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**THE CHUDO-POLYANA MEADOW 2.0: RELOCATION OF RARE PLANT
SPECIES TO A GALLERY SPACE**

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INTRODUCTION

Being mostly monochrome, visibly stable, and massively covering, plants have always been more like a landscape to human eyes, and more like providers to their bodies, since vegetal ability to expansively grow invites to be expansively used. The metaphor of feudal lords and serfs, suggested by Michael Marder, describes plant-human interactions accurately when it comes to the common Anthropocentric approach [44, P 98]. Due to their close and inevitable connection to the soil plants happen to be used together with lands if the latter is subdued. The vegetal one, rooted in the ground (also stable and monotonously brown) becomes embedded in the markable place, which is easily defined as territory by geographical, political, and law systems. Men, using geography to mark the land with strict and hardly shifted abstract lines, decides which parts are used as resourceful and which are kept untouchable. Cultivated crops are the bright examples of the plants, which have been appropriated by human “feudal lords”, taking advantage of the seemingly immobile and manageable plant “serfs” and their reproductive essence. The larger concern of these consumerist endeavors traces to the technoscientific nature of the agricultural industry, as all industrially cultivated plants are genetically modified, thus are adapted for human use on a genetic level.

Apart from the cultivated lands and their inhabitants, who fell under human consumeristic oppression, some places have been turned into nature reserves with human industrial activities banned. These are usually the places that are intertwined with extinction and fully articulated by conservation politics. Not yet enunciated by states and not regulated by laws, there are places like Chudo-polyana (eng. The Wonder Meadow), a part of Zverinets park’s territory that is located in Gatchina, Leningrad region (Russia). It contains up to sixteen rare and endangered plants and is currently labeled as “perspective” in the list of Specially Protected Natural Territories of Russia [16]. It means that law regulations will not have delved into the place till 2025. Distinguished by its proximity to the living blocks, the place is often visited by locals and gradually destroyed by their household and social activities.

The meadow was designated on maps in 1979 when Russian botanist Ado Haare discovered rare and endangered species (eg. *Valeriana dioica*, *Carex davalliana*, *Sesleria caerulea*), that grew densely in one meadowy place. Despite its uncertain legal status, since then Chudo-polyana has been viewed as a “natural monument” by Gatchina citizens. In one respect, the area of 56 ha is the concentration of rare species, attracting local specialists, media, and being destroyed by excessive human activities. In parallel, Chudo-polyana meets serious ethical problems rooted in abstractization of living beings.

Long before the meadow was named and proclaimed, it had been a Zverinets park’s untitled and undiscovered part, existed alongside (and due to) human settlements. Zverinets was originally formed as hunting land with a large number of animals and feeding crops imported, so extinction discourse was not touching it for long, and not because Chudo-polyana thrived back then, but because it simply did not exist. Bounded by the Central Alley on the north side, by the Pilnenskaya road on the west side, by the Palace Park on the east side, and by the Teplaya river on the south side, the territory has emerged in such form only due to the decisions made by botanical knowledge and mapping. Botanists have articulated the particular species onsite as rare and endangered and separated them from other vegetation found in Chudo-polyana. The species were sorted through and evaluated as “rare”, “endangered” and “least-concern”. Demarcation, in turn, has established the geographical body of Chudo-polyana. Physical interaction between people and the place, never a question before, has started contravening a newly established botanical approach. The amateur gardeners, digging up the land in search of aesthetically looking plants, and the sportsmen, unintentionally poking endangered species with their ski poles, have become unwelcome in there.

The local majority is used to seeing Zverinets as a recreational place and tends to interact with the land and its species physically. Some citizens aware of Chudo-polyana and call the place a natural monument even without knowing where it is. Almost no one can tell its exact location, though it is as close to their homes as a local grocery store. As an output, we have the place, that was discovered and named

Chudo-polyana in the 1970s, and which is still geographically unknown to the local majority. Zverinets park in turn is burdened by extinction, which is not helped by existing measures and is getting more of a problem with more people continuing destructive activities onsite.

With the present research, we hope to introduce the concerned sides, which are local communities, media, and scientists, to the experimental multidisciplinary practices pointed towards local extinction. Inosculating and flowing out of plant studies, extinction studies, and science art, such practices involve the elaboration of alternative language, principled by storytelling and people-plants interactions, developed on the disciplinary borders. Scientific methods of observation and relocation meet artistic interpretation in this work.

Given research proposes that under theoretical examination the Chudo-polyana meadow, located in Gatchina city and inhabited by rare and endangered plants (eg. *Valeriana Dioica*, *Carex davalliana*), was created by scientific apparatus in 1979 as a convenient classified object, open to be obtained socially, politically, and scientifically. Its multifaceted living and non-living inhabitants, mainly plants, became objects of generalizing systematization, evaluated species as rare (R), endangered (EN), and least-concern (LC). Conservation practices built on these reductionistic theoretical structures alone are blind to environmental, historical, and other contextual inclusion.

The existing status of the place does not make mutually beneficial human-plant interaction possible since scientific communities and media see the space as a natural monument, but not a complicated dynamic society of living organisms. A physical representation of the place is lost behind its abstractly outlined image: Gatchina locals use Chudo-polyana as a recreational zone, but they also perceive the space as a fragile natural monument. The rupture in the meadow's physicality, created by lack of integrational educational programs onsite, is seen in Gatchina's local media portals and the scientific papers dedicated to the place [43], [52], [53].

The research suggests giving up the pre-eminence of traditional and inefficient conservation practices and to start a *live and materially embedded* conversation

about Chudo-polyana and its adaptive parts. The inevitable **motivation of the research** is to attract public attention to the extinction, happening under the state regulations' absence, which initiates uncontrolled land usage and asks for our human responsibility and flexibility. The perspective participative **goal of the work** is to initiate individual and group Chudo-polyana-related practices, which grasp the place as a compound and a fluid construct, but not a memorial collection of rare species. While until 2025 Zverinets park's territories will have been open for leisure and gardening activities, anyone interested in interacting with rare and endangered species is welcome to act not under law regulations, but by creating their private experiences.

This research puts Chudo-polyana and its plant community in the position of a *knotty object*, where contexts of history, extinction, and systematics are entwined and create a new perspective story. The research consists of the three closely related parts, each contributing to the construction of new nonexpansive language applicable to Chudo-polyana, its historical appropriation, and the extinction story of its species.

A theoretical body, entitled *Through the theories*, hosts a review of the basic works, essential for understanding the botanical and philosophical backgrounds of the site-specific plant-human interactions. Plant studies are presented by the works of Michael Marder and other distinguished philosophical, artistic, and scientific projects. The concepts of natureculture, string figures, and compounds by Donna Haraway, the theory of multispecies knots of ethical time by Deborah Bird Rose, and actor-network theory (ANT) by Bruno Latour substantiate Chudo-polyana's multifaceted notion. The practices of speculative narratives, probed in the research, are based on Donna Haraway's storytelling method and are supported by Thom Van Dooren's notion of "work of inheritance". Storytelling is taken as the leading principle in building up a new body of multidisciplinary language.

A chapter *Chudo-polyana* revolves around notional, historical, and conservation aspects of the scrutinized place. Traditional uptake on the land, labeled with a "natural monument" notion, meets the dynamic knotty theories, supported by

extinction studies, ethical processing, and historical review of plant-human interactions. Physicality, that Chudo-polyana has lost because of its “living memorial” image, is restored through the multifaceted stories—from hunting in the 18th century to contemporary gardening. Proposed by Deborah Bird Rose, the idea of multispecies knots of ethical time is applied to Chudo-polyana as the basic principle of ethical interaction with non-human communities and set against the existing monodisciplinary and anthropocentric approach. The meadow, a subject of the present research, is studied here as a compound with its relocative and adaptative parts—all having their collaborative generational times.

Chudo-polyana’s history includes previous plant relocations, land development, and intentional deaths, therefore, the meadow’s origin is seen as naturecultural. Discovery of the place and its inhabitants, mediated by scientific determination, is also an object of the multispecies knot theory, that identifies intersections of generational times—both human and vegetal. The research concludes, that at least one crossing between generational times happened in Chudo-polyana during presumable plant cultivation, practiced onsite in the 18th century. Crossed generational times in Chudo-polyana has also ended up in human-driven functional and real extinctions.

Storytelling: home-gardening and talking about plants is a speculative narrative chapter, dedicated to the development of the new multidisciplinary language based on the Chudo-polyana’s extinction. Two species, *Valeriana dioica* and *Ajuga reptans*, both presented in the meadow and cultivated in my city apartment within the relocation experiments, are the characters of two non-systematic crossing tales. One tale features a rare creature, that disappears due to pervasive drainage. Another story is about an invasive but sensitive plant, that has been used as medicine for centuries.

Accumulated theoretical knowledge and performed storytelling practices precede and accompany the interactions with Chudo-polyana and its autonomous organisms, adaptable to relocation, and open to non-invasive and integrated meetings with humans and their urban environment. To demolish the position of rare

species as classified objects and abstract ideas, the interaction between two species—a human and a rare plant—will be inspected and probed, first, through the relocation of rare plants and home-gardening; and later through the public vegetal interactions within a gallery space. The mentioned theoretical body of plant studies and extinction studies are applied as descriptive and regulative during the performed plant-human interaction. Methods of scientific observation and relocation are basic for home-gardening.

1 THROUGH THE THEORIES

The first chapter of this work—its theoretical body—consists of two parts, basic for the substantive research of Chudo-polyana and its plant inhabitants as multifaceted actors. From the multidisciplinary domain of plant studies to extinction studies, which open the issue of Chudo-polyana's disappearance, this chapter projects the scientific and philosophical agenda of plant-human interactions and cultivates the ground for the nonexpansive languages, which put endangered species in the multicontextual and personal contexts.

1.1 Plant studies

The questions of what humans and plants have in common and how we are different acquire contexts of ecology, politics, and society. Michael Marder asks: “What if we think about ourselves as political plants?” [44], inviting us to shift the focus from animalistic behavior, mimicry, and associations to the new conceptual lenses and treat the plant world as a society with its politics comparable to that of humans.

When we think of human politics as of an animal body with the dominant brain steering subordinate limbs—freedom and insubordination are limited or pushed to the background. When we think through vegetal reproduction instead, the perspective anarchic views come into play. Vegetal way of being can be implied as exemplary regarding human politics since exponentially growing plants are a viable non-hierarchical system. In *The Phenomenology of Vegetal Life* (2015) Marder points out that the structure of the animal body—a self-enclosed living totality—is a blasting role model to build one's political thinking on. Marder straightforwardly suggests:

So, if we want to escape from protofascism in our political thought, whereby the state is equated to an organic whole and individuals to its rather insignificant organs, we must turn toward a vegetal model of the political [44 P 93].

