*, *Cichúrium intybus*, *Chondrilla juncea*, *Chritmum Mari-timum*, *Clematis vitalba*, *Crepis sancta*, *C. vesicaria*, *Cynara cardunculus*, *Diplotaxistenuifolia*, *D. eruroides*, *Foeniculum vulgare*, *Glebionis coronarium*, *G. segetum*, *Hel-minthotheca echioides*, *Hirschfeldia incana*, *Malva sylvestris*, *Muscari comosum*, *Oro-banche crenata*, *Papaver rhoeas*, *Parietaria officinalis*, *Plantago corÚnopus*, *Portulacaoleracea*, *Raphanus raphanistrum*, *Reichardia picroides*, *Rumex obtusifolius*, *R. crispus*, *R. pulcher*, *Salicornia patula*, *Scolymus hispanicus*, *S. maculatus*, *Senecio vulgaris*, *Silenevulgaris*, *Silybum marianum*, *Sinapis arvensis*, *Sisymbrium officinale*, *Sonchus asper*, *S. oleraceus*,

Given the oral nature of ethnobotanical heritage, the literature review utilises desktop research combined with primary data collected through research phase one. Primary data are employed because the ethnobotanical literature appears scarce and even more fragmented in the context of phytoalimurgy (Biscotti et al., 2018), whose focus is wild plants for edible purposes, my thesis's scope.

## 2.2 Role of wild edible plants in Apulia and at large

“Sal e gogghji(e) conza ogni fogghji(e)” (Apulian dialect) - salt and olive oil seasons every leaf. This dialectical sentence, originating in the Gargano area, tells the story of many Apulians whose relationship with the wild edible plants is relatively close and at the core of their cuisine. “Leaf” stands for a wild edible green, so-called fogghji(e), which constitutes, in tandem with other edibles, an extensive botanical heritage carrying significant cultural meanings (Biscotti, 2012). Apulia is mainly known to have a strong culinary tradition that is respective to each locality. According to Biscotti (2012), the latter still holds space for the culinary use of wild plants, having different dialectical names depending on their location. Therefore, there is diversification, specificity and a sense of community around local gastronomy.

Moreover, Wild Eating “Mangiare selvatico” has always been at the heart of the Mediterranean diet, considered by UNESCO in 2013 as an immaterial cultural heritage (Unesco, 2021). Apulian gastronomy intervenes within this heritage space with a “Cucina Povera- Poor Cuisine” (Montaruli, 2022). This term wants to shed light on three main pillars of Apulian culinary tradition; simplicity, quality and seasonality. The reason why the usage of “poor” lies in history. In times of scarcity, daily meals in local areas consisted of a simple yet inventive assembly of what was present. Thankfully, the territory often offered a vibrant choice of wild produce, given the favourable conditions. Families lived up eating wild plants, burnt grain flour, pasta and legumes, all handled with creativity, a tool that surfaced to cope joyfully with survival. The meat protein was consumed only on special occasions due to its high cost. Therefore, Apulian most traditional dishes are mainly vegetarian and driven by a recycling mindset. Nothing is wasted; everything is created (Zullo, 2022). This rich creation resulted from a strong farm culture pervading Apulian cuisine and defining its identity (Zullo, 2022). Cucina Povera indeed has the foraging aspect at its core. As Chef Zito puts it, “all that was available to forage was eaten”, from wild chicory to asparagus and borage. Although, eating wild plants had social-cultural connotations attached. It was the food of the poor, the food of the day after and the food of survival (Zito, 2022). Yet, it was a cuisine that valorised the territory and was in unison with the environment, sustaining both the well-being of humans and nature. Caneva et al., (2013) argue that the cause driving holistic well-being lies in the value of wild edible plants on different levels; individual, societal and environmental. The first one relates to wild plants carrying significant nutraceutical efficacy.

Apulian most representative wild plants, for instance, wild onion -lampascione and wild fennel -finochietto, are rich in nutrients such as Omega-3, anti-oxidants, vitamins and minerals. Hence, if consumed can seem to be effective natural agents against obesity and inflammatory pathologies (Biscotti and Bonosanto, 2020). This is the object of study of phytoalimurgy, from Latin *phiton*- plants and *alimurgia*- food of survival (Biscotti, 2012). It is a branch of botany focused on the rediscovery and study of wild plants for edible purposes. If previously phytoalimurgy was mainly employed as a placeholder for edible flora knowledge, now the attention has diverted more towards the health aspect of wild edible plants. Nello Biscotti labels them as “Cibo Medicina”, medicinal food (Biscotti and Bonosanto, 2020).

The medicinal aspect is present as wild flora grows independently in times and spaces most suitable for its maturation. Their independent existence, away from human action, creates strength and resilience within the plants, further translating into a higher presence of antibodies and nutrients (Biscotti et al. 2018). Consequently, this has become a topic of enquiry for medical research, pharmaceuticals and cosmetics that explore folk knowledge for creating natural solutions to human needs. The health aspect of wild edible plants also lies in their usage. Having such species in the diet contributes to favouring our gut flora, given the rich diversity of microorganisms present in the plants (Ratheesh Narayanan et al., 2017).

In the past, the reliance on wild edibles led to less fragile bodies that were further independent of the giant markets and thus self-sufficient. Present was a logic of auto-production and auto-consumption that discouraged monocultures and benefited ecological resilience (Turner et al. 2011). The latter advocates for complexity to form resilience. When diverse organisms populate a space, mutual nourishment is advanced and overall control against risks is engendered (Belloni, 2022). For this, wild plants are considered key to the regenerative capacity of natural and human-altered landscapes (Turner et al. 2011). Consequently, without them, nature would decrease its resilience and reduce the range of ecosystem services needed for sustaining life (Pei et al. 2020). Therefore, the value of wild edible plants goes beyond the individual realm and extends to environmental and societal dimensions. As mentioned, the usage of some wild species and the respective culinary recipes characterise each area, thereby becoming a fundamental part of local gastronomy (Biscotti, 2012)

Each Apulian plant holds a significant heritage of popular practices that have travelled across time via oral transmission and, thanks to it, have guided diverse generations towards identity & cohesion. The former tells us that plants have both botanical or biodiversity-related importance and a cultural one (Caneva et al., 2013). Nature informs culture and vice versa, granting humans a place that is within the system in which they are situated. There is no dualism or separation, but rather a continuum of inseparable interconnections that eco-feminist Haraway, in her *Companion Species Manifesto* (Haraway, 2003), refers to as natureculture. The latter contains the messiness and complexity that comes with the linkages, together with an awareness of the implications. Humans and plants have always co-existed and so co-shaped one another. This dynamic has led to the formulation of specific meanings, languages and popular practices that fuelled culture. The last, in turn, impacted and modelled the flora over time via a process of reciprocal modification and adaptation (Pei et al. 2020). A balance was created, sustaining communities and their environments across time (Turner et al. 2011).

All in all, the role of wild plants seems to carry multifold value in Apulia and at large, giving me an impel to explore the current situation surrounding the topic with the following objective; to become aware of the current state of wild flora knowledge in Apulia, outlining its challenges and opportunities for potential routes to change.

## Resilience

The term is defined by Walker & Salt (2006) as “the capacity of a system to absorb disturbance and still retain its basic function and structure.” I mostly utilise resilience to refer to the plants domains and their position ecologically. Nevertheless, by favouring ecological resilience, also the social and the individual are further impacted given the interconnectedness nature of our system.

## 2.3 Milieu of happenings: identifying gaps and opportunities

**Broken linkages, polycrisis, migrations, multi-level polarisation, conflicts, pandemics and more are staging our times. Nevertheless, counter-forces are facing and responding to them, one being awareness along with hope and collective action.**

This tension present in the globe translates at micro scales and further impacts an abundance of matters in which the subject of wild edible species is at stake. Not only are the wild species' life being affected by the macro situation, but also the knowledge surrounding these plants is becoming fragmented (Łuczaj & Pieroni, 2016). As a result, Biscotti & Pieroni (2015) observe new tendencies around wild cuisine attempting to recover what is being forgotten, providing local elite culinary experiences with a sense of place. This insight is discussed in ethnobotanical studies, reporting a gradual loss of traditional knowledge and practices (Caneva et al., 2013). Prior to explicating the reasons behind this loss, I will clarify what ethnobotany is and its stand.

Ethnobotany is a discipline that studies human-plant interrelations, historically and cross-culturally. The object of focus is the role of plants in human culture and their role in defining micro-systems, communities and localities that have developed compatible behaviour and knowledge from co-living with the flora. Therefore, the ethnobotanist's job is to document and crystallise the knowledge resulting from the human-plant relation to maintain the wisdom uncovered and lived throughout the years (Caneva et al., 2013). This wisdom is known as Traditional Ecological Knowledge (TEK), a plateau of plant practices, beliefs, and adeptness resulting from the long relationship of living beings with one another and their environment (Turner et al. 2011). Ethnobotanists record this TEK via ethnography by observing the handling of the territory, the solutions taken in response to the habitat, and how those survival strategies have evolved at length. The outcome is a study where the taxa of the species are recorded in tandem with common local names, used parts, and popular culinary uses circumscribed to the regional context. Only in 1896 the term ethnobotany was coined by John Harshberger with the birth of ethnographic and anthropological disciplines. Hence, the strict categorisation of plants began to take place. Before this, the inheritance was transmitted orally and through the active engagement of people in rituals. Now, ethnobotanical reports are considered part of UNESCO Cultural Intangible Inheritance, where botanical practices attain a strong cultural value (Caneva et al., 2013)

Ethnobotany and its proponents claim the importance of preserving this intangible cultural heritage for bio-cultural diversity to be kept in the face of growing globalisation. Bio-cultural diversity entails biological and cultural diversity and the linkages between them, as Bridgewater & Rotherham (2019) argue that bio-cultural diversity is significantly rooted in plant uses and traditions.

Further, they recognise the rapid loss of bio-cultural knowledge about certain landscapes and their traditions causing changes in the people's perceptions of sense of place. Ethnobotany wants to fuel this sense of place by collecting traditional knowledge as well as recording the changes and hybridisation processes of such knowledge (Pardo-de-Santayana et al., 2010). Pei et al. (2020), together with Caneva et al. (2013) and Pandey et al. (2017), agree that ethnobotanical knowledge contributes to sustainable development with its mission of conserving bio-cultural heritage. And I stand with them, seeing ethnobotany having an activist intent in shaping aware inhabitants with the hope that it leads, as Pandey et al. (2017) state, to more educated actions about the present and future. Today ethnobotany provides a wealth of knowledge regarding both past and present human-plant relationships and therefore attracts subjects engaged in biodiversity prospecting and biodiversity conservation. Yet, Pandey et al. (2017) argue that it is a work in progress, as it experiences a lack of research support for keeping studies forward.

Having laid out ethnobotany's participation into the sustainability discourse, it is now vital to explore the milieu of happenings causing loss of knowledge and creating urgency and legitimacy to ethnobotanists' work.

Zito (2022) explains that some rural communities in Apulia still practice the foraging of wild vegetables. However, the knowledge required for such practice is becoming almost exclusively restricted to older people, forage enthusiasts and chefs whose relationship with the land is alive and at the core of their occupation. Concerning elderlies, the reason behind exclusivity lies in a perceived reduction of local knowledge being shared and transmitted across generations, which leaves younger people unaware. Gargano, (2022) states that the instances for interactions are scarce or absent. Raschetti (2017) explains that this deficiency might derive from two factors; first, a generational leap caused by fast development that has distanced young people and elderlies, and second written culture prioritising textual or scientific knowledge over the oral wisdom of elderly' knowledge.

The third factor, although there is little evidence, relates to brain drain affecting the capacity of the younger generations to maintain and reproduce traditional knowledge. Fourth, sociologists of speed Wajcman (2015) and Rosa (2013) advance that societies have been speeding up on different levels, individual to the social, driven by “accelerated capitalism”. This might have shrunk temporalities and affected times of presence and quality with family. All the mentioned factors can be responsible for leaving elderlies with a heritage of long-standing traditions that remain solo.

With respect to forage enthusiasts and chefs, their knowledge of the wild flora is driven by passion and curiosity. Yet, Apulia currently does not offer enough space or initiatives to allow everyone to be exposed to such knowledge. Concomitant happenings accompany this exclusivity of knowledge; new techniques in agriculture and the changing climate are posing a risk to such precious species, which are increasingly exposed to herbicides and shifting conditions (Barbera, 2022). Not only are the species under threat, but the practice of foraging and culinary usage of wild plants is declining due to monocultures. The latter leads to a reduction in cultural and biological diversity (Naidoo, 2014).

Adding on, societal alterations such as the gradual women’s emancipation have contributed to the disappearance of certain dishes which were mainly prepared by women in the past (Ceci, 2022). According to Vo (2021), women played and still play the role of custodians of intangible cultural heritage, including, among other forms, culinary and medicinal knowledge. Ceci (2022) confirms Vo (2021) standpoint and sees this role being present in the Apulian locality. Yet, the changes in the level of the social have affected such knowledge from being preserved and passed on.