The perspectives of getting closer to plant societies are in learning from their experience and taking notes on how to modify our rational systems. Human politics, on the other hand, is not exclusive of other modes of living, “no matter how much we try to suppress and repress these nonhuman manifestations of vitality in us” [44 P 94]. Human itself is a highly integrational system. This distinctive feature has its best example in the microbiome, which is millions of microorganisms that have been coevolving with and in human organism *ab origin*. “It is only from this vantage point that the entropy of ‘raw’ nature seems to be opposed to well-structured, logically explicable anthropogenic processes” [44 P 94], Marder concludes.

Using rhizomes or replicating themselves in search of nutrients or abiotic necessities without a single command center—leaf by leaf, flower by flower—plants detach their parts and spread their seeds with the help of other living and non-living actors. They are fluid, adaptable, and accommodating creatures. It is already proved, that vegetal beings process information and signal to each other while adapting to real-time environmental changes [62]. According to Michael Marder, parasitism (vital to vegetal entities) happens not only between organisms but inside of a single body: “[E]ach part of a plant is parasitic on other parts, even as this composite growing being is parasitic on the soil wherein it is rooted” [44 P 95]. Parasitism—unfolded by the researcher on a wider scale—is applied not only to plants but to every living being. Who parasitizes on whom if all creatures rooted (physically and metaphorically) on Earth are parasites towards the planet?

Regarding plant territoriality and mobility, Marder argues, that, despite common belief, vegetal beings are surprisingly mobile: their seeds and pollen travel far and wide, “they also move within their milieu in ways that are different from locomotion” [44 P 98]. Being perceived from the human perspective as a green mass and immobile landscape, calm and stable plants are merged with the land. Thanks to the remarkable ability to grow, vegetal creatures are the providers not only for their kin but also for humans, who have discovered unthinkable qualities of plant bodies and started accruing benefits from their vitality. The species that cannot find their employment in the human world are eliminated as weeds or, at best, are protected if

they are botanically articulated as rare or endangered. Human-plant interaction is determined by the utility worldwide. To overcome this harmful schematization of plant organisms, Marder re-coins the ancient Greek idea that life is constituted by the capacity for self-movement and self-organization. Plants, dynamic decentralized organisms, “cannot be justifiably treated as though they were dumb ‘matter primed for reproduction,’ in the words of Immanuel Kant”, Marder argues [44 P 99]. Following Kant’s position, plants are doomed to be providers: especially in the agricultural industry, that exists because of and relies on vegetal reproductive power.

Not only reproductive quality is scrutinized and utilized, but its communicative and intelligent capacities too [44]. The artistic and scientific researches, which pay too much attention to the supposed plant consciousness, tend to avoid interspecies connections and overlook the reciprocity of human-plant relationships, which are ethically primal in times of planetary crises. Nevertheless, in no contradictions with mainstream neurophysiology, ethical discourse builds a robust platform for multidisciplinary discussions. The focus on interspecies relationships and co-existence is widely present in Catriona Sandilands’s works. In her conversation with Olga Cielemeńska on the feminist vegetal turn, the researcher says:

I would argue that plants demand different registers of thought than animals: because they are so very different from people (not to mention from each other), plants ask us to think about ethics and politics in very particular, place-specific ways, in which we (people) are asked to contend with lively difference more than anthropocentric likeness [62 P 7].

No interspecies communication, praised by many, is possible without the acknowledgment of basic agency, that is not exclusively animalistic but is also vegetal in its unique and strong ways. To think plants as actors in networks is to think beyond human-plant likeness. It shows how the peculiar people interact with the specific plants. Such perception demolishes the existing abstract knowledge of

the others and forces to learn them as our sometimes close and sometimes very remote partners, who can be called just Earthlings.

Place-specificity in the vegetal context makes a valuable comment on migrations due to land deterioration and climate change. Usually, the migration of adult plants is performed during local gardening operations or within urgent conservation campaigns. Plant relocation, made under severe conditions of dying lands, partly solves the short-term (well)being of the relocated creatures, but the knots of multispecies and abiotic conjunctions, which were built and inherited over a long period, are lost for good for the relocated species and involved actors. The extinction of knots is carefully considered by Deborah Bird Rose in her *Multispecies knots of Ethical time* (2012).

Chudo-polyana's story revealed the abstractive crack in human-plant interactions. It appeared that locals think of rare species as of something distant, while the latter grow in front of their houses. Apart from other conditions, to care about a vegetal being an enthusiast needs to be conceptually close to the plant. Closeness is a weapon against abstractization, and a personal story is a way out of monocontextual thinking. Catriona Sandilands tells, that both actors (read partners) thrive in their mutual interaction:

[I]n order to have good relationships with plants—ones in which particular people thrive in relation to particular plants that also thrive—the key is reciprocity. We need to imagine who we are to plants and what we should do to tend to plant needs, and not just imagine what plants are to us and what we can get from them, as if they were an inexhaustible inert resource [62 P 13].

The practice of gardening is touched in the present work and is experienced as a personal journey of rethinking rare species' physicality. At unity with Sandilands's proposition, that "gardening can make one very aware of how the migration of people, the migration of plants, and globalization of certain kinds of plant species are intertwined" [62 P 13-14], I practice the rare plants' cultivation

along with researching their origin and botanical specifications in hopes to initiate real physical proximity, that rare and endangered species usually lack due to their stand-alone status. So, seen as an anti-capitalistic practice by some, and colonial and expansive by others, gardening develops different connotations and effects. Anyway, treating gardening as personal research and a physical experience saves the activity from political depersonalizations, which instrumentalize both human and plant actors. Home-gardening is a field of individual approach.

Gardening and storytelling, probed in this work, exist in the paradigm of integrational art practices, which means they serve the artistic intention to create a multifaceted immersive experience of human-plant interaction. Scientific methods of observation and relocation make the medium of this interaction.

Plant studies, implemented in art, serve artistic interpretation but appropriate scientific methods of research and experiment. Rules and limitations, evolved in scientific knowledge, are essential for the validity of the experiment. Observation through participation, practiced by Urban Fauna Lab, a collective formed in 2011 in Moscow by the artists Alexey Buldakov and Anastasia Potemkina, is a hybrid method that allows one to participate and to observe simultaneously. Participatory observation, applied in biology or anthropology, helps to be included enough to get the most detailed picture. The artistic approach, revolving around the process itself, can use participatory observation for extracting sensual experiences. In *Between the observer and the observed* (2015), a conversation of Urban Fauna Lab participants with Katerina Chuchalina, UFL conclude that “[t]he aim of art is to extrapolate from (or expropriate) sensory experience. In art, this is achieved by observing life to participate in this process and involve other people in it—that is, to become part of the diversity of life” [70 P 31]. Co-existence depends on two steps of observation and participation: observation makes a curious one an absorbate, and participation teaches how to collaborate, but not to obtain, contrary to the long-playing colonial strategies of human history. Human-plant interaction, that follows safety instructions, democracy of experiences, and freedom of interpretation, is the one that configures itself alternative to the existing monodisciplines, be it art or botany.



(Fig.1) *The Plant Sex Consultancy*. 2014. Authors: Dimitrios Stamatis, Špela Petrič, Pei-Ying Lin, Jasmina Weiss

One of such artistic probes to initiate nonexpansive human-plant interaction is *The Plant Sex Consultancy* (2014), a multimedia project by Dimitrios Stamatis, Špela Petrič, Pei-Ying Lin, and Jasmina Weiss, aimed at supplementing and enhancing plant species' reproductive strategies. The artists have designed devices that are suitable for potted plants and serve their reproductive needs. These “floral sex toys” raise ethical issues of human-centered designs in the biodiverse realms. Examples of biofiction prototyping, the prostheses for plants open the discourse for designing for the others, who require inclusiveness in deeply intertwined presence with humans.

Another project, showing allied work of humans and plants, is called *Grasslands* (2012) and is initiated by Australian artist Linda Tegg. In collaboration with horticulturist John Delpratt and landscape architect Anthony Magen, she cultivated over 10,000 indigenous plants and, using the information and networks of the State Library of Victoria, recreated the pre-settlement grassland, that once

stretched across Melbourne. The site-responsive installation is located at the library itself, where, before its establishment in the mid-nineteenth century, vast grass plains had been thriving. “Tegg’s conceptual idea of bringing back to life the natural history of the site grew into a labour of love”, the website of the project says [42]. Labor of love in such a case echoes Sandilands’s idea of gardening as multicontextual and mindful activity [62].



(Fig.2) *Grasslands*. 2012. Authors: Linda Tegg in collaboration with horticulturist John Delpratt and landscape architect Anthony Magen

Tegg involved the library’s archives, old maps, paintings of Melbourne, and knowledge of her fellow landscape architect and horticulturist to learn the material, she approached, and to understand plant communities, which occupied the lands in the 19th century. *Grasslands* is a poetic historical comeback that took its journey from archives to the newly cultivated creatures. Now it also functions as a green urban retreat for people, who enjoy gathering there in summer months. The work is participative: any passer-by can interact with the installation in a way they want. It is also nonexpansive since the place calls for relaxation and exploration. In Tegg’s project the culture-, history-, and site-specific grass engage locals to participate in the recreated multispecies knot of 15,000 plants of 60 indigenous species. The

political question of migration and relocation turns into the case of historical recreation not only for human sake but also for the plants. The ghosts, who occupied the place nearly two centuries ago, came back in bodies of their distant relatives to inhabit the land again.

1.2 Knotty thinking and extinction studies

People are used to measuring all other worlds based on themselves and their needs, be them industrial, personal, social, or any other. Anthropocentric views delude even a seemingly noble desire to learn our plant neighbors, putting the process of interaction into question. However, if one's aim is to build a net of relationships, in which everyone and everything is actors, who open ethical dilemmas, all equally important to the observer, standing, flowing, existing, and working in the net with the object of its scrutinization, Anthropocentric position should be reviewed and debated. Historically, the relations between people and the others have been paving its immemorial paths: with domestic and urban adaptation, with agriculture, accidentally or intentionally, in gardens, and on sites of devastation.

Historically, nonexpansive human-plant interactions have been practiced along with the most violent appropriations of vegetal beings. Ancient interactions with potted plants are now deluded by commercialization: the historical context, full of enforced plant breeding domestication, is pushed out of our consumerist brains [66]. As an example, plants, discovered poisonous or harmful to people, were used as weapons or torture instruments. In their work *Plantarium: Human–Vegetal Ecologies* (2019) Marianna Szczygielska and Olga Cielemeńska tell, that dumbcane, a popular potted plant, was violently used by slave owners, who would punish Jamaican enslaved people “by rubbing their mouths with cut stems, causing swelling and corrosive burns in the mouth, larynx, esophagus, and stomach of a victim”. Later, Nazi doctors applied dumbcane in sterilization, performed on concentration camp prisoners [66 P 3].

Relationships of mutual usage (and mutual, because plants use the faster-moving people as pollinators and seed spreaders) are now not only unbalanced, but

are at stake due to droughts, floods, forest fires, polluted waters, and toxic wastes, forcing the compressed and disabled by ecological circumstances communities to move out and change their ways of life [66].

People and plants are intertwined when faced with the danger of extinction. And our entwinement with plants is embedded into the lands we both inhabit, the air we breathe, and the mineralized water we internalize. The plants, determined as rare, endangered, less-concern, crops, or ornamental by botany and horticulture, have been enclosed in their utility since they got systemized. Systematics—a biological archival base and a navigational system in the worlds of other creatures—stroke roots into the interspecies relationships by defining plant actors as useful (agriculture) and important (Red data list). The other problem of pronunciation and classification of species is their abstractization. Some rare and endangered vegetal organisms grow in urban environments and depend on human routines, but the same plants are better known from Red data lists and media, rather than from conscious daily meetings. The mutually dependent entwinement needs to be articulated and not with static unidirectional systematics, but with nonexpansive and deeply personal plant-human stories, that highlight historical, naturecultural, botanical, social, and other knowledge, mediated by personified storytelling. All noted knowledge constitutes knotty discourses, which equalize the agency of creatures, matters, and happenings. The theories reviewed in this chapter show different approaches to the interspecies connectivity and revolve around the concepts of a knot, network, and compound, connected to the discourse of extinction.

1.2.1 Actor-network theory: liberating intertwined narrative and agency

One of the bases and the integrational mechanisms of this work is the actor-network theory, developed by Bruno Latour [38]. Actor-network theory and its crucial points are important to the present research as principles of understanding the others in their ability to act.

The actor, endowed with an inevitable ability to work and produce, is “a semiotic definition -an actant-, that is, something that acts or to which activity is

granted by others” [36 P 7]. No human presence or participation is needed since an actor can be anything and anyone, “provided it is granted to be the source of an action” [36 P 7]. An actor is inconceivably non-human (to avoid exclusiveness of the statement), because human-centered organizations of living and non-living matters are purposely put aside by Latour. Acting, traditionally conceived by sociology as rational work, has been kept from non-human discourses and outside of serious conversations for long enough. Nonetheless, close, thoughtful, and fulfilled interactions of human and non-human within contemporary conservation practices and extinction studies have shown new horizons of multispecies co-existence, seriously questioning exclusive Anthropocentric theories.

Actors—elements of nets—can earn or lose their strategic importance to the node, which always consists of multiple actors. Inspected by a researcher, elements act without the dualities of far/close, small scale/large scale, inside/outside. They are free to create whatever they need and want, readable through one’s unique observational tactics. The hybrid actor-network theory invites to operate in the “world which has not yet be so neatly charted” [36 P 6]. Latour challenges us to “move on from static and topological properties to dynamic and ontological ones” [36 P 6].

Standing against far/close duality, Latour suggests that the visual concept of surfaces, generated in our minds by geographical thinking (eg. mapping, demarcation), should turn into filaments (or rhizomes in Deleuze’s parlance) [36]. To fight two-dimensional flatness Latour takes a leap from surfaces to nodes:

More precisely it is a change of topology. Instead of thinking in terms of surfaces -two dimension- or spheres -three dimension- one is asked to think in terms of nodes that have as many dimensions as they have connections [36 P 3].

Rejecting pre-eminence of traditional geographical thinking, Latour opens the issue of “the tyranny of distance”. “[E]lements which are close when disconnected may be infinitely remote if their connections are analyzed” [36 P 4].

Latour argues: “Notions of levels, layers, territories, spheres, categories, structure, systems” fail to describe “fibrous, thread-like, wiry, stringy, ropy, capillary character” of modern society [36]. Following, systematics makes us believe we are limited by dimensional thinking of flat spaces and linear times, while more and more generated objects from domains of Artificial Intelligence and biotechnology prove such perspective wrong.

The connection between acting elements is made by and from these same elements, that generate and are generated as “choices” or “selection” of “finer and finer embranchments going from abstract structure -actants- to concrete ones -actors” [36 P 8]. Actors are fluid and open to other actors in their emergency to exist. Since Latour’s descriptive and interpretational theory stems from semiotics, some integrational (into materialistic world) practices should be properly thought if they are apart from textual entities. However, the same property makes actor-network theory akin to Donna Haraway’s storytelling, which is used as a method in the present work.

Latour makes a serious remark on scientific texts, which are as far from being description of the world’s complexity as any monodisciplinary initiative is, due to the skeptic scientific look “from the outside”: “[T]he intellectual distance and skepticism was easy to achieve while the double treasury of ‘scientism’ and ‘socialism’ was kept intact in their heart” [36 P 9]. Actor-network theory erases the difference between subjects that watch and objects that are watched in a careful way, which pushes the latter to act. “[ANT] does not say anything about the shape of entities and actions, but only what the recording device should be that would allow entities to be described in all their details”. Observation does not qualify; it simply observes, therefore, acts on another action: ANT is “more infralanguage than a metalanguage” [36 P 9]. Back to Donna Haraway’s storytelling, which holds the same tendency to compile, the strong argument is proposed: “No explanation is stronger or more powerful than providing connections among unrelated elements, or showing how one element holds many others” [36 P 11]. ANT proposes, that every actor has its self-explanatory frame and metalinguistic apparatus, thus when one

actor explains another, the first builds up its definitional frame but does not fully explore another, since the latter is capable of active self-explanation. Every additional explanation does not build up the knowledge *of* something, but creates a node which includes both the observer and the observed:

The observer -whatever it is- finds itself at a par with all the other frames of reference. It is not left to despair or navel gazing, since the absence of privileged status has never limited the expansion and intelligence of any actor. World builder among world builders it does not see a dramatic limit on knowledge in its abandon of Galilean frames but only resources [36 P 13].

ANT contributes to the liberating intertwined narrative, built on the erasure of differences between natural and cultural and on giving a meaning-making privilege to both. All elements within ANT have the right to act from their motivation. Self-defining activities of such actors build a never pre-installed net.

1.2.2 Natureculture and compounds: co-existing with others

Natureculture is a term, coined by Donna Haraway in *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (2003) and used in this work to show how conceptual separation between nature and culture affects plant-human interactions, enclosing human actor in the cultural (and associated artificial, technological) domain, and leaving plant actor to the natural (associated with native, original, virgin) one, demolishing the mutual ground, which always includes both. Haraway defines the co-existence of beings (or “critters” in her terms [30]) as “[f]lesh and signifier, bodies and words, stories and worlds: these are joined in naturecultures” [29 P 20]. Natureculture, put such a way, is a node (Latour) with emphasis on the heterogeneousness of the matter:

No matter what the chemical score for the dance—carbon, silicon, or something else—the partners in infoldings of the flesh are heterogeneous. That is, the infolding of others to one another is what

makes up the knots we call beings or, perhaps better, following Bruno Latour, things. Things are material, specific, non-self-identical, and semiotically active. In the realm of the living, critter is another name for thing. [30 P 250-251].

To Haraway creatures are never themselves—they are open, active, and compound systems just like seemingly artificial and unnatural technologies. Getting back to ANT, actors, appeared in and created a network—*do work*. This emphasis on acting is crucial for understanding both Latour’s definition of actor-network and Haraway’s natureculture.

Taking that actors are those, who are able “to make something happen, to engage the world, to risk fleshly acts of interpretation” [30 P 250], and that “[t]he scale, that is, the type, number and topography of connections is left to the actors themselves” [36 P 5], we, as humans, and other species and non-living matters can create our own views, images, and embodiments by doing our own work.

Happenings, interactions, organisms, or places can be deconstructed and thought as compounds. Haraway says, “agents can be human beings or parts of human beings, other organisms in part or whole” [30 P 250]. The rare species, presented in the meadow, are actors and workers, their parts are actors and workers, their interconnections are nodes and, surprisingly, are also actors and workers. Such thinking is a solid substantiation for observing and meeting the place as a changing and changeable construct, in which any part, whole, intention, and happening is an influencer.

Donna Haraway’s note of a compound animal, “a composite of individual organisms, an enclosure of zoons, a company of critters infolded into one”, makes a valuable reference to the object of the present research, which is “a company of critters infolded into one” too in a way [30 P 250]. A compound is seen not only as a unified organism or a matter but as any composition that includes human, non-human, material, immaterial, and whatever else. A compound is a node, a composite, and an enclosure. Parts, in turn, do not add up to the whole, and this quality is

important for the present research since every considered plant, grown in the Gatchina's meadow, is its part. Relocation, used in the given research, shows that every element of "the whole" lives its autonomous life. It is not only seen through the story of Chudo-polyana, but is based on the global tendency of species, traveling around the globe.

Compounds are technologically inclusive. "[T]he up-to-the minute photographic judge's chamber" called Crittercam, is elaborately scrutinized as a human–animal–technology node in *When species meet* (2008). Crittercam comes across as a recording device, allowing entities "to be described in all their details" [30]; as an actor, tracing connections from an animal to itself to TV viewers; and as a technology, questioning the nature/culture duality. Simultaneously, Crittercam finds itself in conversation with the TurtleWatch device, that synchronizes fishermen' and leatherbacks' routs in the Pacific Ocean, researched by extinction studies scholar Michele Bastian in the essay *Leatherbacks in multispecies knots of time* (2017) [6].

Following Haraway, Crittercam and remora fish (the camera's living analog) "are not messmates to either people or sharks; they are commensals, neither benefactors nor parasites but devices with their own ends who/which hitch a ride" [30 P 253-254]. With such status technologies, traditionally perceived as instruments, now have their own tracible and observing lives, proving actors in their self-intentional activeness.