Lastly, Pardo et al. (2010) add that changes in culture in terms of beliefs, meanings and values of plant traditions can also be responsible factors for impacting the instances of foraging practices as well as the consideration given to wild plants themselves. These are associated with symbols of poverty, survival or backwardness, as posed by Zito (2022). As Pardo et al. (2010) presented, many authors cited in the paper reflect on how modernisation downgrades and devalues wild resources. This claim is particularly conferred to the youth, considered conscious of fitting into the new. However, in the current context of the climate crisis, globally the youth movement is the one mobilising the past, valuing the wisdom of indigenous knowledge for the resilience of fragile ecosystems (MacKay et al., 2020)

Nevertheless, this mobilisation is not yet visible in the Apulian locality as it is perceived globally. This is because schools, the leverage point of this thesis, are not aiding the rising awareness process as much. Schools in Apulia lack the possibility for students to interact with topics of importance, like the one on wild flora knowledge. This standing is seen in curricula that are overly focused on outdated agendas. These restrain from human-plant interrelations not offering foraging activities or culinary experiences. Therefore, not only there is a lack of linguistic engagement with the topic but also a bodily one. Checchia (2022) reports lacking spaces for learning with and through the environment at hand. This scarcity of bodily interaction with the flora can be conducive to what Ryan (2015) articulates as “erosion in botanical memory” The latter entails bodily and cultural memory; plants’ tastes, sounds, smells and tactile sensations create a form of environmental and emotional echo that is both shared amongst individuals and personally embodied. As interaction with the environment lessens, so do emotional and sensory memories of the flora (Ryan, 2015). This tendency is worrying as it might induce plant blindness, which is the inability to notice or see plants in one’s environment (Ryan, 2015). This knowing can be intellectual or bodily, and it is a prerequisite for getting closer to nature to call us for care. Institutions are limiting their contribution to the topic to one-time experiences inserted occasionally and not given the consistency and importance it deserves (Checchia, 2022).

In this milieu of happenings, ethnobotany strives to fill the identified gaps by providing local plant knowledge around language, usages and meanings in the form of ethnobotanical studies. However, the nature of these studies is quite scientific, limiting common understanding and impeding the realisation of ethnobotany’s driver: maintenance of knowledge via the collection/transcription of the latter. The systematisation of knowledge in the form of tables, taxonomies, vernacular names and botanical profiles creates an intellectual plateau of understanding that distances the wider community from accessing and interacting with such knowledge. Thus, I detect a challenge that leads me to ponder alternative lenses to ethnobotany being more relational, multi-layered, and multivalent in nature discussed by Ryan (2010). These lenses call for an embodied experience of the flora, which can be conducive to creating a sense of place, “floratoesthesia”, and the nexus between memory and flora via engaging the senses in the exploration (Ryan, 2010). According to Ryan (2010), this would generate corporeal findings that can be more effective in fostering people’s relationalities with the landscape of plant corpora. I am not arguing for a complete amendment of existing methodologies; instead, I am supporting the identified gaps with ongoing research grounds. These share the criterion upholding knowledge from being transmitted more widely. This thesis, as mentioned, contributes to overturning such upholds through sharing flora knowledge with elementary school generations.



The rationale beyond the choice of the intended target lies in the argument claiming that childhood and youth are the most critical phases for learning, given the adaptive memory kids have. It is also when cultural transmission gets passed on by parents via a vertical model of dissemination (parents-children mode, slow in the transmission) and by schools via an oblique model (many-to-one mode, diffusive) (van Luijk et al., 2021). Depending on the dissemination model, knowledge is affected and thus can be fixed, altered or lost. As discussed, many factors impede this local knowledge from being passed on in the context of wild flora knowledge. Teaching is deemed by van Luijk et al. (2021) to be the most reliable intervention that guarantees assimilation. Thus, schools have been said to lead two distinct directions concerning local knowledge: as one cause of its erosion and a possible solution against its disappearance. The former occurs when local knowledge (LK) is not valued and included in the curricula (van Luijk et al., 2021). My argument grants the school the agency to counteract LK's disappearance, given the educational driver of such institutions. What fuels my position is that LK (fig.1) is a valuable instrument for cultural awareness programs to strengthen cultural identity and promote bio-cultural heritage (Sotero et al. 2020). Moreover, incorporating LK within its context can aid local well-being and potential local actions of care from students. Finally, LK is central to human-nature interdependence, which is stated to be a critical source of resilience during a crisis (Vandebroek et al. 2011).

## LOCAL KNOWLEDGE

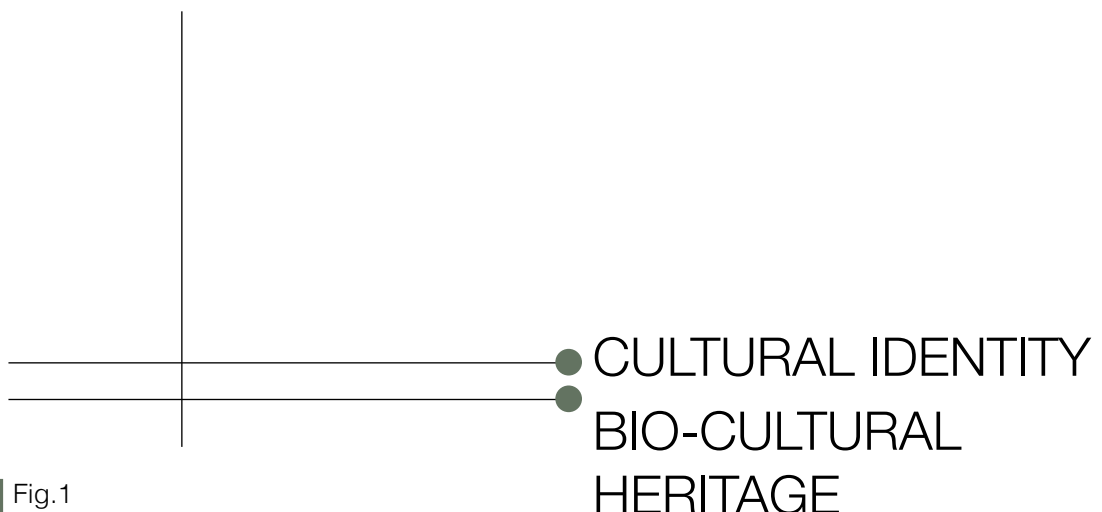


Fig.1

## 2.4 Vision: Rethinking education in unsettled times

The above reasonings ultimately gave form to my vision, inspiring and kickstarting the journey. The vision, informed by the prominent feminist scholar Donna Haraway, sees education as strategic leverage to re-imagine models for fostering plant knowledge in unsettled times.

**The twenty-first century is witnessing fundamental changes to the earth's geo-biospheric systems, visible in the form of climate change, global warming, ocean acidification, biodiversity loss and more. This situation poses uncertain ecological futures and grand challenges for the children who will inherit these futures and for the educators responsible for preparing them to meet these challenges.**

Taylor (2017) feminist scholar and educator argues for rethinking environmental education away from humanist stewardship pedagogies and towards more than human collective modes of learning. This implies learning with a more than human world rather than about it, paying attention to the mutual affects of relations, and attuning to what is already happening in the world. Taylor (2017) uses Haraway's concept of "wordings" continual-world-makings that underpin multi-species relations in which, as humans, we take part. Haraway urges us to join forces with other species to work toward the collective, toward care. Equally well, and perhaps more importantly she reminds us to be aware of the non-dualism between us and nature (Haraway, 2016). According to van Boeckel (2007, p.1), "it is hard to care for something that we no longer perceive as constitutive to what makes us human". The latter is one of the underlying causes of ecological inaction. Therefore, I stand with Taylor (2017) on the importance of engaging children in the early stage of their development in relational experiences with nature to remind them of Rautio's (2013a) stance that we are nature already, not separate. In doing so, children's connectedness with nature is nourished. Further, as suggested by Rautio and Jikinen (2016), children are already attuned to collectively thinking with the more than human world. Often, they attribute subjectivity to other entities, ignoring the boundaries separating humans from the rest. There is an already present disposition for collective being and becoming. As Rautio and Jokinen (2016) affirm, children's worldly relations are formed in inter and intra-action with the materials around them. There is an intimate, immediate impulse to sense, opposing the subject-object western epistemology. From this intimacy, I am inspired by what Haraway calls rhizomatic learning, taking place in the fluid assemblages of humans and non-humans (Taylor, Blaise & Giugni, 2013).

We can only respond to the messy challenges we face by grappling with the knotty relationalities. Situating pedagogical experiences within a post-human landscape requires dealing with “contact zones” (fig. 2) where entanglements happen. These contact zones are places where human-plant relationships begin through listening and movement, senses and silence. Knowledge is created.

The thesis employs this vision as a tool for inspiration and reflection rather than as the theory shaping the methodology and results. The reason lies in a change of plans regarding kids’ engagement as co-participants, given the affiliated ethical complexities that surfaced in studying kids. Due to this, I redirected my empirical research towards the employment of experts and educators with whom I sought to ideate solutions. The old educational structures are moulding relations and causing traditional knowledge to be lost. Change lies in the hands of those in charge. Therefore, I see value in intervening in schools’ oblique model of knowledge transmission. It’s where we choose whether to be the cause of knowledge erosion and a possible solution against its disappearance, and I indeed aim for the latter.



Fig.2

## 2.5 Multi-layered notion of knowledge

The thesis touches on the word knowledge multiple times. Hence, this section offers literature that defines and summarises its multi-layered nature: the local, tacit, situated, sensorial, and corporeal, mostly explored and discussed throughout the journey.

Knowledge (2022), as defined by Cambridge Dictionary, refers to understanding something acquired through experience or study. This understanding can unravel into skills, know-how or information. It also alludes to the state of being familiar with something and being aware. The field of knowledge permeates all disciplines as it pervades human experience and non. Borrowing from Greco et al. (2010) work, knowledge is understood as an act of relation that translates into a form of knowing. This form of relation best ties together the different bodies of knowledge considered in the thesis.

In investigating locality and its wild flora dimension, multi-layered knowledge is uncovered. As reviewed in [section 2.3](#), traditional ecological knowledge (TEK) is extensively debated in the wild flora discourse. According to Setalaphruk & Price (2007), this TEK is a tacit and implicit type of knowledge that is present within people but is hard to express usually. This difficulty comes from TEK being gained through one's dynamic experience and practices in a community environment, the output of which is not institutionalised or widely taught in schools. Transmission of such knowledge happens through observation, listening and engagement in the locality and thus, lacking these mediums hints at exposing TEK to its decrease. Therefore, the tacit dimension of this type of knowledge requires embodied presence as an instrument to configure with it, understand it and perhaps retain it (Adloff et al., 2015). 'Embodied presence' implies being embedded with mind and body in the context. Adloff et al. (2015) argue that this form of presence can be perceived as extraordinary or remain unnoticed due to its everyday nature. Therefore, the awareness and know-how unfold through time for both the knowledge producer and the receiver. Being enmeshed in the local also implies dealing with its situated knowledge, explained by Haraway (1990) as the "apparatus of bodily production" that is produced in the social interaction with the context. Haraway (1990) describes this apparatus of knowledge as being embedded and affected by historical, linguistic, and social factors of both the situated environment and the person experiencing it. There is no universal knowledge but numerous ad hoc- dynamic responses to contextual experiences. These responses are bodily as well as intellectual.

Manning (2009) states that “what moves as a body returns as the movement of thought”. In other words, the body impacts the mind and vice versa. They are co-constituted and not divided. Embodiment theory supports the former claim by emphasising the phenomenological way of understanding the world, using the body as the medium (Shogo, 2011). It encourages us to dive into our sensory and lived experiences to uncover insights into the social, cultural and political worlds.

The thesis engages with social and cultural dimensions, experienced sensuous-physical through interaction with the flora. The full horizon of senses is awakened by the plants. “They are not only visually beautiful but edible, audible, palpable and olfactory” (Ryan, 2010:10). Hence, Ryan (2010) argues that mere “aesthetic visualism” should be replaced by experiential corporeality as it enhances the richness of the encounter and is conducive to higher connectivity with the landscape. This connectivity fosters situational and inter-corporeal memory, understood by Fuchs (2012) as the familiarity with the space and the relational tie engendered by the encounters. These encounters pervade the act of foraging and its culinary dimension, resulting in lived experiences of memory and place. To summarise, the topic of the wild flora is situated and engages with multi-layered knowledge that extends beyond scientific, intellectual or botanical knowing and deals with more sensorial, tacit and corporeal notions of the local.



3



# Methodology

## 3.1 Overview of methodology

The thesis uses a qualitative research-through-design approach to explore wild flora knowledge in supporting ad hoc educational solutions for kids' engagement & learning. Research-through-design, as argued by Godin & Zahedi (2014), is a research modality that uses Design and its thinking to explore how things currently are, how they could be and ultimately how they will be. This transition from the truth to the real answers the designers' goal, changing existing situations into preferred ones (Simon, 1988). With the desire to respond to the identified wild flora knowledge at threat, research through design modality fits the context. By drawing on Design's meaningful and explorative nature, I focus on envisioning alternatives to identified challenges. To do so, I embark on a journey to find individuals, create connections, and mediate knowledge while also experiencing it introspectively, bodily. The methodology responds to the above aims by utilising a diverse range of methods from on-site and in-motion semi-structured interviews, foraging sessions, poetry, photography, observation and a final co-creation workshop.