Its closure or its distinct end, which makes an actor graspable, complex, completed, and self-sufficient, is a notable characteristic of a multifaceted compound. Crittercam does not only exists and acts, but it also involves a lot of energy, resources, attention, promises, humans, and non-humans:

So, the compound eyes of the colonial organism called Crittercam are full of articulated lenses from many kinds of coordinated, agential zoons—that is, the machinic, human, and animal beings whose

historically situated infoldings are the flesh of contemporary naturecultures [30 P 261].

All are entangled so fleshly and real, that there is no chance to look “outside” of these knots full of people, other beings, and technologies.

Besides human-animal-technology interactions, naturecultures for Donna Haraway are tied with species companionship and are described through the relationships between people and other critters, namely dogs. In *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (2003) she particularly describes her and her dog’s story of co-living:

We have had forbidden conversation; we have had oral intercourse; we are bound in telling story upon story with nothing but the facts. We are training each other in acts of communication we barely understand. We are, constitutively, companion species [29 P 2].

Unintentional communication training, based on nothing but unconditional desire to co-exist, lays beyond limiting specific differences and questions of ownership. To be with someone is to co-exist, no matter what matter they consist of and what status they are given in a rational society. Her look at dogs reveals how erased labels, demolished statuses, and questioned classifications help to enter the nonexpansive multispecies interaction and to find ways of communication:

[C]ontrary to lots of dangerous and unethical projection in the Western world that makes domestic canines into furry children, dogs are not about oneself. Indeed, that is the beauty of dogs. They are not a projection, nor the realization of an intention, nor the telos of anything. They are dogs; i.e., a species in obligatory, constitutive, historical, protean relationship with human beings [29 P 11-12].

Circling back to actors, “dogs are not about oneself”, they are actors in nets, creatures in compounds: they do their work and look for beneficial communication to co-exist and co-evolve. Thinking companion species in relation to humans builds

up a healthy attitude towards interspecies communication, which we can have or already have. Companion species at our homes, organisms in our laboratories—are all inhabitants of technoculture. They “become who we are in the symbiogenetic tissues of naturecultures, in story and in fact” [29 P 17-18].

1.2.3 Storytelling

Storytelling is widely practiced by such researches as Donna Haraway, Mathew Chrulew, Thom Van Dooren, Deborah Bird Rose, James Hatley, and others, who dedicate their thinking to extinction and other complex global ecological issues. To tell a story is to give a multifaceted perspective; to live through the research, and to subsequently process the results. Within the practice of storytelling, Deborah Bird Rose talks to the activists, who save endangered Hawaiian monk seal, to get the deepest understanding of their non-rational motivation [59]. James Hatley walks Kumano Kodō pilgrimage trails to feel the presence of the spirit of Ōkami (*Canis lupus hodophilax*), a wolf went extinct more than a century ago [31]. Donna Haraway looks at the relationships of two companion species—her dog Cayenne and herself, who practice team sports together [29].

Storytelling for Haraway is a recuperative unfolding: “My multispecies storytelling is about recuperation in complex histories that are as full of dying as living, as full of endings, even genocides, as beginnings” [26 P 10]. Again, an intertwined essence—be it a narrative or a multispecies knot—does not imply wholesome goodness. To tell a story is to compound with one practical message in mind. “Staying with the trouble” is to tell a story [26]. An extinction study scholar is an observer who walks with ghosts, talks to practitioners, and mourns with someone who lost. As Vinciane Despret insightfully notes, “[e]ach time an existence disappears, it is a piece of the universe of sensations that fades away” [61 P viii]. If someone loses, the whole world loses with them, and human responsibility is to tell “real stories”.

In Donna Haraway’s theoretical body a real story is a story that combines different realities:

And so I look for real stories that are also speculative fabulations and speculative realisms. These are stories in which multispecies players, who are enmeshed in partial and flawed translations across difference, redo ways of living and dying attuned to still possible finite flourishing, still possible recuperation [26 P 10].

Objectiveness, proclaimed by classifications, is left here for critical inspection. Hardly representative (if only within the historical analysis), systematics is one of many methods and sometimes is even abandoned jointly with expansive practices. SF is the alternative to colonialist approaches. Coined by Donna Haraway, it is basic to the present research, as it welcomes an interdisciplinary theoretical approach and enables an experimental practice: namely, storytelling and the relocation of species from the meadow to public urban places. “SF is a sign for science fiction, speculative feminism, science fantasy, speculative fabulation, science fact, and also, string figures” [26 P 10]. From all six definitions, the most curious to me is string figures, which means to play with seemingly unrelated meanings and facts. Like Latour’s actors and their frames, strings create sequences, that shed new light on existing human/non-human interactions, transforming and pushing their numb patterns towards new contexts. In respect to Chudo-polyana, the numb pattern is seen in talking of the meadow by using only classifications and detaching the place’s classified image from its physicality. These thinking figures should be challenged and pushed towards reconsideration—otherwise, Chudo-polyana will disappear from human unfiltered experience due to its devastation or enclosing.

String figures are the way to talk about one place using myriads of meanings, and not explaining but telling a story. Two-way mechanics is necessary for practicing string figures: if you want to accept, you need to give; if you want to perceive a message, you need to generate your own.

*String figures require holding still in order to receive and pass on.
String figures can be played by many, on all sorts of limbs, as long as*

the rhythm of accepting and giving is sustained. Scholarship and politics are like that too—passing on in twists and skeins that require passion and action, holding still and moving, anchoring and launching [26 P 10].

Storytelling is about getting on together. Chudo-polyana with its rare plants, history of hunting, scientific systematics, rapid extinction, Gatchina locals, and the status of a recreational zone is a string figure game, in which some fall, others connect, new figures are raised and old ones are forgotten. The brilliant thing about the string figure game (cat's cradle) is that it is made from only one looped string, configurations of which are countless.

Alternatively to stiff classifications, Haraway makes up an equation called Terrapolis, which is “inhabited” by all critters presented in her stories:

Terrapolis is a fictional integral equation, a speculative fabulation. Terrapolis is n-dimensional niche space for multispecies becomingwith. Terrapolis is open, worldly, indeterminate, and polytemporal. Terrapolis is a chimera of materials, languages, histories. Terrapolis is for companion species, cum panis, with bread, at table together—not “posthuman” but “com-post.” Terrapolis is in place; Terrapolis makes space for unexpected companions. Terrapolis is an equation for guman, for humus, for soil, for ongoing risky infection, for epidemics of promising trouble, for permaculture. Terrapolis is the sf game of response-ability [26 P 11].

Terrapolis is basically a net, a compound with liberating rules, established not by a superior “outside” ruler but is created during the game of sting figures by its participants. “Not posthuman but com-post”, Haraway specifies. While human status tends to be somehow identified by “posthuman” word, having a “post-” preposition, and still having a “-human” core, it does not go anywhere further and keeps being heavily determined. When describing ANT, Latour says that it is an “infralanguage” rather than a “metalanguage” [36]: the methodology does not “sit

above” the observed contexts but integrates. With the same logic in mind, “com-post” means being with com-panions. Compost (a humus, a fertilizer) goes to the soil and mixes with the same others; homogenous, it is made of heterogeneous complex organisms and makes up a nutritious building material. Posthuman “sits above”, but com-post—co-lives.

Haraway’s Terrapolis is science fiction. It is n-dimensional and does not live by rules of one-dimensional systematics. Terrapolis is an affirmatively subjective construct, and that is the reason why it works. Terrapolis is built by Haraway to tell stories she sees and to share experiences she lives through. Terrapolis is free of “masculinist universals and their politics of inclusion”; it speaks freely without any necessity to let someone or something in—particles come and go as they decide [26]. These are the qualities of good storytelling: to be unique, nonexpansive, non-defining, non-hierarchical, created and creative, verbal and non-verbal, free, liberating, and risky. However, one, when telling stories, must remember an ethical engine called responsibility. “It matters what stories tell stories”, Haraway reminds [26].

1.2.4 Multispecies knots of ethical time and work of inheritance

Ethics and responsibility as essential qualities of good observations, storytelling, and mutual practices are exquisitely shown in Deborah Bird Rose’s concept of multispecies knots of ethical time. Rose’s work on death is a logical flow towards the subject of the present research, which is a perishing meadow with its endangered inhabitants. Knots, as multifaceted ecological interfaces, are featured in Deborah Bird Rose’s *Multispecies Knots of Ethical Time* (2012) concentrated in and raised from the concept of time and under the longing circumstances of extinction. Death, always existing as the beginning of new life, has its knowledge-carrying narratives, that are closely studied by Rose and her interdisciplinary colleagues from the *Extinction Studies Working Group*. The author argues, “from an ecological point of view, death is a return. The body returns to bacteria, and bacteria return the body to the living earth” [60 P 127]. Rose’s “loop of life” resembles Haraway’s string

figures, where something falls (dies) and the other rises (comes into being). The way life on Earth goes is consistent and sequent, Roses argues, but it was once interrupted by Holocene extinction caused by human activities [60]. To tell stories about singular deaths, happening during Holocene, is to “add flesh” to the abstract reports of extinctions. To tell stories is to be emotionally engaged.

In her touching essay *Monk Seals at the Edge: Blessings in a Time of Peril* (2017) Rose talks of the motivation, which activists express, working with the species who are at the edge of peril. These people do not rationalize their urge to help, but rather leave their non-verbal experience outside of the rational community—they work with something, that cannot be defined or reduced. “The refusal to justify the suffering of others, the refusal to abandon, the refusal to translate ethics into the rational calculus” is principal to death storytelling [59 P 137].

In multispecies knots of ethical time, Rose outlines two main patterns of time: sequence and synchrony, “that are integral to the wider ecologies of ‘patterns that connect’ (to use Gregory Bateson’s term) and thus are integral to life on earth” [60 P 129]. Sequence and synchrony “are given the substantive presence in the world through flows of material being, energy, and information”: generational time consists of flows among generations (from the previous to the next) [60 P 129]. Synchrony is a flow between individuals and their generational and sequential times, happening in a particular place. Rose uses the term “interface” which plays the role of this meeting place: “[T]he intersection is a temporal site of embodied interface, using the term ‘interface’ in its everyday sense of a common boundary where two systems interact” [60 P 129-130].

Contrary to dualistic ideas, not a single multispecies knot is good or bad; there are also no knots that do not work, since if it does not work—it is not a knot. Knots consist of working actors (to involve Latour’s ANT to this knot of theoretical bodies). Knots can be created to be pathogenic—they can be purely beneficial as well. In times of Holocene, conservation acts are the knots, that involve death, life, people, other creatures, and hard ethical decisions—all blended: “[i]n these complex,

multivalent rituals and mediations, death remains interwoven with life, violence with care, silence with significance, memory with forgetting” [61 P 5].