The methodology is divided into three phases: the first phase discovery includes interviews and personal exploration; the second of observation with workshop attendance and the third of action with the co-creation workshop. This structure (thoroughly presented from section 4 to 6) helps with valuing each phase with the time and consequentiality needed for the unfolding of every method. What pervades all the methods is a phenomenological approach to research which looks at uncovering emergence (Gray, 2018) by exploring and living the locality's world and its "thick" realities. The phenomenological paradigm claims that the researcher must use multiple methods to uncover different meanings and knowledge from the phenomena. Hence, with my design expertise, I designed every method to meet the above paradigm.

Escobar (2018) with its chapter on Design for the Real World fuelled the methodology's phenomenological tenets, through place-based narratives re-inscribing design practice towards situated dimensions of communities and place. This re-orientation of design brought me to utilise terms like realities when defining the interviewees' worlds, immeshed and entangled with the Apulian human-plant relations present. It also led to advance dynamism in conducting interviewees and foraging sessions, unfolding in motion and with the people & plants present.

Further, the place-based approach induced me to find on-site interviewees through word of mouth, a method that best works in communities that are still heavily reliant on oral exchanges of experiences as argued by Zito (2022).

This exchange led to the meeting of realities, where I engaged in knowledge absorption and production through participation and observation. Additionally, the choice of conducting photography, poetry and cooking as mediums is justified by the need to learn and reflect with the locality via creative means. Pyyry (2016) sees photography as a tool that inspires “thinking with” by fostering a creative relationship with one’s surroundings. To this, I add poetry, another artful means that can also allow, as photography does, to see the world anew, cultivating a unique receptivity to the encounter. Further, I dive into the encounter with the cooking, a sensual method that requires us to attend with the full body, drawing on the knowledge that is within (Brady, 2011).

Altogether, the chosen path informed the final research phase of the co-creation workshop. Here, I shared all the knowledge unravelled throughout the process to form together wild flora solutions for kids’ engagement.

## 3.2 Methodology in action

Following the phenomenological, place-based methodological narrative, I began the research inquiry by conducting the first research phase via in-motion interviews and concomitant foraging sessions. The data were collected and processed through thematic analysis, further discussed in [section 4.4.b](#). At the same time, the foraging sessions were recorded in a personal journal after the exploration. The data uncovered from both methods led to uncovering opportunities for wild flora engagement, further inspired by personal insights on fostering such engagement. Thereafter, I transitioned towards the second phase and used the developed connections with the people interviewed to participate in a workshop observation (see [section 5.2](#)). I recorded the workshop’s data in the form of reflections on the go in my journal.

The cumulative observations and findings served as a base to formulate the structure of the co-creation workshop (see [section 6](#)). Its qualitative data are then acquired through design props I designed. These assisted the formulation of co-created solutions that I unified and presented to the institutions in question alongside an additional design outcome (see [section 6.6](#)).



### 3.3 Research questions

The personal realisation of lacking awareness surrounding wild flora, coupled with the importance of instead retaining such knowledge, as discussed in the literature, led to the formulation of the first research question.

(1) What is the scenery of Apulian human-plant interrelations and the knowledge present within?

The latter inquires about the scenery of apulian human-plants interrelationships in the edible wild flora realm. For “scenery”, I intend the metaphorical landscape of people-plants-places that are present in Apulia. Scenery encompasses the myriads of dynamic happenings of relations within the context of wild edible flora interest. A dynamism that is captured by detecting the primary respondents of the Apulian wild edible flora milieu (1) to gain knowledge through the people and (2) to reflect on the landscape bearing such interactions. The knowledge received is then explored through the second question:

(2) How can I explore the knowledge present in such relations?

The second query rises to a level of methodology, triggering ways in which I can journey through locality with the knowledge gained. It indeed serves to guide as well as to spark directions. Ultimately, the exploration leads to the third question:

(3) How might I then extend this knowledge to young targets of elementary school kids?

This ultimate is action-oriented and concerned with sharing the knowledge collected to the young target via engaging educators in the co-creation process.



Murgia Plateu 12 July, 2022

### 3.4 Overarching ethical considerations

Both interviews and the co-creation workshop underwent deep engagement with the people in question. This required the completion of consent forms, signed prior to the activities. In the consent form, info about the study is provided, together with what to expect from the activity in both Italian and English. Participation was voluntary and participants were allowed to leave the space at any point desired. Further, it was also asked whether the participants preferred their names to be visible or not in the thesis. This was inquired given the participants' enthusiasm towards the subject matter and their desire to widespread their actions also outside Apulian networks. All participants agreed to consent and have their names visible. Hence, the fieldwork followed Aalto University guidelines correctly.

Moreover, due to the relational nature of the research done with the flora, I ensured foraging practices were conducted under ethical terms. This meant that I informed myself, through the flora proponents and ethnobotanical authors, on how to advance sustainable foraging. The latter was also nurtured by the learnings accumulated through the Field ecology course, where foraging was practised with care multiple times. However, I don't include such learnings directly as they sit outside the scope of my thesis.

### 3.5 My role as a designer

Throughout the process, my role as a designer takes different forms. I act as a researcher, observer and gatherer, exploring and activating networks of relations and in the flow, pausing for recollection. I then process what uncovers and create linkages where I mediate meanings and share these with and for the community. Further, I facilitate spaces for creation to occur. Here I experiment with engagement methods and advance interventions with people, critically thinking about feasibility, viability and impact. Lastly, I move as an artist, journeying through introspections for becomings to be found and acknowledged.

#### Sustainable foraging

The term encompass an ethical disposition towards the foraging comprising of awareness, care about and knowledge of the collected species collected with minimal, or no damage to their reproductive success taken into consideration (Baillargeon, 2021).



4



# Research phase 1

## 4.1 Interviews structure & goal

The choice of conducting interviews arises from a need to gain awareness about the wild edible flora knowledge. Through word-of-mouth mainly, as indicated in [section 3.1](#), I reached wild flora people representatives. In other words, the ones retaining the most local knowledge and ran twelve interviews with four gastronomic respondents, two educators, two farmers, two start-up leaders, one exporter farm and one botanical conservator.

The interviews lasted approximately 30 to 40 minutes and were led in Italian, given research fully advanced in the south of Italy, Apulia. The interviews aimed to gather knowledge of the wild edible flora while learning about human-plant relationalities and their realities through time. The interviews were semi-structured, and they all used the same questions as the main base but also open-ended enough to allow for fluidity and emergence come to be.

The questions posed were the following;

- (1) Tell me about your relationship with the wild edible flora
- (2) What are the memories that surface, the linked stories, and anecdotes?
- (3) What would that be if you had to choose a wild edible plant that has meaning for you?
- (4) Do you know about its healing properties, usages, rituals, habitat and seasonality?
- (5) Who transmitted this knowledge and how do you keep it alive?
- (6) Do you have any messages to send to young generations or to the Apulian wild edible flora?

## 4.2 Interviewees realities

Through the interviews, I was exposed to peculiar local realities, ranging from farmhouses, gastronomic locations, vegetable gardens, exporter farms, educational sites and numerous remote fields of wild edible flora presence.

The interviews were indeed an experience. I travelled around 500 kilometres across time and reached faraway locations. The majority of the interviewees were conducted on-site as well as in motion. In other words, while I was posing the questions, I was foraging, smelling, eating and absorbing the context. This multitude of stimuli meant that I was inscribing body memory in connection with the place and the people whose knowledge was shared.

Each interview was a story. Stories, which are a result of language, are mighty in engendering a change in the receiver's knowledge, attitude and behaviour. The power comes from the awakened emotional connection discussed by Milojević and Inayatullah (2015), which stays and shapes us. These indeed changed me, and I will now provide details about each interviewee's realities to give context to the former.

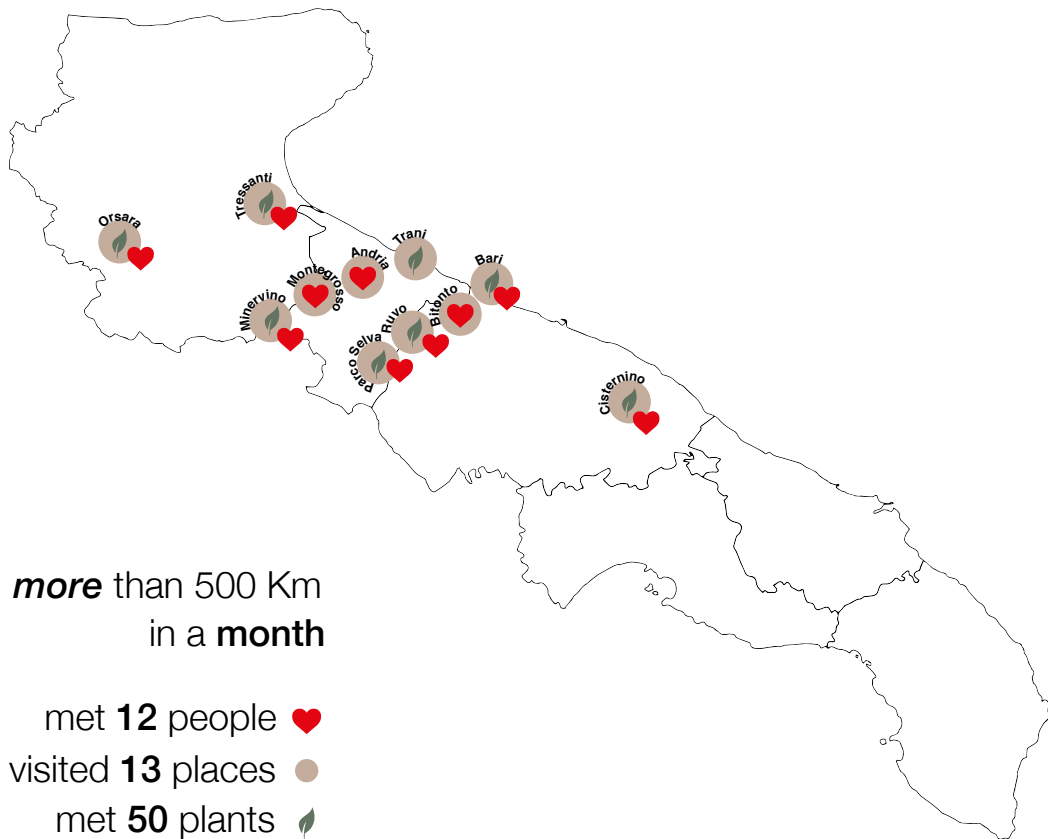


Fig.3

## July the 10th-Cisternino

### Paolo Belloni | Giardini di Pomona

Giardini di Pomona is a botanical conservatory located in Cisternino and driven by three main objectives: first to pass on a botanical heritage to future generations, the knowledge of which along with the biodiversity is disappearing at high speed. Second, is the wise use of water by creating food forests and employing permaculture strategies (e.g dry farming). The third objective relates to increasing soil microbiology given the desertification issue. Paolo uses this conservatory as a medium to educate visitors about the complexity of nature against the simplification of traditional agriculture. Myriads of interrelations and life connections happen when care and knowledge come into play. Along with the cultivated and protected fruit and vegetable plant, the wild flora populates thanks to the favourable soil and the mutuality of other species present.

## July 15th-Orsara

### Peppe Zullo | Orsara

Peppe Zullo is a farm chef and forager whose motto is “from the land to the table”. At Orsara, in his well-known restaurant, he focuses on the health, simplicity and quality of foraged goods. His Farm was awarded for having a low environmental impact by offering a diet based on authenticity with zero-mile gastronomic chain products. The restaurant indeed uses products that are either cultivated in the vegetable garden or collected from the rich forest around. His dishes call for traditions and taste, valuing the Apulian territory and its biodiversity. Peppe has been the leader in didactic projects with kids, to teach the young generation about nature’s richness and significance.

## August 1st-Tressanti

### Spirito Contadino

Spirito Contadino is an agricultural firm that cultivates authentic vegetable species (among which are wild species) on the verge of extinction and exports them globally to high-level catering. The export is done through a freezing technique with nitrogen that aims to keep the product fresh and ready for use by chefs. The firm also focuses on the research side by collaborating with Biodiverso, a project led by the University of Bari on the conservation of the Apulian Biodiversity. They are supported by external biologists who direct scientific observation and experimentation with the selected species. Overall, there is strong attention toward biophilic agriculture and expert-driven research.