The issue of inheritance, basic for conservations, is raised and discussed as part of extinction studies by Deborah Bird Rose, James Hatley, and Thom Van Dooren [61]. Adapting the superiority of connections, postulated in ANT, Rose and her colleagues show serious wariness towards generational bonds, destroyed by mass deaths:

Connections between generations of living beings, and relationships among currently living beings, offer the basis for an account of the life-giving and life-affirming qualities of ethical time. We are then in a position to consider ecological aenocide, or the multispecies “murder of ethical time” [60 P 128].

Thus, it is time, that is murdered—not only a creature’s body. The body’s flesh, as we remember, is in living bacteria’s service after its bitter end. What bacteria cannot digest and what world cannot “suck in” with the energy, spread by the newly dead, is the time of one, which was violently taken by the time of another. Generational time is strong and sensitive. It is strong because of other times, eager to collaborate on mutual benefits and to support “a partner” during highly co-dependent work. It is strong because it is adaptive, fluid, and open for cooperation. It is sensitive because one expansive time can separate the multispecies partnership, existing for longer than a single lifetime. It is sensitive because it is open.

Work of inheritance, a term coined by Thom Van Dooren, emerges from conservation practices, that do not split between cultural and natural losses and take account of ongoing and dynamic changes in the world. It matters what and how we inherit. It matters what we bear through our lives and what we pass on to future generations. As inheritance has many ways of time cracks penetration, the one who inherits should consider everything from their DNA to the stories they tell:

[I]nheritances take many forms: from genetic material and the broader landscapes and ecological communities that we are born into, to the

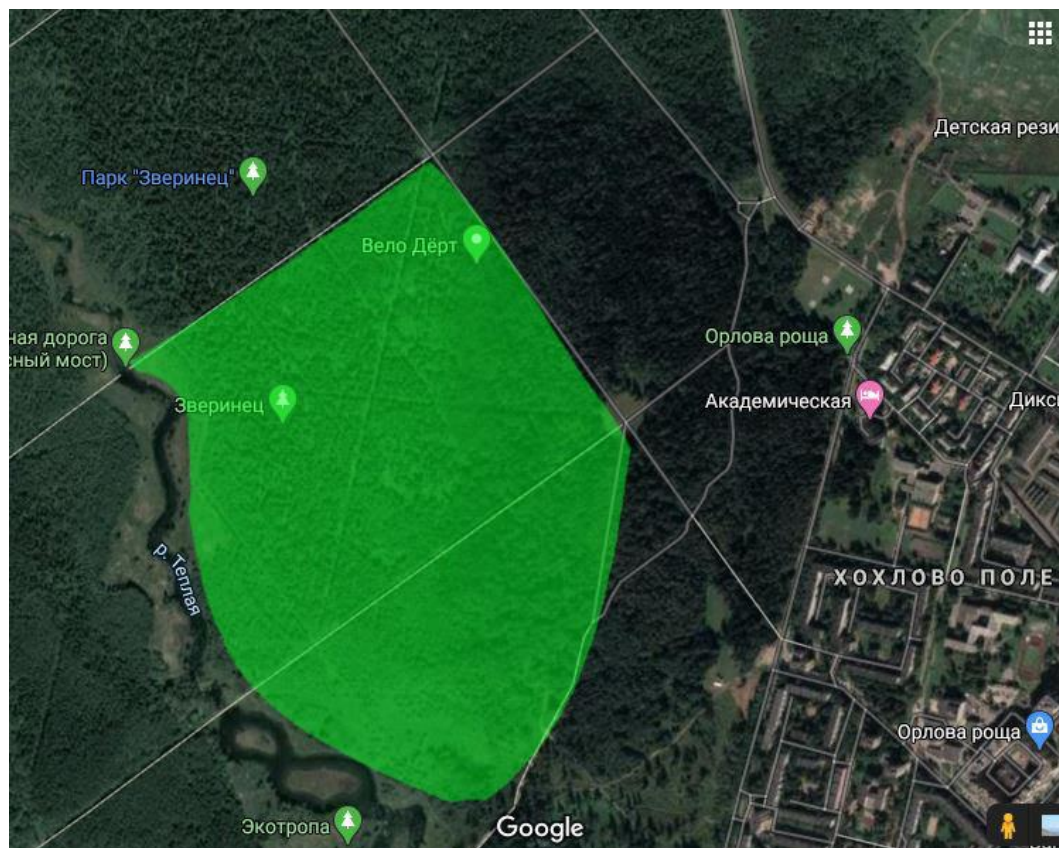
historical events and relationships that we re-tell and remember and that consequently guide our understandings of and actions in the world [72 P 188].

The meadow's inheritance, being at stake and being oppressed and mistreated by existing official conservation practices, needs nonexpansive inheritance. Storytelling is seen here as one of the most promising means. When the purpose of the Chudo-polyana research is to suggest an alternative, unique multidisciplinary, and even DIY practices, storytelling is used as basic.

2 CHUDO-POLYANA

2.1 Chudo-polyana: the notion and the history

Zverinets Park, with an area of 392 ha, is in the north-eastern part of the Gatchina city (Leningrad Region). Chudo-polyana (eng. The Wonder Meadow) is a name, used to describe a part of Zverinet's territory, that covers 56 ha [52]. The meadow is bounded by the Central Alley on the north side, by the Pilnenskaya road on the west side, by the Palace Park on the east side, and by the Teplaya river on the south side (Fig.3). It was first discovered and described by Ado Oskarovich Haare, an employee of The Komarov Botanical Institute of the Russian Academy of Sciences, in 1979 [34].



(Fig.3) Location of Chudo-polyana on the map of Gatchina city

Currently, there are 271 herbaceous plants located in the meadow, 33 of which are rare, and 13 are included in the Red Data Book of the Russian Federation. Many plants are alien to the North-West region of Russia [52]. Chudo-polyana's northern part is a birch forest, that does not attract botanical attention but is seen as a purely

functional buffer zone for the meadow's "golden spot", a place where least-concern (LC), rare (R) and endangered (EN) plants cohabit.

Chudo-polyana got its name for hosting a high density of rare and endangered species and was geographically outlined by Haare on the basis of the species' areal extent. "Chudo" (rus. чудо) means literally "a miracle"—the word Haare used to describe what he discovered in Zverinets park. "Miracle" is the wonder of meeting an impressive number of plants with special conservation statuses in one place—at the ordinary city park. After closer examination Haare assumed the meadow was also relict [34], which only added to its value and status. The look he took at the meadow in 1979 appeared to be a point of interest for his fellow botanists and environmentalists, but it was not much of a use to Gatchina locals, who just loved to visit the meadow for sports and walking. Chudo-polyana, noticed by Ado Haare, obtained a status of the scientifically classified object and was turned into a "natural monument", a phrase that local media and botanists often use, talking about the meadow. The contextualizations caused the new science-mediated wind in human attention to their neighbor species.

Since Chudo-polyana was discovered as rare and relict in 1979, the meadow has become a study object for many botanists, mostly employees of The Komarov Botanical Institute of the Russian Academy of Sciences, including Ado Haare himself, and his colleagues Nikolay Tsvelev and Galina Konechnaya [52]. From a blind biological spot, the meadow developed into the most curious part of Zverinets park for botanical specialists, Gatchina's eco-activists, and other interested parties. Humans learned the names of their neighbor species, defined the meadow as a land organism [52], and put its parts to the lists of rare and endangered. Media and scientific papers spread the word, and Chudo-polyana has become a natural monument, a living heritage.

Even though the place got famous only in the 20th century, people have lived side by side with the meadow for about 300 years. From the 18th century till now Zverinets park's history has been full of interactions between humans and a variety of other species. In 1765 count G.G.Orlov, one of Catherine the great's favorites,

became the park's owner, inhabited its untapped territories with exotic animals, and turned the land into his personal game-preserve. In 1770 Orlov started the “humanization” of Zverinets by paving roads, building bridges, railings, and cotes for deer, rabbits, wild goats, and other imported and local animals he and his friends were regularly hunting [13].



(Fig. 4) *Menagerie in the Gatchina park. 1792. I.* Author: Ya. Mettenlater.

Throughout the 19th century, the park was being seriously refined: its swamps were dried out, bridges, buildings for hunters, livestock, and food were built upon. Drained territories were occupied by feeding crops and vegetables such as rye, clover, oats, cabbage, and roots.

After decades of the consistent renovation, in 1917, during and after the October revolution, the park was ravaged by soldiers and random prowlers. A lot of fish were killed in Zverinet's ponds and lakes; a lot of trees were cut in its woods; almost all animals, kept in the menagerie, were killed and eaten by the invaders [13]. This devastating event has ended the golden era of Zverinets park. Since the 20th century, it has been exposed to nonregulated agricultural and leisure human

activities [13]. Summing up, Zverinets was built for killing and has seen thousands of organized and accidental deaths.

Has anything changed after Haare botanically rediscovered this land? Basically, the scientist just outlined a piece of Zverinet's land, called it "a miracle", conducted a review, and gave Chudo-polyana the new context of botanical classification. To conserve and to share what he saw, Haare wrote the paper *New location of relict species in the Leningrad region (1979)*, published in the journal *Systematics news of higher plants* right after the discovery [34]. After Haare's finding, the plants of Chudo-polyana, which had been waited to be saved from complete disappearance, got conservation statuses and *arrested decay*, in Haraway terms [28].

By establishing borders of his research and of the territories, that were inhabited by rare plants, the biologist has "created" a *landscape body*, which contained 33 rare species. Right after Haare defined borderlines of the meadow, the conceptual demarcation has begun to identify which Zverinets's territories deserve our conscious social engagement and which are just recreational zones; which must not be stepped on and which are free to use. Despite the educational efforts, Gatchina's biologists and eco-activists have been making since the 1970s to control local activities onsite, Chudo-polyana and Zverinets park still have not managed to get the official status of a museum-reserve. Presently, the meadow exists between its documented botanical value and the factual recreational abuse, meaning that people understand its botanical importance but still damage the territory. In 2025 Chudo-polyana is planned to enter the List of Specially Protected Natural Sites, and all construction and drainage activities will be banned there [52].

Back to the historical background, in 1845-1847, under the land renovation, some parts of the park were drained, and the Gatchinka river's channel was artificially expanded. One of the Gatchina citizens from back then notes:

The area was almost plain wooded swamps, along with and across which narrow highway roads were laid. His Majesty wished to put this

menagerie in some order and drain the swamps. For several years in a row, right after encampment in Krasnoye Selo, namely in the month of August, the Guards Engineer Battalion would come to Gatchina and supervise peasants and infantry soldiers seeking for paid work while they worked at Zverinets's reconstruction. Thanks to the drainage and newly emerged islands, the menagerie took a very beautiful shape [13].

The recreation of Zverinets has shown that the territories we try to save so desperately in modern times were the constructed objects of hard peasant labor in the 19th century. The whole team of money seeking soldiers and peasants was refining the Imperial property. The brand-new dry territories became homes for many species inhabiting the place nowadays. Deborah Bird Rose's argument for death, being an initial part of a new circle of life [60], comes truly material in Chudo-polyana's story. The historical swamp draining in Zverinets was shortly devastating but life-giving in the long run: through its unwanted evanescence, marshy flora gave birth to the meadowy communities. At that time and those views, draining was considered to be an improvement. Under our modern ethical consideration, draining means devastation. Amidst the same disappearance and appearance of living matters, the landscape dynamics nowadays seem fatal, while back in imperial times the same human intrusion regarded as land development. Fatal means: "Now we recognize the botanical value of this meadow and do not want to lose it". Fatal also means: "Now we value Chudo-polyana's existence to the extent of keeping it save from our actions". Fatal appears as panic around endangered species, and the meadow's fragile systems in a bid to keep them alive. The problem is that this panic pays no attention to the place's historical transformations and the changes that will irrevocably hit it in the future. Any abstract limiting rule, like drainage or construction banning, has nothing to do with co-existing with and in the place.

Reports say that Chudo-polyana's most damaged part is occupied by the meadowy species [52]. Respectively, the marshy areas are not usually disturbed by humans, because these territories are hard to reach. In simple logic, Chudo-polyana's

conservational agenda protects the damaged parts from plant-human interactions, but lets other parts just be (as no one touches them anyway). “Do not touch” principle establishes a wall between the place and the people who want some interaction. The birch forest (another curious part of the “natural monument”) also falls under the status of “important”, but not under the definition of “botanically interesting” [52]. This small forest is considered to be just a buffer zone for the meadow with rare plants. The classification, offered by Red Data Book and botanical reports on Chudo-polyana, has turned into a strict physical territorial mapping.

Extinction is fluid, and traditional systematics alone has shown itself to be too stable to control human interaction with other species. While classifications are good educators, they are bad at catching up with reality. Moreover, they can have palpable consequences. In 1930 German ornithologist Erwin Stresemann falsely concluded that no less than 18 species and 8 genera of birds-of-paradise are not ‘normal’, but hybrids [18]. For these 26 birds it meant that from this discovery on they were no longer protected from industrial hunting. The story of misguided systematics was timely told and given an insightful extinction-related commentary by Rick De Vos in *Extinction in a distant land: The Question of Elliot’s Bird of Paradise* (2017):

Stresemann’s declaration of specimens as representative of hybrids rather than species on the basis of their appearance draws attention to the function of death and absence in classifying living things. The enunciation of hybridity within the discourse of biological science constitutes a writing practice undertaken in a space and time “after” the life and death of the subject being observed and classified [18 P 106].

Classification of living things induced actions against someone’s life and got palpable consequences. The same applies to Chudo-polyana’s plants, that are being enunciated, conceptualized, and separated into those that are important (like *Carex davalliana*) and others that are not interesting (like a birch forest). Conservation statuses are great educational materials: they teach to be careful and conscious while

traveling across the worlds of others. They also attract immediate attention and play a crucial decisive role when humanity faces the problem of biodiversity loss. However, applied to the contexts of extinction alone or along with limitations, systematics is ineffective and leads to the abstractization of living entities.

2.2 Chudo-polyana: distortion of status and distance

2.2.1 Distortion of status. Preservation as species-narcissism

Gatchina locals—botanists, schoolteachers, museum workers, activists, and journalists (often one role including another)—project various views on Chudo-polyana. Researchers complement their tours to the meadow with the Red Data Book copy and show their amateur companions how the meadow's plants can be scientifically explained and how Red Data Book is represented by real plants [43]. The plants' enunciation by the guidebook not only instructs but also keeps people aware of the place's biodiversity.

Due to the media exposure, locals are used to referring to the meadow as to a “natural monument”, which sounds not more and not less than a stone-cold fixation of something that is not yet dead but already needs to be remembered. Mentioning a disappearing Hawaiian forest in his essay *Spectral Crows in Hawai'i: Conservation and the Work of Inheritance* (2017), Thom Van Dooren tells that natives call it “a museum forest”, “a forest of the living dead” [72]. Debora Bird Rose, in turn, calls this state of extinction between life and death a deathzone:

...deathzone: the place where the living and the dying encounter each other in the presence of that which cannot be averted. Death is imminent but has not yet arrived [61 P xi].

The endangered organisms of Chudo-polyana and other disappearing biotopes live through the unenviable destiny of being deliberately placed out of the living contexts. Indeed, the rare and endangered statuses put species in the center of extreme attention; but such attention is projected from afar. People do not usually consider getting along with or maybe thinking ourselves through endangered

species—we rather jump right to their rescue. Humans are so used to being in charge of catastrophes on this planet, that if a species goes extinct (with or without human contribution), we run campaigns, resume eco-related conversations, and create another federal or state regulation until we finally get the desired number of saved lives, a Red Data Book's lessened volume, and clean consciousness.

Definitions of rare and endangered are extremely and unrealistically malleable. They enable us, humans, to stand out, and to be planetary superhero-species, the supervisors of prevented death. Conservation initiatives are easily turned into the theatre of “species-narcissism” (using Rose's term). “We encounter a clear and insightful description of the disastrous thinking underlying the human-centric desire to turn all species and all times into resources for humans, to discount the costs to others, and to make decisions about who lives and who dies without regard to our shared life on earth”, Rose argues in *Multispecies knots of Ethical time* (2012) [60 P 138].

Anthropos continues pulling strings around other worlds in the illusionary and fantastically certain assumption, that humans take actions for someone's but their own good. Cary Wolfe's critics of Anthropocentrism, featured in *Extinction Studies: Stories of Time, Death, and Generations* (2017), puts human nature in neither resource managing nor heroic position:

[W]hat we call “human” is nothing other than the spectacular conflagration, the wanton burning, of time itself: not our time, because time is not for the human, but other times forcibly made our time, millions and millions of slow inhuman years released in a geological blink of an eye [40 P xiii].

People's meeting with Chudo-polyana led to excitement, then to the conclusion of pre-apocalyptic logic, usually used on the verge of collapse: “We must save it till it is too late”. Being distressed by death, we consider living creatures doomed, just because they are last of their kin.

Gatchina locals had not wondered about the life of Zverinets park until the botanists articulated its rarity. Since Chudo-polyana has been reopened as a wonder, all past demises onsite were ignored and miraculously avoided. The only danger, worth our attention, became the danger of loss in the future. The past has left some endangered lives to fight for and the future is waving with its exhaustion, but all we do in the present is being ridiculously ignorant and occupied with list compilations, death counting, and ongoing mourning. Answering such tendency, Donna Haraway proposes to live and die *in a thick present* and to reinvent modes of living with other species, that we have once lost in mourning the past and in dreading the future. In the book *Staying with the Trouble* (2016), Haraway states:

Staying with the trouble does not require such a relationship to times called the future. In fact, staying with the trouble requires learning to be truly present, 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 [26 P 1].

Future- or past-oriented thinking ends up in the narrow political and social actions, which hardly answer the extinction and its overall context. Being in a thick present and staying with the trouble calls for viable solutions based on intertwined practices and theories.

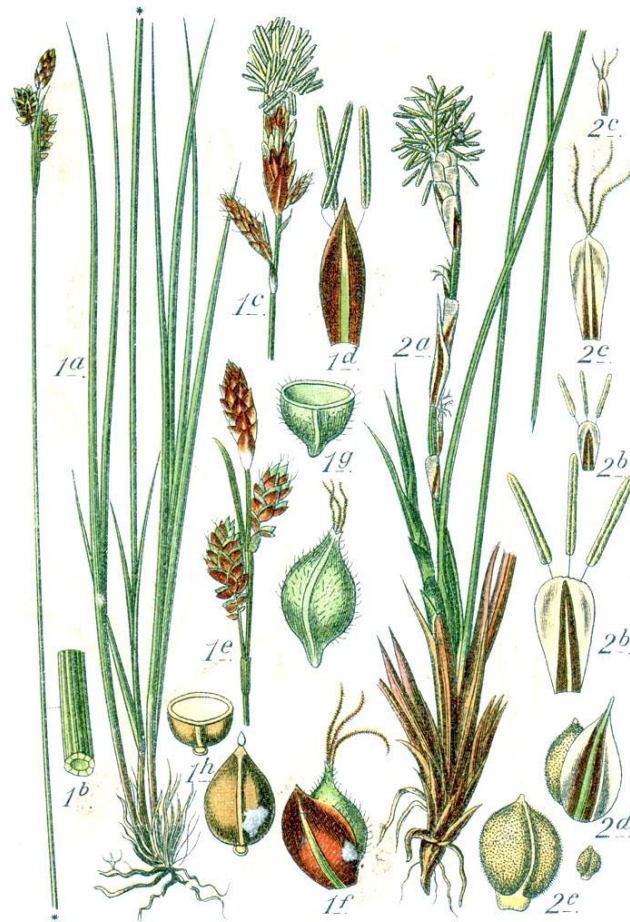
2.2.2 Distortion of distance

Located only 200 meters away from residential areas, Chudo-polyana is a popular place for year-round human activities ranging from skiing to dog-walking. Unfortunately, inhabiting the territory plants are often reported damaged or killed due to human actions.

From the dialog with Galina Konechnaya, a botanist who has been studying Chudo-polyana for decades, I have learned personal death stories of some of the meadow's species. *Thymus ovatus*, a Chudo-polyana's resident and the last plant of

its kind in the region, reportedly died in a bonfire several years ago—the researchers found it burnt till the roots nearby a fireplace. *Cypripedium calceolus*, a beautiful orchid, is being constantly taken away from the meadow by amateur gardeners, who extract these plants from their complex habitats to decorate their gardens. *Cypripedium calceolus* has strong symbiotic relationships with mycorrhizal fungi, enabling the plant to access soil nutrients, which make it almost impossible to relocate the species fully and safely [23].