## July the 2nd- Murgia Riccardo Barbera | Masseria Barbera

Masseria Barbera is a Fazenda hosting a restaurant and a farm, with its outreach away from touristic trajectories. It is situated in the Murgia Plateau between pastures, olive trees, wild plants and vineyards about 40 kilometres from Trani. Masseria Barbera has been home to Riccardo's family for six generations and it has always worked as a farm, producing olive oil, wine, wheat, vegetables and fruits. There are 50 hectares of land and 20 hectares of pasture. Sheep and goats are raised and home cheese is produced. Later in 2000, Riccardo opened the restaurant focusing on a simple traditional cuisine using locally found raw materials of high quality. The latter is possible thanks to the fervent wild flora around in tandem with a seasonal vegetable garden headed by the owner.

## July the 7th- Foggia Montaruli | Mezza Pagnotta

Mezza Pagnotta is a restaurant located in the old town of Ruvo di Puglia. The owners are two brothers and passionate about bringing Cucina Povera to the table, using ingredients that tell stories of the Apulian territory. Chef Francesco Montaruli is embedding traditional, local knowledge in every dish, mainly constituted by wild plants found in the Murgia plateau. The menu is entirely vegetarian and artistically presented to redeem the owners' dad's memory of wild plants as a source of survival in the post-war period. At Mezza Pagnotta there is a constant dialogue between the flora and the people, old knowledge is gathered from local foragers who interact daily with the owner and provide the restaurant with local and seasonal edible wild plants. They are then presented simply yet beautifully, giving each element the right dignity and identity.



## 1st of July- Montegrosso Pietro Zito | Antichi Sapori

Antichi Sapori is a Michelin restaurant where old traditions reign and are brought to the table with simplicity, humbleness and prime quality. Chef Zito prepares ancient recipes with re-discovered wild plants that until then were ignored and devalued. These are cultivated in a garden nearby the restaurant and accompanied by locally grown products. Born in the countryside from peasant parents, Zito holds an immense traditional knowledge that materialises in the vast gastronomic culture of the locality. The location of the restaurant recalls an old peasant village where the stress of city life disappears slowly, giving the way to an infinite series of olfactory and gustatory memories that remain.

## 20th of July- Murgia Potentilla Cosmesi

Potentilla is a women-led start-up that produces cosmetics with extracts of leaves, flowers, fruits, berries and roots of wild plants of the Apulian Murgia. The leaders personally forage the harvest, respecting the balsamic times and the reproductive capacity of the plants. Potentilla is a testimony of a connection between women and their territory. Their love for the Murgia plateau and its biodiversity drive the leaders' actions. The cosmetic line indeed aims at being as sustainable as possible, through low-waste plastic-free packaging with refill options. At large they advocate for a transparent and ethical product chain respectful of the territory.

Aside from these established entities, highly recognised in Apulia, two local farmers and two educators were interviewed, the realities of whom are individuals relating to the flora daily because of their job and passion. Their stories bring crucial insights that I employed in the data collection analysis and included in the creation of design output (see [section 6.6](#)).

## 4.3 Interviews' application in the context

All interviews were highly qualitative, advancing rich, distinctive and multi-layered knowledge in the conversation. Most of them were conducted while foraging, thus in motion through walking, processing stories, sensing with the people and the environment. This can be seen as a go-along method that is conducted with the participants in their familiar environment. I was indeed walked through the interviewees' lived experiences of the locality (Carpiano, 2009). Sharing conversations in such spaces meant exploring the embodied and multi-sensual aspects of culture. I was absorbing histories and memories via smell as much as I was inscribing the new, informing my awareness of the flora and its unknown. This absorption was possible as I was guided in the foraging wander by the respondents given their acquaintance with the place. The walking collected "synaesthetic effects" that created a sort of intimacy with the knowledge conveyed leading to introspective reflections (see [section 4.6](#)). These use poetry as a response to the experience of movement in the context of knowledge sharing.

Having laid out the interviews' structure, participants' realities and the application of the method in the context, I will continue with the analysis of the data. First, I will provide an analysis of the interview responses, their findings and reflection. Second, I will dive into the holistic and introspective experience undergone through poetry outcomes and reflection on the process.

## 4.4 Analysis

### 4.4.b Coding

Evaluating the information gathered from the interviews utilises two approaches. Firstly, I noted in my journal my perceptions uncovered from the lived experiences of the mentioned realities. This is to document the phenomena and inform the second approach. The latter employs thematic analysis to navigate and process qualitative data. Braun and Clarke (2006) described thematic analysis as a systematic way of seeing that allows one to gather meaning through identified themes. The analysis followed several steps;

First, "data familiarisation", where the transcribing occurs. All interviews were recorded and manually transferred to a digital document. Second, the reported data were read several times to find potential keywords or phrases representing multiple responses. This phase can be named "initial code generation"

Found codes were iterated to fit the content and collected under the following themes: (1) relation to the flora, (2) memories and sensorial experiences, (3) knowledge and (4) present reality.

The first one includes the type of relationship each respondent has with the wild edible flora which comes and is fuelled by memories and daily sensorial experiences, second theme. The third encompasses a diverse range of knowledge ranging from wild flora knowledge, to intergenerational, agricultural, botanical and more. These will be detailed in the findings in [section 4.4.c](#). The fourth collects data on the present realities of each interviewee with the challenges of the now, as well as comments on their current state of thoughts, visions and happenings in relation to the topic.

Every theme was given a different colour. This allowed for visual patterns as well as contrasts to become visible. This process was executed on Miro, an online collaborative platform that enabled me to visualise the data and find linkages and meaning across them. In addition to the thematic analysis, I noted the different mentioned plants and what was striking among the data to, later on, give form to surfacing observations.

### 4.4.c Findings

The first coding approach reveals, through my experience, who are these local realities and their position within the scenery of human-plant interrelations present in Apulia.

#### Masseria Barbera

The Fazenda, with owner Riccardo Barbara, envisions its reality as a self-sufficient ecosystem offering all that is required to promote a local Mediterranean diet imprinted in quality, locality and care. The produce includes wild edible plants, organically grown vegetables, oil, wheat, fruit and cheese. These are prepared with a rustic gastronomy narrative and, for their simplicity, elegant. This narrative is reflected in the surroundings through ad-hoc renovations using local materials representative of memory. I found the latter pervading all dishes that, with respect, communicate local knowledge of the Apulian territory.

Therefore, Masseria Barbera's position in the scenery of human-plant relations is grounded in gastronomy mainly, which is further supported by responsible production and local reflective architecture, granting history to plant beings.

## Mezza Pagnotta

The restaurant, with owner Francesco Montaruli, is the first encounter I had with wild edible flora, enmeshed in the driving narrative of the place. This means that plants beings from the Murgia Plateau are the principal ingredient of every dish. Through these, I witnessed the attention placed on cycles for advancing responsible foraging and reflective gastronomy creations. There is a whole community of elder local foragers engaged in the process who infuse their know-how and oral knowledge into the driving vision. I found this mobilisation extremely important as it allows it to revive lost traditions and create linkages. These unravel into intergenerational knowledge, strongly present in the reality.

This positions Mezza Pagnotta in a scenery of human-plant relations that is grounded in time via attentive gastronomy.

## Orsara

A multi-fold reality, with owner Peppe Zullo, comprising a restaurant, its wild edible forest and a vegetable garden. The raw materials are traceable and supported by stories of farm life with memories shaping the owner's direction and his actions. I was walked through the journey, from the land to the table, discovering authentic Mediterranean traditions along the way. Agricultural knowledge along with gastronomic informed by experience of the reality, further supported by cooking school areas where Zullo's knowledge finds its application. What results is a reality driven by a call for engagement in the co-learning and creation. I was thus invited to learn with him and through my interaction with the plants met along the way.

This situates Orsara in a scenery of human-plants relations that is grounded in storytelling, where stories of entwined past-present fuel the relation.

## Antichi Sapori

Since 1993, this trattoria has worked to shed value on a cuisine driven by wild edibles, previously considered the food of the poor (see [section 2.2](#)). To promote his vision, the owner Pietro Zito has invested in bringing back stories from the past, cultivating wild species in his vegetable garden. Here, I listened to intergenerational and agricultural knowledge impacting tastes and the place. The menu was manually written on a small blackboard with vegetables of the day, responsive to the cycles.

The rural outlook was present in every instance with a focus on the essential and the real. The last is translated into honest narratives that talk of locality in all its beauties and difficulties. The dishes are a representation of it, they do not vaunt the locality, but rather showcase its potent imperfection.

This positions Antichi Saporì in a scenery of human-plant relations that is grounded in collaboration and honest communication with plant beings.

## Spirito Contadino

The agricultural firm, with owner Antonio Cervasio, is a reality of preserving ancient species and articulating new ones through careful experimentation. These inspire their products and define their narratives. I observed the firm's internal operations and engaged in the discovery of ancient crops in their fields. Their commitment from sowing and harvesting to husking and preparation was clearly distilled. This organisation showcased a more structured aspect not found in other realities due to Spirito Contadino being a business focused on exports. Therefore, the more visible knowledge appeared to be agriculturally driven and botanical fuelled.

This situates the firm in a scenery of human-plant relations that is grounded in strategy, rhythms and mutual wins.

## Potentilla Cosmesi

The cosmetic start-up, driven by women connoisseurs of the wild edible flora, has inspired me the most as it grew out from a city of complexity, Andria. As posed by Francesca (2022) it is a city that is sometimes enclosed, deaf to the needs of women, and often little attentive to the protection of its beautiful landscape. Potentilla wants to make voices heard, those of women and those of wild plants of the Murgia plateau. I witnessed them standing close to the cause of biodiversity conservation against monocultures of olive trees, wiping out the rich flora. The project is a form of activism that get the audience closer to its roots via cosmetics. I explored the Murgia plateau with the founders and observed their doings aligned with their ethos. The knowledge present was sensorial, botanical and linguistic.

This situates Potentilla in a scenery of human-plant relations that is grounded in a lived encounter that empowers both realms and brings about redemption.

## Giardini di Pomona

The botanical conservatory, with owner Paolo Belloni, appears as a forgotten place, given its extreme peace and remote location. Yet, it has the opposite goal, to bring about a future-forward by recovering varieties of ancient edible species to save them from extinction. This activist call was thus informed by extensive botanical knowledge supported by multi-disciplinary efforts. Being present in such a reservoir of possibilities meant exposing myself to species never encountered, tastes never tasted, and visual scapes I have never seen. This reality is not only entangled with a design of precise plants co-habitations but also engages with experimentations of plant-based products. The structure typical from Apulia was inhabited by numerous old books speaking about botanical narratives and their long standing historical literates.

This positions Giardini di Pomona in a scenery of human-plant relations that is grounded in precise conservation and continuous reciprocal learning.

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All in all, finding out these realities helped to uncover wild flora knowledge through the people and understand their relationalities with the territory. This further allowed me to visualise the scenery of interrelations present.





Giardini di Pomona





Potentilla's Founders







Zito's restaruant





Masseria Barbera



Moving on, the thematic analysis (see [section 4.4.c](#)) with the four identified themes helped with comparison detection among all respondents of local realities. Therefore, I could draw patterns of similarities and contrasts, unleashing essential insights.

The **similarities** highlighted a shared love, respect and sense of responsibility towards nature and locality. This disposition is supported by an immense wild flora knowledge coupled with a strong acquaintance with the territory and its relations present. Yet, there is a shared need to divulge this knowledge to re-balance knowledge holding and contribute to a distributed interest in safeguarding the heritage. Moreover, all respondents showcased recognition towards wild edible plants, seen as the main element of the historic Apulian cuisine rather than a decoration. The cultural value of wild plants was therefore highlighted as being crucial in defining the interviewee relations and further actions. In addition, they all agreed on a lack of interaction between the flora and younger generations.

They were thus keen on expanding the learning and awareness of local knowledge by pushing schools to be accountable and proactive in the mission of wild flora knowledge recovery.

As evidence, the most most frequently used words were; *conservation, relation, respect and learning*. Routes that can be reached if the narrative and storytelling around plants are combined with the doing, meaning the action of foraging for memory to be created. This combination will serve as the base ground for research phase three, [section 6](#).

Concerning the **contrasts**, all interviewees indicated a personal relation with the flora. They differed, and each one of the relations had a particular specificity. The latter depended on multiple factors: the first being the different types of knowledge fuelling the relationship and vice versa.

Diverse facets of knowledge were detected; sensorial, botanical, oral, intellectual, intergenerational, agricultural and gastronomic. The botanical and the intellectual fall under the same domain. The difference lies in the former being highly concentrated on botany whereas the latter engages with multiple disciplines requiring intellectual manoeuvrability. Then, the gastronomic overlaps with the sensorial on the level of engagement. The former indicates expertise with sensorial know-how translated in culinary creation. The sensorial meshes with the corporeal as the open disposition and aware recognition of the senses perceived. Finally the oral interacts with the intergenerational, both informed by time. The former concerns the tacit nature of the wild flora knowledge (see [section 2.5](#)), whereas the last is the dimension under which the oral can be found.

All facets of knowledge are not mutually exclusive and therefore present in every participant at different scales. What informs these dimensions are different daily interviewees' occupations that are, in turn, driven by various observed elements; survival, passion, family continuity and curiosity. Drivers that have given form to the explored realities and continue bringing these people closer to the wild edible flora. Moreover, these realities carry on different ways of preserving the flora: via oral transmission, remedies and cosmetics, botanical conservatory, cooking, cultivation and export. These practices characterise each respondent and give identity to their doings within the Apulian scenery of wild flora competence. Lastly, an important finding relates to the divergent usage of plants in the wild or cultivated state.

The majority of the responses expressed a mixed-use. Some find plants in their wild state; Potentilla, the start-up reality interviewed, for instance, practices foraging in remote spaces in the Murgia Plateau and utilises the wild plants and flowers to develop cosmetic solutions. Local farmers and educators do that too. In contrast, gastronomic respondents use the plants in a semi-wild or cultivated state.

To clarify, cultivation entails the artificial seeding of a specific plant in the desired environment, typically kitchen garden spaces. The outcome is a cultivar with similar characteristics to the wild type but has a softer taste and appears slightly different in morphology (Belloni, 2022). This is due to the human presence semi-controlling the growth. However, the gastronomic people interviewed discussed their input being not of control but rather of protection. Their farmhouse gardens host ancestral species that have been planted for conservation purposes following three principles; (1) seasonality, plants are rooted following their most favourable time, (2) locality, representative species are taken into consideration and (3) care of the soil and protection from external agents such as tractors, animals etc.

To conclude, the other usage of wild plants is domestication, employed by Spirito Contadino, the agricultural firm interviewed. They have fields of wild produce and areas in which they experiment with wild taxa to unleash health-related & gastronomic insights for ongoing research. As stated by Cervasio (2022), since wild taxa contain significant genetic diversity, they might help us counteract major plant disease outbreaks with novel crops and, through these, increase systemic resilience. I support the latter, but a vision of reciprocal well-being and regeneration must be the driver. Therefore, multi-disciplinary expertise is needed to direct the usage of wild plants from foraging to domestication.

With the similarities and contrast laid out, the analysis brings to the fore striking annotations that contributed to the form-making of my experience.

## Annotations

On the one side, I was surprised by the vandalism present in the area of Murgia. I witnessed burnt grounds and destroyed wild species thanks to fraudulent fires driven by with the will to cause damage to the environment. The main cause might be search for profit that destroys certain areas to satisfy interests related to building speculation, poaching, or to expand the cultivable areas (Governo Italiano, 2022).

On the other side, I saw the anger in the face of gastronomists/foragers whose realities are not protected once such acts occur. These had disrupted nature as well as other humans' lives, memories and occupations. I was downhearted by this as much as I was illuminated by the respect and ritual aspect given to plants through the following quotations:

“may it always be legitimate for me to observe you”  
“if you approach a field of turnip tops with silence, you smell perfumes  
but you feel them less if you arrive abruptly and make noise”  
“The meditative silence of the Helichrysum”  
“The beauty in reaching out to the edible part of the plant”  
“Plants assume real personalities”

Ultimately, example of pieces of knowledge that caught my attention follow below;

“The spontaneous, if it has no natural habitat, does not grow”

“The purpose of each plant is to give continuous life you see it if you know the behaviour of the plant and you realise that compared to us they have a superior brain. As soon as they go into stress they go into seed production, if they are dying, they give life.”

“The racy flavour conserved in wild plants is a sign of wellness”

“A spontaneous plant growing at its own pace has the ability to protect itself and be stronger”

“We understood that during the day the plant draws all the micro-elements through chlorophyll photosynthesis and it pushes them towards the root which is the brain of the plant. Then, towards dusk, it reverses the process at a certain point of the day. Therefore what the plant had during the day included what is in the ground is pushed towards the fruits to make them grow.”

“In Italy, there are approx. 500 species by now lost, we have so far found only 30 between experimental and the ones already cultivated”

“Nature does not fit in the simplification, it is within the complexity that elements survive and control each other.

“To forage safely, it's essential to be aware of the different treatments present on the grounds”

## 4.5 Reflections

Findings in tandem with the above annotations allowed for reflections to surface and give meaning to research phase one.

Overall, it can be said that all respondents showed care, love and a sense of responsibility towards the wild flora. This was visible through their expressed knowledge about certain edible plants, their uses, cultural meanings and human-plant relationalities in time. The respondents daily experience these via their realities and occupations, which allow them to develop a diverse set of knowledge. The type of knowledge varied depending on the occupation of the interviewees. However, shared among all was “intergenerational knowledge”. The latter denotes a time factor that is at the core of the wild edible flora. This is because the “wild flora experts” were grandparents, as edible plants were a source of survival back then. Hence, the ones that now can be called experts said that most of the learning derives from an intergenerational transmission or linkage.

Furthermore, I've observed that the more modest the occupation, the less intellectual the knowledge of the flora. Though, it is essential to note that local ecologies often rely on experiential and tacit means of co-living with nature. Thus, traditional ways of relating to the edible flora were intended to be included in my research by interviewing local elderly foragers whom I consider expert connoisseurs of ethnobotany in Apulia. They hold ancient knowledge and have witnessed changes in the socio-ecological context in which these plants were found. The language used to mediate knowledge differed with every respondent, ranging from dialect to a higher botanical lexicon. The latter showcased the peculiar relationships each person has with the flora and the diverse drivers forging these relationships and shaping the nature of their realities.

Among them is the need to divulge one's knowledge more to raise awareness, educate the public and contribute to the locality. Here, I found respondents to hold certain respect towards the flora, which at times was romanticised and given a ritualistic value. This romanticisation blurs reality and its complexity as it sheds light on an idyllic past far from gone. This nostalgia fails to attribute agency to changing current trajectories and thus causing stasis. However, the latter seems to hold dynamism in how respondents perceived my call for change. Each person showed a strong interest towards the topic in question and was fully invested in sharing their experiences and onboarding the mission. Thanks to their engagement, I was able to initiate my journey by forming my awareness of the field of human-wild edible plants' relationalities in my territory. In other words, I came closer to the humans and their interrelations with Apulian wild edible plants, through their stories, knowledge and local networks. This allowed me to gain awareness through the people and (2) to reflect on the landscape bearing such interactions. The discovery of realities with all their peculiarities enabled the discerning of the first research question: **what is the scenery of Apulian human-plant interrelations and the knowledge present within?** The answer of which is discussed in the findings in [section 4.4.c](#) and summarised in [section 7.2](#).

## 4.6 Introspective/explorative section

As mentioned in [section 4.3](#), the interviews had the foraging part concomitant in the session. The sites where this occurred were; Murgia Plateau with Mezza Pagnotta and the Potentilla Leaders, Selva Reale National Park, Orsara at Peppe Zullo's restaurant and garden, Spirito Contadino's farm and Giardini di Pomona in the Itria Valley. The recordings contain reference points to these places, wind blowing, sound from the picking, walking and colour notes, and smells elicited through words. The richness of such instances required time and space to process the experiences. Therefore, at the end of each session, I spent a moment on recollection provoked by photographs I took on-site, the outcome of which translates into short poetry entries.

### 4.6.a Poetry

#### **Murgia Plateau December 20th 2021**

*Thorny thistle, wind, bones, sun, my hands are too soft.*

#### **Selva Reale July 1st 2022**

*Aridity, a brown dryness, the short life of cicadas, the ache of the flora in dormant fairytales.*

#### **Orsara Peppe Zullo's restaurant 14th July 2022**

*A golden green, synesthesia in my body, I walk elated through the flora, the water has awakened you.*

#### **Spirito Contadino 27th August 2022**

*Order, beings from other eras, there is care, I wonder.*

#### **Giardini di Pomona 29th July 2022**

*Love lies in the complexity, knowledge caught me, and I listened.*

#### **Murgia Plateau 15th September 2022**

*Beige silence, the rain and its odour gave shelter to our dialogue, I found lost and connected, history at my feet.*

#### **Trani 10th July 2022**

*Musing, roots called me down, yellow arugula's flowers and olive trees, I am back.*



Poetry is a tool that helps me evoke the multitude of stimuli absorbed through language. As Nemrov (2022) describes poetry results in an imaginative awareness of experience that helps to create meaning and other memory. The body's exposure to the flora and the knowledge shared allowed me to establish a deeper connection to the territory. I was gaining intellectual knowledge and body knowledge that is now embodied. Walking afterwards became more conscious, and my sight started to look for visual cues in the fields, in the streets and everywhere I went. I developed attentiveness and body memory. Moreover, I connected to the flora on a heart level; I began appreciating their strength. They withstand difficult conditions caused by us humans and yet survive and find alternative paths, re-establishing connections. I felt little against their intelligence and capacity for resilience.

#### 4.6.b Cooking

This established connection brought me to continue exploring the foraging even after the sessions were concluded. Hence, I foraged a few times, with the knowledge accumulated, in my town Trani, in the countryside and sea areas. Alone, I was collecting wild rocket salad found in the shadow of olive trees or wild fennel by the seacoast. After the collection, I cooked the plant using a traditional recipe. The journey went from navigation to foraging and transforming the raw material, which in turn renewed and positively affected my body through the eating process. Once eating, I was aware of the nutrients present in the plant and the power of the latter, known through research.

The recipes executed constituted a main traditional dish and an infusion. The main course was orecchiette, typical Apulian pasta, with a base of fresh tomato sauce made from Apulian cherry tomatoes flavoured by the spicy wild rocket salad on top. I passed the rocket salad into the pasta water and then mingled it with the pasta and the sauce in the pan. The other recipe was an infusion of wild fennel seeds drunk at the end of the meal to support the digestive process. This cooking process also happened other times when I was foraging with experts and took home a lot of produce that was either transformed or left to dry.

From the cooking, I was able to ground a visceral relation to what I was seeing, hearing, smelling and tasting. Although inarticulable, the exploration formed memory, making traditional knowledge tangible and visible in the mundane.



Trani 20 July, 2022

### 4.6.c Reflection

Overall, the introspective and explorative part of the research allowed for the processing of the multi-layered experiences through creative mediums, namely photography, poetry and cooking. The former enabled this processing via visual stimuli that were captured with photographs on the go. Poetry, then used these captures as triggers for formulating sensorial reflections. Ultimately, cooking assisted the tacit dimension of flora knowledge through visceral engagement with wild edibles.

All in all, these tools helped respond to the second research: **how can I explore the knowledge present in such relations?** The answer of which lies in the choice of presented creative mediums that served as a springboard for inscribing memory, creating a pool of knowledge and linkages essential for proceeding into the third research phase.

With the findings and reflections from both interviews and the introspective & explorative nature of the latter that followed, I was thus able to answer the first two research questions. This meant I had gathered the knowledge present in apulian human-plant interrelations, while I was also able to explore this knowledge through introspective ways. These had aided the process of instilling body knowledge, a vital foreground of memory that is situational and inter-corporeal (Fuchs, 2012). Situational memory relates to the spaces I found myself, where I became entrenched and familiar with the environment at play. Here, senses gave essence to these spaces as well as provided meaning to the encounters with others, people and plants, forming inter-corporeal relations.

This lived experience prepared me to transition from knowledge absorption into action, meaning intervening in knowledge co-creation to respond to the third research question; **how might I extend the collected knowledge to the young target?**



5



# Research phase 2

## 5.1 Orto Domingo Workshop's attendance & purpose

Prior to planning the co-creation phase, I had the chance to observe a workshop at the Orto Domingo site, a community urban garden located in Bari. The workshop was led by Maria Panza, in collaboration with an association Sole Luna. The latter offers educative extra-curricular experiences to kids whose families are affected by disabilities, risks of marginalisation, homelessness or custody. Therefore, these experiences are guided by expert educators who aim to engage kids in nature-based activities where values are taught, and well-being is fostered. The workshop, advanced in an urban garden area, aimed at providing kids with the experience of learning about certain wild plants through the making of a Herbarium. The latter is a personalised book collecting the different foraged plants, each of them named, categorised and drawn using the *frottage* technique.

The purpose of attending the workshop was to observe the activity's dynamic and the educators' role in such a context, given my interest in developing solutions with experts in the later stage. I was allowed to observe as well as to be part of the foraging experience with the teams.

## 5.2 Observations

### 5.2.a Activity

First of all, I observed the dynamics of the activity prepared. Foraging bags were made by kids out of paper following the educators' instructions. Then the bag was personalised by each kid and given one's name. Thereafter, everyone with their ready bags was assigned to a team, each team having one educator. Each team leader gave directions on what to forage, wild leaves or flowers. To help kids identify the plant, each educator said to count the number of petals, observe the colour, or observe the dimensions (lengths, size).

Throughout the journey, there were few recaps on what the team foraged and if everyone had the same plants. At the end of the foraging, the teams were reunited by the desks area and started with the guidance of Maria the Herbarium activity.

Each kid was given a blank notebook that had to be personalised and named “Herbarium” with the date of the foraging “23.08.22” and the location “Orto Domingo”. Then, each team started placing, with a small piece of tape, the collected leaf or flower inside the notebook. Every plant was then named and categorised according to whether it belonged to a shrub or the herbs realm. Further, the plant was covered with a blank page and traced with a pencil. The outcome was the plant-like shape that recalled the specific flower or leaves. The latter is an artistic technique called *frottage*. At the end of the activity, each kid showed the work produced and was encouraged to take it home.