Carex umbrosa (Fig. 5), a subspecies, included in Red Data Book of Russia [29] and classified as rare (R), was presented by only one specimen in the area, and was unlucky to find itself growing right on the skiing road: skiers unintentionally poked the plant to death during one snowy winter [23].



(Fig. 5) *Carex umbrosa*. *Deutschlands Flora in Abbildungen*. 1796. Author: Jacob Sturm

As we see from the examples, Gatchina people's physical closeness to the meadow does not provide the citizens and Chudo-polyana with a shared context of extinction. As Bruno Latour puts it in the work *On actor-network theory*. A few

clarifications plus more than a few complications (1990), “elements which are close when disconnected may be infinitely remote if their connections are analyzed” [36 P 4].

Killing or damaging species does not come from conscious will for locals. In fact, many of them support conservation initiatives and are proud to have numerous rare and endemic plants right beside their homes. However, not many know where Chudo-polyana is located and which endangered species inhabit the place.

The paradoxical attitude, that Gatchina citizens developed towards Chudo-polyana, has probably been influenced by the abstract idea that endangered species cannot grow “under feet”. A tussock, walked past by dog-walkers, and listed in Red Data Book *Carex umbrosa* are not identified as the same plant, unless botanical knowledge is applied. Chudo-polyana’s geographical proximity to the Gatchina’s city center and the locals’ simultaneous blindness to the place together create something, that Bruno Latour calls “the tyranny of distance” [36]. In the work *On actor-network theory (1990)* he points out the following:

The difficulty we have in defining all associations in terms of networks is due to the prevalence of geography. [...] The geographical notion is simply another connection to a grid defining a metrics and a scale. The notion of network helps us to lift the tyranny of geographers in defining space and offers us a notion which is neither social nor “real” space, but simply associations [36 P 4-5].

The rare *carex* growing, living, communicating, and reproducing in Chudo-polyana’s ecosystem, is in much stronger conceptual connection with Red Data Book, which keeps its photography and description, than with its actual location, which does not give any informational clue.

The distortion of distance is also present in scientific rational thought. In the 17th century Galilean discoveries showed the Earth as the space object, surrounded by millions of millions of other objects of the same value. The vantage point of scientific observations has shifted from our inhabited planet to the abstract outer

space. Having the whole universe around, we can easily find a virtual vantage point *outside* the Earth to observe it remotely—the *Great Outside*, as Latour calls it in *Down to Earth. Politics in the New Climatic Regime* (2017) [40]. Since we knew, that the plant was endangered, *Carex umbrosa* has been seen from the outside: from laboratories and through classifying apparatus, from the offices, universities, and academies.

No matter how far out they send their thoughts, researchers always have their feet firmly anchored in clay. And yet this vision from the vantage point of the universe - "the view from nowhere" - has become the new common sense to which the terms "rational" and even "scientific" find themselves durably attached [40 P 67-68].

Every “outside” reviewer is always *inside the knot* and is bounded with the studied object historically, conceptually, physically, and through stories. That happens to be true for both Gatchina citizens and the scientists who scrutinize the terrene. Existing conservation practices propose to “limit human activities onsite” and to “take the place under protection” of a local museum, thus, to make it jurisdictional [52]. Researchers say, “[r]are and ‘Red listed’ plants can be slipped off, trampled down, broken at any moment” [52 P 62]. The author of a paper called *The plants of the Red data book in Chudo-polyana at Zverinets park* (2017) asks to be cautious around plants and to remember that nature is fragile:

We must remember the existence of specially designated territories of special purposes, which are reserves, nature parks, protected areas. We need to remember nature’s fragility. We need to try not to harm the plant community, birds, and other living things [52 P 65].

There is this unsettling please to stay away from rare nature in the papers, dedicated to Chudo-polyana. A clear message, spanning around all local conservation initiatives, is not about learning how to live and die with, as Haraway proposes [26]. Instead, it projects the idea to enclose and to institutionalize

territories, to control them, and open for public interactions only occasionally. The problem with such initiatives is that they are discriminative against humanity itself: people are not allowed to interact with rare plant species due to public inexperience. Instead of helping everyman to connect rarity and physicality of the locally grown rare plants, institutions and affiliated specialists decide to go with emphasizing on fragility and monumentization:

Monuments of nature are the complexes, which are unique, irreplaceable, valuable in environmental, scientific, cultural, and aesthetic relations. These are the objects of natural and artificial origin. These are irreplaceable, we emphasize [52 P 65].

Not only fear but bureaucratic shock strikes anyone reading these strict but still abstract recommendations. The more organizations try to save rare species, the more they institutionalize and jurisdictionalize living entities.

2.3 Chudo-polyana: the knot

Do institutions have grounds for trembling over the lives of others? What if Chudo-polyana and humans have created a harmful precedent in their physical meeting? Sometimes encountering can be fatal for one or both, and there are many ways to prevent the collision using space/time management—from territorial enclosing, proposed by the Gatchina's museum, to the experimental time-management, that is not directly related to Chudo-polyana, but had a place in other extinction stories. In *Leatherbacks in multispecies knots of time* (2017) Michelle Bastian talks about tragic relationships between open-sea fisheries and loggerhead turtles, whose meeting in the waters of the Pacific Ocean has nearly led to the extinction of the latter. In answering the threat, a group of scientists created a time(space)-telling device called TurtleWatch, which enabled researchers to tell the geographical dynamics of the turtle population. Later they provided the data to fishermen, who now could avoid locations that are currently occupied by the rare species. In words of Bastian, TurtleWatch fostered *asynchrony* [6 P 154].

Synchrony as an extinction-related term emerges in Deborah Bird Rose's work *Multispecies knots of Ethical time* (2012), in which she states that time can be diverse and distinctive in its two integral features—sequence and synchrony [60]. Asynchrony in turn works as co-adjustment of two species, who tell time in different non-crossing ways.

Time-management, applied to Chudo-polyana, can be implemented only through a microscopic examination of circadian clocks, by which the meadow's species live; and later by adjusting our clocks to the rhythms of others, never mind their locations and growth trajectories. But first, we need the integrative educative initiatives that publicly challenge the perceptual issues, created by monodisciplinary approaches, or due to the absence of any approach at all. Currently, the meadow is not seen as live inhabitation but exists as a green field suitable for outdoor activities. Although the place consists of millions of organisms that, according to some sources, have been existing in symbiotic relationships for more than 10,000 years [34], it is hard to distinguish between the meadow's singular parts without botanical knowledge.

Chudo-polyana has its own generational time as well as the humans, who inhabit the territories around and who interact with the place a lot. Human and vegetal times encounter each other synchronically and embody the form of co-existence [60]. In Rose's words, "Both patterns of time are given the substantive presence in the world through flows of material being, energy, and information" [60 P 129]. It may only seem that Chudo-polyana's time flows on its own, while in fact, other times constantly go through. Human time is a perfect example: it has appeared right in the middle of the meadow centuries ago. In the 18th century, it evolved and started changing other times in Chudo-polyana's knot, dictating over its resources and other species. Contrary to Ado Haare, whose theory states that Chudo-polyana is a relict, Nikolay Tsvelev considers the meadow's plants to be alien. *Colchicum autumnale* and *Primula elatior*, according to Tsvelev, were deliberately introduced into Zverinets park by humans. Other species (eg. *Taraxacum hollandicum*, *Ranunculus montanus*) could unintentionally be delivered with turf, hay, seeds, or

bulbs [52]. And when the exported species met a new place, they had no choice other than to adapt and to assemble new times of germination, reproduction, and pollination.

Till Haare approached Chudo-polyana, it had existed without any geographical borders and designations on maps. Following Rose's definition of an interface (a common boundary where two systems interact), the meadow has always been not a flatness, but an intersection:

Synchrony intersects with sequential time, and involves flows among individuals, often members of different species, as they seek to sustain their individual lives. The intersection is a temporal site of embodied interface [60 P 129-130].

We need to switch from the contradictory concept of extinction to the everyday scene of reality, and to understand, that Chudo-polyana and all other biotopes are living spaces or multispecies knots. They are not static, fragile, and irretrievable complexes, but are open compounds.

No matter if we want to look at it integrally (opposed to the look from the outside) or to develop a form of synchronization with it, the notion of the knot (of space, time, cultures, and stories) should be applied. As Cary Wolfe notes it in *Extinction Studies* (2017):

...extinction—whatever else it may be—is never a generic event and is always a multi-contextual phenomenon requiring multi-disciplinary modes of encounter and understanding. That fact is worth remembering when we ask the question: When a being, human or nonhuman, dies, what goes out of the world? What is lost to the world? And what world are we left with [61 P viii]?

...and as Vinsian Despret answers:

Every sensation of every being of the world is a mode through which the world lives and feels itself, and through which it exists. And every

sensation of every being of the world causes all the beings of the world to feel and think themselves differently. When a being is no more, the world narrows all of a sudden, and a part of reality collapses. Each time an existence disappears, it is a piece of the universe of sensations that fades away [61 P viii].

Chudo-polyana's extinction story is not a story about disappearing *carexes*, orchids, *colchicums*, and valerians, though the plants are still the actors with their complex generational times. It is also not a tale of Red Data Book's pages, because our goal is to get closer to Chudo-polyana itself, and not to its classified representation. Chudo-polyana is the rapidly changing reality of everything combined, which is currently missing modes of feeling and living due to our actions.

The way Chudo-polyana exists goes beyond plant community: the meadow includes other species, nets of interspecies relationships, histories and stories, feelings, and notions. Orchids reside with fungi, *ajuga* is pollinated by butterflies and have its seeds dispersed by ants, and so on. In *The Companion Species Manifesto* (2003) Donna Haraway defines such co-existence as “[f]lesh and signifier, bodies and words, stories and worlds”, joined in naturecultures [29 P 20]. The notion of natureculture comes crucial because it helps to understand the conceptual abyss between Gatchina citizens, the biotope of Chudo-polyana, its plants, and their representations in Red Data Book. The duality of social and cultural keeps Gatchina's locals blind to the multispecies relations happening onsite. As Bruno Latour claims straight from the first pages of his *Reassembling the social. An introduction to Actor-Network-Theory* (2005): “There is nothing wrong with this use of the word [social] as long as it designates what is already assembled together, without making any superfluous assumption about the nature of what is assembled” [36 P 1]. Latour deprives social of being a domain: “The social seems to be diluted everywhere and yet nowhere in particular” [36 P 1]. Thus, social (as well as cultural) can be traced to natural, and back. A lot of species are domesticated, and a lot of species inhabit urban spaces. After all, animals create societies (groups) too—from

big mammals like elephants to small unicellular organisms like amoebas. Calling Chudo-polyana a “monument”, defining it “natural or artificial”, we demolish an active position of its compounds, ignore vegetal sociality, and keep people away from integration.