## 5.2.b Educator’s role

The educators consisted of two groups; one being Maria Panza, an environmental educator, co-project lead of regional biodiversity interventions and leader of didactic programs in the Murgia plateau. She had the role of the expert, providing novel knowledge of the wild flora and assisting participants in identifying and categorising the plant botanically. Moreover, Maria had knowledge of the Orto Domingo as a reality, and she was familiar with the biodiversity present holding dependencies with the wider landscape.

The second group of educators were the ones from the association Sole Luna. These were young professionals implied in guiding their kids throughout the activity with practical support. This meant being supportive when the task was not understood, helping with the completion of it and further serving as a contact point for anything needed. Furthermore, their overall role was to use this workshop as an instance to educate about values and ways of being with others and with plants. This required educators to build bonds with the kids in the process to create trust as a vital prerequisite for learning.



Orto Domingo 12 August, 2022

## 5.3 Reflections

I reflected upon the emphasis on sensoriality placed throughout the activity. Educators strongly emphasised the senses as a way to awaken the bodies in relation to the flora. The experiential side was planned to inscribe memories and incite curiosity. This was done by using storytelling to narrate the plant being and its identification. The herbarium gave the possibility to provide an experience of foraging and a visual outcome to go back to for learning to be continuous. The driver behind was to help participants notice and make sense of what is seen in the future. Every step was thoroughly thought out; first, the mission-like call to collect the right plant was for boosting engagement and commitment towards the activity. Second, the team grouping factor was advanced to instil a feeling of belonging and play among participants. Third, the personalisation aspect of the herbarium encouraged identification with the product to fuel happiness in the process. Fourth, the educators' consideration towards time limitations was highly present. They were aware of when to push or when to let be. This sensibility was informed by the educator's knowledge of the participant's situations that shaped the educator's disposition and language. I understood the utter preparation required for such workshops and the process's educational purpose.

Overall, it was a very formative experience, in which I mostly appreciated the project's goal, responding to social and environmental causes and using the wild edible flora as a medium to educate about the locality and grand values at large. Observing this workshop allowed me to bring insights into the co-creation phase of my research.

The biggest insight derived from it was the importance of combining the experiential side of foraging with identification through text and drawings. I mentioned this crucial combination when presenting my project to participants in the co-creation workshop (see [section 6](#)).

To conclude, this phase not only allowed me to explore Orto Domingo as another local reality but was also essential in providing inspiration for the ideation process of the co-design workshop.



Sole lune.

- foglie e fiorellini
- vicino al capo. / eduli Car

- contare i petali - (fiore  
 di una certa  
 lunghezza (media)





6



# Research phase 3

## 6.1 Co-creation workshop structure & goal

The choice of conducting a co-creation workshop arises from the enquiry of how to extend the knowledge gathered to elementary school kids. The word “co-creation”, as argued by Anon (2009), refers to the collective creativity experienced and performed by a specific group of people.

The workshop aims to trigger such collective creativity by gathering experts in joint inquiry and imagination (Steen, 2013) to propose wild flora educational alternatives.

The workshop lasted for approx. 3.5 hours, and it was hosted outdoors, in the yard of Decimo Parallelo, an architecture studio in Trani. The workshop structure was thoroughly planned and included the following instances; sensorial and imaginative audio-guided activity, participants intro, project intro, ideation, break, concretisation of ideas and discussion. All respective slides were printed and presented on a easel to limit technological inputs and distractions.

Overall, the structure thought aimed to align the participants’ understanding of the project and its problem space, provide spaces for imagination to uplift ideas, and discuss the outcomes for new connections to take form.

## 6.2 Workshop participants

The participants’ expertise present included educational mastery together with wild flora proficiency and a combination of both. Some were in the interview phase, whereas the others were recruited, given their prominence in the field via personal research and words of mouth knowledge.

The list below includes the workshop participants whose confidentiality of data has been approved pre-research. The reason why the latter is enclosed is to shed light on the multi-layered expertise present and give value to its use.

## Peppe zullo

Chef, restaurateur, cooking teacher and farmer, Zullo is a leader in the Apulian gastronomic landscape. His “poor” high-quality cuisine has brought him to be hosted at Rai 3, an Italian television channel, for its unique approach. The latter calls for simplicity, the authenticity of products and care in the process. Two main projects are; a LUISS University collaboration presented at EXPO2015 with a focus on social gardening as a tool to bring about community resilience. The second project is “Food and Happiness”, in partnership with Slow Food and Orsara Slow City, having elementary school kids as the audience. He hence holds extensive experience with educational settings and young targets, sharing a positive disposition towards knowledge transmission and project engagement.

## Francesca Ceci

Wild flora researcher, passionate forager, and teacher, Francesca is the start-up leader of Potentilla, the cosmetic line launched in 2016 that proposes products with extracts of leaves, flowers, fruits, berries and roots of wild plants of the Apulian Murgia. She also worked as a manager for the Oil Mill in Agrinatura, the first certified organic farm in Andria, Puglia. Moreover, she has led educational workshops in schools to share with young people ancestral knowledge via creative hands-on sensorial experiments with wild plants. As a mother, she is daily engaged with their kids with whom she practices knowledge transmission and is thus well versed in such interaction.

## Elisa Mantoni

Illustrator, librarian and kids passionate, Elisa is the co-founder and owner of Miranfù, a library that serves as a cultural container of projects and ateliers aimed at families and schools from all over the territory. Moreover, she is the contact person for Artebamini (arts kids) Apulian Section. The latter is an Italian association that aims at offering a variety of services, all driven by education, art and culture. The people involved in every region share high qualifications in the field of education and are inspired by the principle of active and creative pedagogy. Elisa through Miranfù yearly offers entry storytelling workshops to Dialoghikids, a kid section within Dialoghi di Trani, the well-known festival of cultural and literary knowledge apt to engage people in social and environmental discussions that feed into civic engagement and awareness in the local territory (Dialoghi di Trani, 2022).

## Rossana Caruso

Rossana is a young expert with a bachelor’s degree in education and training sciences. Currently, she is an educator at the “Su le Maniche” ludic centre for early childhood.

Her interest in kids' engagement brings Rossana close to causes of kids-centred future educational alternatives.

## **Maria Panza**

Environmental educator and biodiversity advocate, Maria holds many important roles; president of Domingo Park in Bari, key regional contact point WWF for environmental education, co-responsible for regional biodiversity projects with environmental emphasis, co-planner of the didactic project “in the school tables of the Murgia plateau” and teacher of formative courses in the association of Apulian environmental biologists.

For all these endeavours, she won the prize “Maura Maugeri” awarded by Regione Puglia, recognising her commitment to the environment on a daily basis. Her current interest and engagement are with the urban garden Orto Domingo, in which she leads educational workshops on local flora transmission to young targets.

## **Chiara Cannito**

Environmental educator, storyteller and writer, Chiara is vice president of a social cooperative, Ulixes- a non-profit association capable of designing and implementing new methods of intervention for the collective in the field of environmental education and sustainable tourism. She engages with tourist activities as a guide, sharing knowledge on the locality and its biodiversity specificity, e.g. Apulian wild flora. She is also in charge of leading activities of environmental education and is responsible for the planning and implementation of events, information seminars, and cultural activities of the Urban Laboratory of Bitonto “Cultural Workshops” managed by Ulixes. Her interest lies in the territory as the locus for knowledge that is historical, social, artistic and environmental. Thus, her contribution is to share such knowledge and incite young people to be aware of and respect the locality. Maria does so by engaging with schools as a teacher and interacting with young people on topics of environmental education.

## **Alessandra Checchia**

Innovator and teacher, Alessandra works in the elementary school, Mons. Petronelli in Trani with a focus on community development and training. She engages in promoting training and innovation by rationalising and expanding resources. Her action aims at guaranteeing the implementation of the Three-year Training Offer Plan and its enrichment considering networks of organisations and institutions. Alessandra has the purpose of building stimulating and open cultural and sustainable contexts within the school community for the activity

## 6.3 Workshop Process

Each participant's uniqueness contributed to creating a rich group of experts reunited and welcomed to journey through the workshop process.

### 6.3.a Audio-guide activity

I kickstarted workshop with the first activity, a sensorial and imaginative audio guide thought to enable the participants to come into presence. I prepared participants to bring their own headphones to the workshop and sent the audio on the shared whatsapp group few moments before the start of activity. The audio, with a duration of five minutes, had my voice and ample silence to allow emergence to come to be. In practice, my words guided a short in-motion meditation focused on the sensorial self and its connection to nature. I encouraged participants to follow their intuitive paths during the activity and then return to the common point at the end. The activity was inspired by the methods of walking with informed by indigenous scholars Juanita Sundberg, Bonnie Freeman and Jon Johnson. They use what Anna Tsing calls the "art of noticing", which is attentive to relations by prompting situated thought and feeling. The relations that are called into place comprise the ones with oneself and those with its situated environment.

Walking with methodology goes beyond the visible relations and extends towards the critical milieu of what it means to move, what walking intersects with, and what (in)tensions brought to bear on walking (Springgay & Truman, 2019). The audio does not engage in the intersectionality of relations, but it utilises the "more-than" orientation to walking. The in-motion act is not an end in itself, it is supposed to do more and tune participants in with the inside and outside happenings present to create situatedness and grounding. The activity was not meant to gather any findings but to offer a space for presence.

## Audio script in italian

Questo è un esercizio di connessione per cui ti invito di lasciar andare il controllo, il giudizio e la paura. Cerca un posto in cui ciò è possibile.

Inizia a sentire il tuo corpo nello spazio facendoti portare in un luogo che ti chiama. Se la camminata è il tuo luogo allora continua a farlo se invece hai trovato un punto fermo allora resta.

Qui porta attenzione a quel che senti e ai tuoi sensi. Che luce c'è? Cosa attrae il tuo sguardo? Fermati ad osservare il tuo presente. Che colori ci sono? Come ti fanno sentire questi colori?

Respira e prova a farlo insieme a ciò che vedi muoversi. Che tempo ha la natura?

Fai arrivare il tuo respiro in zone del tuo corpo di tensione. E con ogni esalazione rilascia ciò che causa tensione. Dai la possibilità al tuo corpo di rallentare e rilasciare.

Ora ascolta i suoni intorno a te, dove ti portano?

Ritorna al presente, di che temperatura è il tuo corpo? Caldo, freddo? cosa scorre?

Ora torna ad osservare ciò che è intorno. Cosa ti calma ed è natura? Immagina per qualche minuto di poter viaggiare da un corpo ad un altro. In cosa ti trasformeresti guardandoti intorno? Che sensazione ti da esser quella cosa? Qual'è l'azione che stai vivendo, di movimento, volare, staticità, rifugio, ombra, luce?

Se hai bisogno del tatto, avvicinati a quell'immagine. Ora pian piano respira lascia andare e ritorna. Ricordati che puoi sempre ritornare in questo luogo, ci sono forze visibili ed invisibili ovunque tu sia.

Grazie

### 6.3.b Participants' introduction

The goal was to assist the getting-to-know of the participants to each other, fostering interactions and, in doing so, creating a space of comfort. The participants' introduction was encouraged and guided through three questions: **one thing that people notice about you, one thing that people don't know and last, if you were a plant, what would you be and why?**

After this was encouraged, participants introduced themselves professionally and shared their expertise and background with the group. This sharing helped them to see cross-professional linkages and understand how one might use each other's skills for the coming tasks and in the future.

### 6.3.c Project's introduction

Having completed the participants' introduction, I began discussing the project, explaining the problem frame, the research conducted, and the findings collected up to that point. Then, I concluded and paused with the following question: **how might we re-create memory in the young generation, elementary school kids, of the wild edible flora?** The latter was posed to experts, and it launched the actual co-creation phase.

### 6.3.d Ideation

The above question was then explored through an imagination session in which I divided the seven people into three teams. Every team was named after the name of a wild edible plant typical in Apulia. The teams were; wild chicory, wild asparagus and wild fennel. I provided each team with the following material (pag. 74); 1. a card about the wild card in question with on the back all the info regarding the name, usage, anecdotes and healing properties; 2. an A2 with a story frame; 3. words prompts for the story making; 4. colours and pencils.

The activity asked the participants to create a story in which the main character was the plant, assigned to the team, and a kid. The story encouraged to include aspects such as navigation, foraging, cooking, play and imagination. These phases belonged to the previous plan's methodology and were deemed significant when designing pedagogical experiences. Therefore, I wanted to instil these aspects in the activity to trigger responsive imagination from experts. The ideation process started and lasted for about 40 min after which every team presented their stories to the group, showcasing devotion and utter creativity towards the task.



The stories that resulted were centred around the following themes:

- +Intergenerational relation
- +Dialogue between nature and kids
- +Sensorial experience
- +Cuisine and Tradition

Team Cicoriella 's story



Printed slides

# Storyboard

*C'era una volta..*

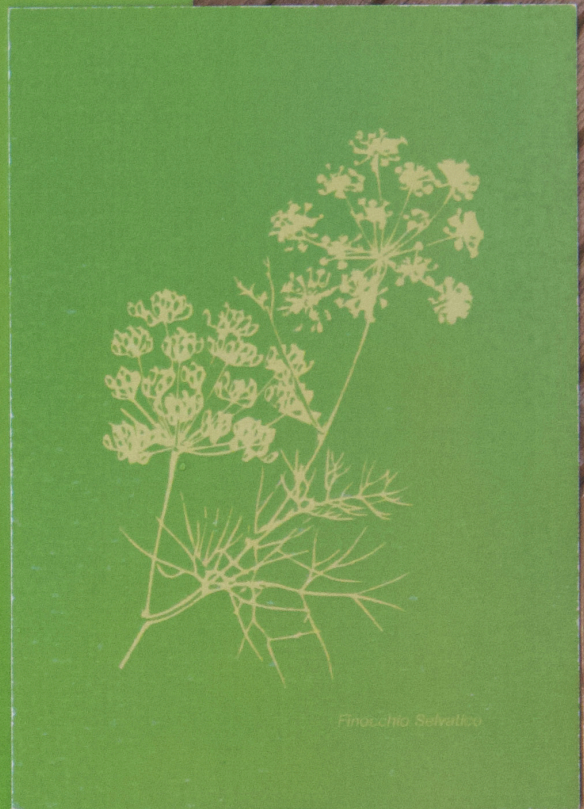
A storyboard layout featuring a character on the left holding a plant. To the right are five olive-green circular buttons labeled "Navigazione", "Raccolta", "Cucina", "Gioco", and "Immaginazione". Below these elements is a large, empty rounded rectangular frame for drawing.



Le piante collegano la terra  
con il cielo



*Finocchio Selvatico*



*Finocchio Selvatico*

### 6.3.e Concretisation

Following the break, the concretisation phase came into being. Here, I asked teams asked to turn their stories into concrete ideas: a service, product or experience. This was guided by an A2 board material (pag.77) I designed that visually schematised the co-created idea with the help of the following questions:

**What is it? How does it work? What is the objective? When? Who is engaged? How much is it viable?**

The three proposals that resulted are:

1.Travelling Fairy Tale\_There is an aspect of itinerant fiction in which the territory and in particular wild plants are unfolded through fairy tales. The creators imagined a fairy tale treasure hunt where at every found point the plant is not only narrated and dramatised by the ones in charge but also touched by the kids. There is a conceptual interaction via language but also a sensorial one via the body.

2.Experiential Course\_The focus is on nature walks and gatherings in which the participants are elderly and kids to foster generational dialogue. The activities provided include foraging and transformation of the harvest in the form of art, cosmetic or traditional recipes.

3.Educational Garden\_ The aim is to offer an educative space for guiding the kids to observe the varieties within a specie, discover the edible part of a plant and understand the seasonality and the various stages of cultivation. Plus, learning about compost production, and waste recovery as animal food and fertiliser. Last, exploring a cuisine that comes from the land to the table.

In conclusion, each team shared their proposals with the group. This triggered a further discussion about the challenges and opportunities of such proposals leading to a broader reflection on the dependencies of the topic of wild edible flora within education.

# A2 board

<i>Che cos'è?</i>	<i>Qual'è l'obiettivo?</i>	<i>Quando?</i>
<i>Come funziona?</i>	<i>Chi è coinvolto?</i>	<i>Quanto è fattibile?</i>



## 6.4 Analysis

### 6.4.a Coding

The analysis of the collected data was executed by examining the two activities proposed, the story-making and the concretisation exercise. The provided boards served as data collection spaces and helped retain the participant's efforts in clear form. With the content at hand, I transcribed the stories into a digital document and input the resulting proposals to follow. Here, I proceeded with finding connections between the two exercises' data to draw findings and further reflections.

### 6.4.b Findings

The main findings come from the workshop's two activities: the story-making and the concretisation tasks and their intersection. From the former, the stories created show different aspects that can be deemed necessary when thinking about proposing solutions for kids-wild flora engagement. These aspects were; +intergenerational relations, +dialogue between nature and kids, +sensorial experience, and +cuisine and tradition. These engagement points reflect the relational aspect of the topic in question, exploring linkages across realms, experiences and times. Further, in the concretisation task, this relational aspect appears evident in the three-team proposals; Travelling Fairy Tale, Experiential Course, and Didactic Garden. Each of these proposals explores the locality via engagement, which is not only intellectual and linguistic but extends to corporeal experiences. In other words, all participants share the importance of combining storytelling with action, as observed in [section 5.3](#), to foster memory of the flora in the young target. The participants' expertise, with the main focus on education, was visible in the ideas proposed. These indeed showed a learning disposition as a response to the challenge posed.

Moreover, the two activities inform each other and showcase a correlation. For instance, the aspects introduced in the story-making are present and evolve in the concretisation task. As evidence, the cuisine and tradition gave form to the educational garden, whereas the Travelling Fairy Tale emerged from the imaginative dialogue between nature and kids. This communicates the abductive nature of the design thinking process, driving the workshop and encouraging divergence and further convergence towards something that might be (Steen, 2013). Linkages are inherent and steer collective creation ahead.

In addition, other vital findings were extracted from the discussion that occurred at the end. Here, participants had the space to share their singular experiences and rationale behind the proposals with limitations and desired visions of the future.

These are shortly summarised as follows; First, in terms of the applicability of the proposals, many shared a positive disposition towards their existence. More, some argued that these ideas already exist in some forms, for instance, the Educational Garden reflects the existing Orto Domingo. However, what is needed is more consistency in the operations, projects' incrementation and kids' involvement. The latter is hindered, as argued by participants, due to clear challenges highlighted in [section 2.3](#).

They also add that schools lack food and land education as well as parents being the cause of kids' distance from nature. They tend to overwhelm their kids with fear and overprotection that limits engagement with the wild flora. As a result, the experts proposed to combine these proposals with urgent parents' re-education about grand values, the scale of which affects the topic in question. I take into consideration this insight and respond to it via a design intervention; a booklet of knowledge targeted to parents (see [section 6.6](#)).



Workshop 5 September, 2022

## 6.5 Bringing projects to schools

At the conclusion of the workshop and with the proposals at hand, the goal was to channel them by presenting the project to Mons. Petronelli Elementary School in Trani. To do so, I prepared a cumulative presentation for the head of the school and to a teacher whose focus is on sustainability education. The presentation included an overview of the project, the research and the three proposals, which I further combined into a unified school program. The latter is the response to RQ2 on how might we extend wild flora knowledge to kids, through the following value proposition, extracted from the workshops' proposal.

### **Seasonal, narrative, sensorial and relational:**

**Seasonal** as it is exercised during seasonal periods of wild species varieties.

**Narrative** as it exploits the fairy tale and storytelling as medium.

**Sensorial** as it focuses on direct and relational field experience.

**Relational** as it creates relationships not only with the plant world but also within the human one establishes generational connections with attention to the inclusion of adult people in activities.

This program would begin with a prior preparation of contents, lexicon, and property to be shared at school on the plants in question (incorporated within a subject dealing with environmental education).

A subsequent travelling field experience through fairy tales and sensorial interaction with plants. Then recognition activities and collection with potential tasks/missions to accomplish at home to create continuation and memory. In addition, there could be cooking workshops/remedy-making activities and guided tours to educational gardens such as Orto Domingo.

Subsequently, a dramatisation of the explored plants could be staged.

In conclusion, a personal reflection or creation following one's artistic channel and expression is suggested.



## 6.5.a Reception

When proposing the project idea, the feedback was positive, and there was enthusiasm towards implementation. Also, the school just won a grant to develop green projects, and the director considered this one as one of them. Internal discussions will be needed to understand the project's practicalities and viability further.

Lastly, I provided the school with a pool of contacts found through my research. This was appreciated and considered essential knowledge when implementing the project in the future.

## 6.6 Design artefact: Memory of the Apulian Flora Storybook

For a learning program to be effective, a fully-round education starts with parents, as posed by workshop participants in [section 6.4.b](#). In response to this, the booklet of knowledge aims to fill this gap by educating parents on locality and the value of wild edible flora for their kids. The booklet indeed exhibits some of the prominent wild plant species of the Apulian territory that I encountered throughout the journey. Each plant includes a photo and crucial information on how to recognise, clean, and cook with easy recipes for kids these are included to facilitate flora engagement as well as to promote the diets where wild edibles are used more. The knowledge present was gathered through the expert interviews and showcased as a way of sharing making use of the data collected. The language of the booklet is Italian, given the target audience's mother tongue.

[Here](#), you view it and download it.



Cover page

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## Table of contents



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## Goal and preamble





Example of a plant page

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## 6.7 Barriers to proposed projects

After the delivery of the program to the school, I had a one-to-one discussion with Alessandra Checchia, the expert teacher from the co-creation workshop, as I wanted to understand more deeply why the workshop proposals are not in place yet, given the utter enthusiasm towards it and an agreed need. The conversation led to the underpinning of the following obstacles, which restrain these proposals from becoming institutionalised.

Firstly such proposals require extensive energy from teachers overwhelmed by responsibilities. The reason why they bear many responsibilities lies in multiple factors; one being that institutional programs are large and take up most of the time from the teacher, and second the lack of technical and administrative personnel responsible for procuring the services for the program, e.g. transport, which calls for teacher presence in the planning.

The administrative staff in Italian schools is less than the amount of work to be carried out; in Italy, there is still a lot of manual bureaucratic work, such as collections of paper documents which slow down many processes. Then there are all the bureaucratic aspects of the daily life of a school: timetables, absences, illnesses, and nomination of alternates. Therefore, the additional work of any project, without funding, should result in a considerable workload for secretarial employees.

If the partners are local remote realities, schools are required to call tenders to grant the service (e.g. transport), which causes an extension of the administrative time for the approval of the project's acts, leading to considerable delays that discourage initiatives.

Secondly, engaging such wild flora respondents in the program is hindered due to reduced interest from the partner's side towards collaboration, resulting from the free nature of most extra projects. The reason beyond the free nature derives from a lack of funding for new projects, forcing voluntary participation. The school does not have a lot of institutional funds as the Ministry reserves very little for education; the little money available is needed for the school's daily needs, ranging from stationery materials, soaps, toilet papers and extra products for extra-curricular activities. Therefore, there are not enough means to pay externals.

Thirdly, the school has to be capable of briefing out project proposals to present for the funding of the European Commission. There is high competition among the participants as every school in the south of Italy participates, and the criteria for winning are innovativeness, inclusivity, impact, viability and quality of the proposal. Hence, schools need more time and energy to achieve high-quality proposals.

Moreover, when approved, the projects seem to follow a rigid structure and long duration as they are driven by the goal of offering deeper learning for the students. However, these criteria again ask for the employment of more resources.

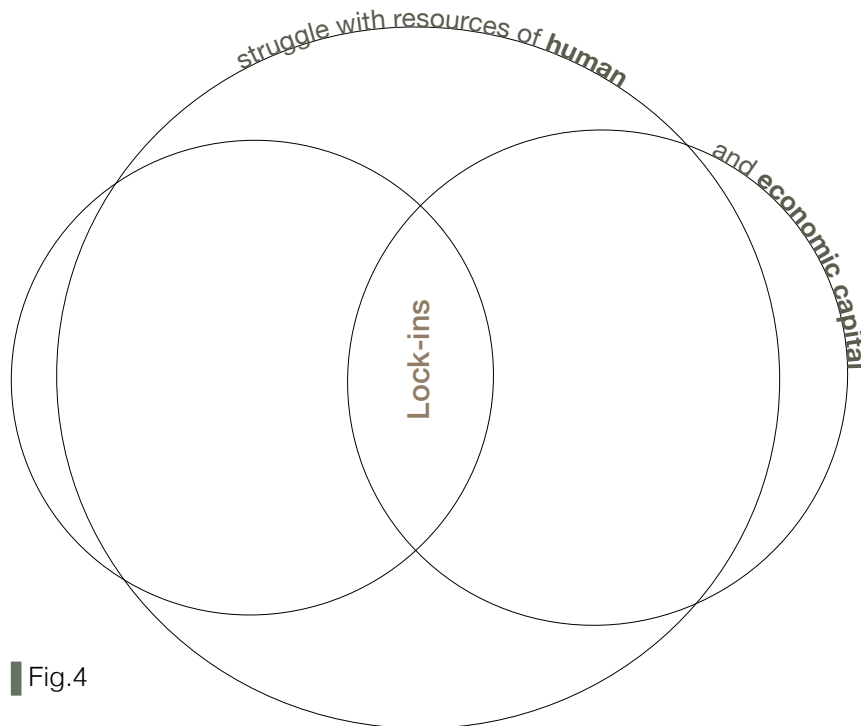


Fig.4

Essentially, the regime holds many interlocking complexities that hinder new projects from sparking fully. It might require more time for the system to transform and reshuffle its dynamics, but I stay hopeful and utilise my thesis as a tool to bring about awareness via the following acts:

- 1. Mobilitating knowledge and facilitating conversations about the wild edible flora**
- 2. Creating connections and networks of people with whom to spark future interventions**
- 3. Affiliate these connections and knowledge to institutions, precisely elementary schools**

The three actions, advanced through the journey, serve as seeds for change. Monitoring and further project engagement will be required to witness their maturation. As for now, the thesis ends with this opening door where potential turnings can and might occur.





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# Summary of research phases

## 7.1 Drawing connections across phases

Having conducted three research phases, it is now helpful to draw connections between them and advance an integrative reflection. Every research phase seems to stand alone, given the choice of exhibiting ad hoc analysis one at a time. However, each phase informs the other, providing knowledge and consequentiality of actions. Phase one with interviews and the experience of the mentioned realities, drew insights that were fundamental for my awareness of the wild flora to be formed. Here a scenery of plant places and people appeared with cultural, social and environmental meanings. I was able to delve into the system of wild flora interactions and intentionally choose leverage points for channelling such meanings.

Moreover, the introspective exploration offered a space for processing what was seen to inform my memory of the flora. This processing was further informed by the second phase, where observation and engagement contributed to ideas in preparation for the workshop, phase three. Therefore, phases one and two aided the convergence of ideas, insights and actions for the workshop's planning and conduction. The workshop served then as a springboard to display the knowledge gathered to participants and use the latter to incite co-created solutions. The file rouge across the journey is the search for relations, where knowledge acts as a sense keeper and future trigger.

## 7.2 Responding to research questions

With the research conducted I was able to respond to the initial research questions posed:

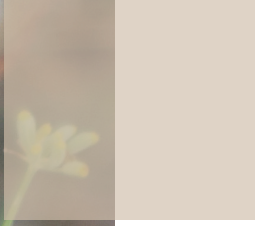
- (1) What is the scenery of apulian human-plants interrelations and the knowledge present within?
- (2) How can I explore the knowledge present in such relations?
- (3) How might I then extend this knowledge to young targets of elementary school kids?

To summarise, the answer to the first question lies in the identified individuals with their local realities uncovered through the interviews. The scenery comprises passionate foragers, agricultural firms, botanists and gastronomists. Their relations to the wild edible flora helped me understand the state of interest towards the topic and state of action in the Apulian locality. This brings to the fore individuals who are invested and in relation with the flora. Masseria Barbera, the Fazenda, with its responsible production; Spirito contadino, the agricultural firm with its strategy, focus on rhythms and mutual wins. Potentilla, the start-up, with its value on lived encounter and sustainable cosmetics; Giardini Di Pomona, the conservatory, with its precise conservation and continuous reciprocal learning; Antichi Sapori, with honest communication and employment of plants in its cuisine; Mezza Pagnotta, with its attentive and time-driven gastronomy and finally passionate foragers -elders and educators- driven by tradition and wilful learning. Altogether these realities allowed first to understand and situate the contexts where human-plant interrelation occur, mainly gastronomy, botany and agriculture. Second, through exploring these contexts, the knowledge present was uncovered. More, the knowledge shared by the interviewees is extensive, multi-layered and context-dependant (see [section 4.4.c](#)). Following the multi-layered nature of knowledge revealed (see [section 2.5](#)), the second question of exploring relations sparks mediums or methods through which knowledge can be navigated, processed and perhaps re-imagined. Therefore, the use of poetry, photography and cooking act as responses to this exploration, allowing the knowledge present in human-plant relations to inscribe memory, body memory.

Further, the last research question of extending the knowledge to young targets finds its answer in the workshop proposals; Travelling Fairy Tale, Experiential Course, Educational Garden. These are co-created potential ideas for wild flora engagement that I presented to schools via a unified program (see [section 6.5](#)). The latter is a seasonal, narrative, sensorial and relational proposition that attempts to find ways for wild flora knowledge to be integrated in future curricula.



Murgia Plateau 9 July, 2022



Murgia Plateu 5 July, 2022





8



# Discussion

## 8.1 Argumentation of findings

As presented in the introduction, I depart from a personal realisation of lacking awareness about wild flora knowledge in Apulia. A realisation that I found to be not only personal but also collective. Luczaj & Pieroni (2016) indeed argue for fragmentation of knowledge, also reported by Caneva et al. (2013). These authors, together with Biscotti et al. (2018), deploy ethnobotany- the study of human-plants interrelations historically and cross-culturally- as a tool to recover traditional oral knowledge. Hence, I utilise ethnobotany to situate and legitimate my argument, claiming that awareness of the wild edible flora should not only weigh on academics. Instead, it should be the responsibility of schools to foster local knowledge through education. Sotero et al. (2020) support my stand and assign schools the cause of highlighting local knowledge for promoting bio-cultural heritage. This feeds into the multifold value of wild edible plants discussed by Biscotti et al. (2018), Biscotti (2012) and Turner et al. (2011).

There are gaps, as posed by Gargano (2022), Raschetti (2017), Barbera (2022), Ceci (2022) and Checchia (2022), impeding this value from being recognised and further enhanced. This finding is confirmed and shared by the interviewees, who stated the need for more solutions for wild flora engagement. Their relations with the flora and the extensive multi-layered knowledge also outline the limitations of ethnobotany, confined to scientific and academic findings. Ryan (2010) confirms this limitation by proposing corporeal approaches to fostering human-plants relationalities. Here my goal of re-attaching to the intimacy of location finds its *raison d'être*. This intimacy is acquired through place-based encounters and the employment of creative mediums. Both reveal the importance of holistic situated engagement and a state of presence for memory to be created. Adloff et al. (2015) sustain it along with Setalaphruk & Price (2007), with the argument of traditional knowledge being tacit and thus requiring body presence for its transmission.

The choice of employing photography along with poetry and cooking assisted body presence. The last served my sensory receptivity and as a result fuelled the process of "thinking with" the encounter. In other words, the chosen creative mediums fostered rooting by understanding knowledge on the level of the personal. A domain that calls in also other tools such as somatic writing, video or movement. These could be further used to explore the dynamism of relations with the flora over time. Following, the findings from observation reports on sensoriality as well as narrative and action-oriented engagement. These are aspects found through the co-creation workshop where uncovered proposals share the relational and multi-layered engagement with locality when discussing wild flora solutions for young targets.

Linkages across realms, experiences and times pervade the shared elements of the proposals; +intergenerational relations, +dialogue between nature and kids, +sensorial experience, and +cuisine and tradition. I also encountered them when experiencing the locality with the people & plants I met. They showcased the complexity of the topic dealt with, encompassing diverse forms of knowledge that so broaden the scope of ethnobotany. The research questions served as a tool to uncover the limitations of ethnobotanical studies as well as the potential for more phenomenological explorations in the field.

In conclusion, my argument of conserving wild flora knowledge through activating school is supported by scholars and further informed by my role as a researcher engaged in knowledge absorption and production. The two contributed to locating potentials for meaningful engagement with the locality and responding to both Pyyry (2014) and my desire for care.

## 8.2 Contribution of the thesis

**“We encounter the deep question of design when we recognise that in designing tools we are designing ways of being.” (Escobar, 2016)**

This research feeds into the above quote by utilising design as a device to ponder ways of being that would fit our troubling times. By unravelling the tacit dimension of the wild edible flora, I contribute to Escobar’s (2016) discourse of orienting design practices toward relational modes of knowing, being, and doing. I use design to impact culture and ways of living & learning, which is also a key argument by Escobar (2016). To do so, I facilitate the ideation of educational activities apt to define how the generations of tomorrow can learn to value the wild flora. The results can bring nuances to the field of design for environmental education by utilising the proposals as a potential formula for bringing in flora knowledge in other local contexts. In addition, the proposals can contribute to perhaps inform the field of ethnobotany, with evolution towards a more multivalent and multi-layered experience that Ryan (2010) calls under cultural botany. Moreover, the exploration of feminist standpoints from Haraway (2016) to Talyor (2017) driving the work can further inform design directions that are increasingly more situated. Also, the place-based nature of the creative tools used in the introspective journey through the flora, poetry, photography and cooking can inspire design research practices that investigate human-nature interrelations, pedagogies, learning, and the body.

Lastly, the overall reflections, encounters and perhaps becomings all confer extensive significance to my knowledge and creative practice. The latter is now fed with new focus points, connections and capacity. I would call these seeds of change, which will lead to the germination of ideas and future interventions.





Murgia Plateu 10 July, 2022

### 8.3 Limitation of the thesis and further research

Despite the above-mentioned contribution, I recognise the thesis has the following limitations; Firstly, due to time and resource constraints, it was important to situate the thesis in a confined scope. Thus I decided to limit it to the ethnobotanical enquiry of human-plant interrelations, leaving aside their cross-cultural implications and system analysis. These, if studied, would have contributed to deciphering with more depth the milieu of happenings causing fragmentation of knowledge. Also, within the chosen scope, the oral nature of ethnobotanical knowledge confronted me with a challenge in obtaining academic resources, appearing scarce. Hence, the ones utilised would need to be further benchmarked in the future if this field of research evolves.

Moreover, there are further limitations in research phase one. Here, when defining the networks of Apulian human-plant interrelationships, the answers comprising the twelve realities cannot represent the locality in toto. This is because I did not include all wild flora proponents from every region for time purposes. In order to have a thorough and comprehensive scenery of relations, further interviews and studies should be therefore advanced.

Continuing, I also acknowledge the subjective exploration underwent in phase one, the findings of which are influenced by my situated experience, informed by culture, gender, and ideologies. The reflexivity required to justify certain biases was not advanced due to my unfamiliarity with anthropology theories and studies supporting reflexive examinations.

Phase two then also presents some impediments. The inability to gain ethical permission to study children restrained the observation of the workshop to educators. This impediment redefined the scope of my thesis, previously engaged with children, and led to the use of feminist theories found in [section 2.4](#) to act only as a driver. They are not used in the methodology itself. Nevertheless, the change of plan uncovered new possibilities, and so this impediment can be seen as an opportunity. Further research with children can be developed in the future.

Adding on, phase three with the uncovered co-created solutions remains open, given the not yet implemented program by the schools. Their hindrances of human and economic capital slow down execution. Therefore, in order to see the impact of the educational program, time and resources are needed. This leads me to avoid making a final conclusion about the resulting awareness of care from the program prior to testing it. Likewise, the booklet of knowledge (see [section 6.6](#)) is not yet handed to adults as it is supposed to go along the program proposed. The impacts of this intervention also require testing it.

Lastly, the thesis engages with the corporeal in the context of human-plant interrelationships. This offers scope for post-humanism methodologies and multi-species research not included in the thesis. Thus, further research can dive more into these realms to bring about insights that are contingent and also reflective of the plants' domain.



## MULTI-SPECIES RESEARCH POST-HUMANISM

*Further research*

Fig.5



9

# Conclusion

## 9.1 Summary and final words

This thesis has explored the context of wild flora knowledge and its human-plant interrelations to uncover educational ways forward to be implemented in elementary schools. I have achieved this by

first locating the value of wild edible plants in Apulia to understand the factors hindering flora knowledge from being shared. Here, I review ethnobotanical authors and use primary data uncovered via interviewees to formulate a clear picture of the locality's challenges. From this, I understand the confined scope of ethnobotany, and thus I decided to engage in a phenomenological research-inspired methodology, offering more space for the multi-layered nature of the locality. Next, I use the methodology to advance the three phases to discover, process, and activate solutions for wild flora engagement aimed at elementary school kids. Initially, I discover knowledge through the interviewees' realities, and then I process it introspectively via photography, poetry, and cooking. This gives me a rich baggage of insights that helps me process the observation at the Herbarium workshop activity. The observation then assists in the direction of activities for the co-creation workshop. From it, I extract solutions that I further present as a unified program to schools and critically review it further with teachers to understand its challenges and opportunities. To this, I contribute by designing *Memory of the Apulian Flora Storybook*, a booklet of knowledge that promotes parents' education to lead to applied learning of the flora in the family realm too. I then draw connections across the research phase to justify their structures and argue about the fine range of relations found across. This leads me to discuss my starting argument of fostering wild flora knowledge with the literature and the findings uncovered. Here, I conclude that my cause is supported and that the results contribute to locating potentials for meaningful engagement with the locality.

Ultimately, I mention several limitations to this research, recognising the scope's depth and its challenges in the literature, the potential drawbacks of subjective exploration and finally, the unfinished nature of the output and the school program. I then argue that further research can be advanced in post-humanism and multi-species design research to explore more the corporeal and the plant dimension for care-oriented ways forward.

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## Figures

Fig. 1 Local knowledge and its benefits

Fig. 2 Contact zones visualisation

Fig. 3 Map of plants-people and places

Fig. 4 Lock-ins

Fig. 5 Future research



“May it always be legitimate for me to observe you”





An exploration in the Apulian human-plants relations: uncovering wild flora knowledge for educational ways *forward*

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