From the definition of social, which Latour “made” unstable, to the territories, that humans “made” exclusively human, we circle back to the expansivity. In *Encountering Leatherbacks in Multispecies Knots of Time* (2017), Michele Bastian argues that by seeing some places exclusively human, we push other species away from their domestic territories:

No doubt, the human view of exclusivity has always been an illusion, and of course there has generally been a place for domesticated companion species. But as humans take up more and more space, leaving less and less for others, and managing places in ways that may not be conducive to the well-being of others, new proximities are coming into being, bringing with them new encounters with the mysterious [6 P 119].

The scientist’s meeting with the rare plants onsite is also painted with mysterious and miraculous colors. The mysterious encounter with Chudo-polyana happened not miraculously, but due to the pre-existing construct of separated natural and cultural, and by the assumption that no fragile natural can live symbiotically with artificial cultural. The mystery of the rare plants grown near our human-made houses is a mystery of our inattention and disengagement from the worlds of others. Clearly, no Chudo-polyana’s rare plant would exist in our eyes if we did not know about their rarity; no page in Red Data Book would be credible enough if we did not connect the book’s content with the real plant bodies; and finally, no Chudo-polyana’s history would exist without stories about it. In his book *Ecology without Nature* (2007) Timothy Morton defines environment with the following words:

The idea of the environment is more or less a way of considering groups and collectives-humans surrounded by nature, or in continuity with

other beings such as animals and plants. It is about being-with [46 P 17].

If we put history, politics, and economics in the contexts of plants, animals, rocks, waters, and soils, we will have all chances to see that one always reflects another, and that environment is naturecultural in its plexus.

Zverinets park's and its residents' history (of living not with people, but apart yet together, of finding themselves kept inside the appropriated area) has appeared as the pathogenic knot of multispecies, where human culture was so expansive, all other cultures were left to listen to the coming footsteps of consumption.

In contrast with the multispecies knot of fishermen and turtles, which was created only when fisheries have started using large industrial boats, and which was efficiently disabled TurtleWatch, Chudo-polyana has been existing as a multispecies knot for centuries: as a feeding source for animals and as a hunting field for people. These long-term relationships are not so easy to untwine. Chudo-polyana has its clocks of sunrises and full moons, of its perennials and yearlings, of climate change and seasons. What it does not have is the ability to escape someone else's time-zone. Michelle Bastian notes, that "[w]e are told there is only one clock time, a rigid mechanical process that is unaffected by context and seasons" [6 P 159]. The fast and uncompromising anthropic regime, determined by mechanical clocks, has caused the loss of carexes and other plants in Chudo-polyana, whose clocks are not mechanical in any way. People have created a (self)destructive tendency inside the knot of Chudo-polyana, collapsing the times of others, occupying their territories, and using political, economic, and cultural instruments.

And still, the place we now know as Chudo-polyana was supposedly cultivated and inhabited by exported species in the 18th century, which means that people have been existing side by side with its plant society for at least 300 years.

Synchronization, to use Rose's term, happens not only through the land appropriation and abuse but by efforts of nourishing as well [60]. Mostly accidental, nourishing appeared through human colonizing activities: territories of Zverinets

park were inhabited by animals, whose excreta and flesh became fertilizers for the meadow's vegetation; and gardens, created by humans, precluded forest domination and saved local grass from complete vanishing. Intertwined generational times of Chudo-polyana and humans are deadly and life-making. But in the light of historical sequences, the meadow has always been a fluid interface, a meeting, an embodied time, a multispecies project.

The crucial point of a knot is that, emerged from relations it implies a big deal of responsibility—the nuance that tends to be forgotten by humans, who cross the worlds of others. In the words of James Hatley, “time is articulated as a differentiation across which and by means of which responsibilities are born” [60]. Following Deborah Bird Rose, we need not to “face” but to “interface”, when it comes to the worlds of others. Staying open to experiences with other creatures, we learn how their systems synchronize, and how we, humans, can join the synchronization. Proposing careful interfacing, Rose refers to energy:

[T]he idea of not returning energy is extremely problematic... The nature of time and life in non-equilibrium systems is that energy is channelled into renewal, or, into order emerging against entropy [60 P 136].

Responsibility is not thought as an expansive dominant father-like feeling but is implemented as the understanding of fatality or irrevocability of the energy flows, circulating between beings and sequences of their births and demises: “Generational time is a time of aeons, and ethical time is the flow of death narratives across generations” [60]. (Mass and violent) extinction is a rupture in generational time, and Chudo-polyana is fading away due to our actions. The present moment, which Donna Haraway sees essential in *Staying with the trouble* (2016), already contains beings, flows, sequences, deaths, births—all intertwined and codependent [26]. The only connection we want to keep in mind is that we share presence with other creatures and either invade their generational time or install our flows integrally in our mutual time systems.

Thanks to the efforts media and eco-activists made, the meadow became known as a place with the 33 rare plants threatened by the human factor. Researches are done, papers are published, stories are told, but does all this work bring us closer to the real Chudo-polyana with its history of multispecies interactions, with its abiotic environment and the complex structure of its plants? Lighted by the urge of saving and maintaining, conservation is a “work of inheritance”, a term coined by Thom Van Dooren in his work *Spectral Crows in Hawai‘i* (2017) [72]. Since Chudo-polyana has been forming itself for hundreds of years, some generational tendencies have been established through this extensive period. With reference to Vinciane Despret’s view on extinction, not only body disappears, but its mode of sensation is involved, connections with others are touched [61]. Chudo-polyana feels, and careful conservation of its species is required. While working with inheritance, one must inevitably think of every sensation mode of any being, found in the meadow. Thus, if a part goes missing, some very important connection disappears, putting relied species in real danger, be it mycorrhizal fungi, which loss affects vital functions of *Cypripedium calceolus*, or other symbiotic relationships, that have been developing in the meadow for long years. Missing of one leads to missing of another, ending up in functional extinction:

Functional extinction precedes actual extinction; it is a loss of connectivity and mutuality, the beginning of a vortex the dynamics of which are ever more difficult to reverse [60 P 138].

What is the work of inheritance and what does it mean to inherit? Intertwined with extinction, it means that we have the power to prevent the loss and destruction of generational times. It also implies that inheritance is biocultural [72]. As Deborah Bird Rose showed in *Multispecies Knots of Ethical Time* (2012), these life events of birth and death are not discrete, but are connected narratives, used, and listened by those who follow [60].

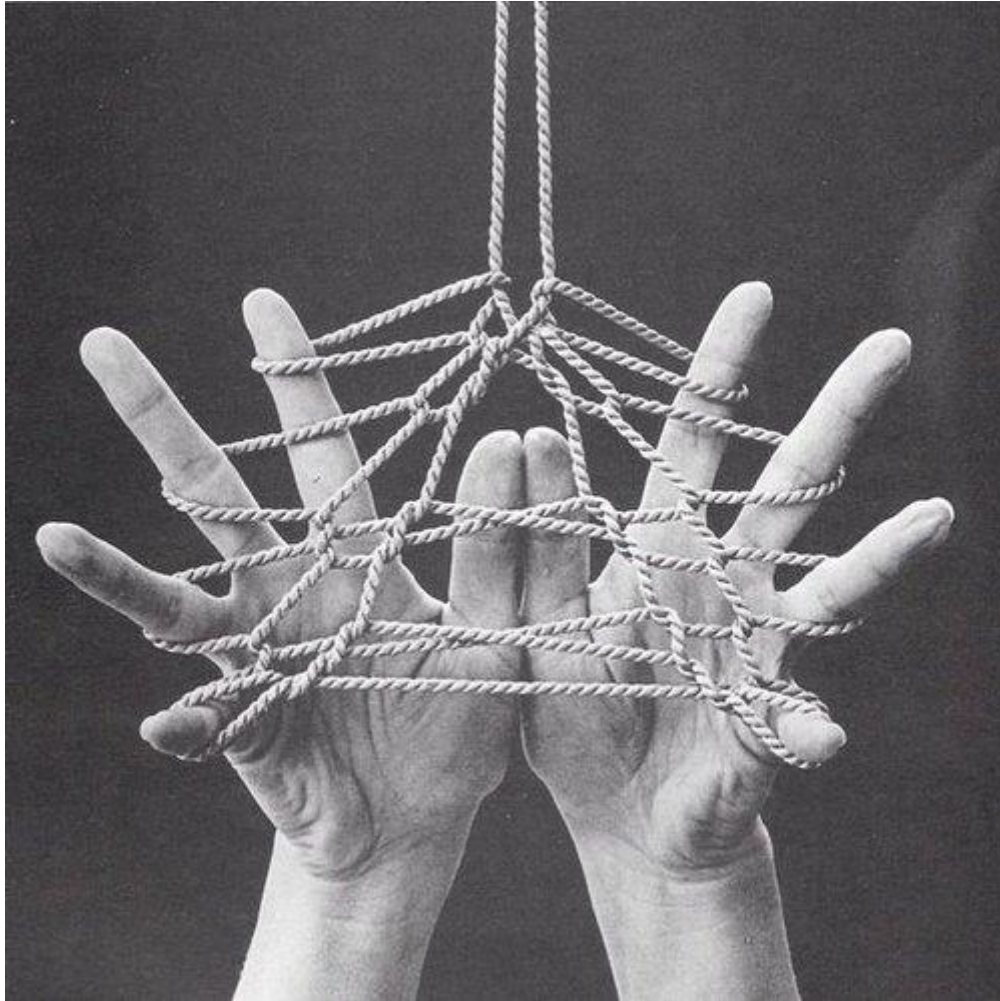
3 STORYTELLING: HOME-GARDENING AND TALKING ABOUT PLANTS

By maintaining and conveying stories, our personal experiences, and anecdotes—be it a word about skiing in January 2017, the story of hunting hares in 1898, or the entire documented project of plant relocation, organized by local school’s students in 2015 [45]—we keep the place alive. Stories create connections that have not been considered before—threads of meanings between the history of the place, scientific papers, activists, and rare species. Since every element of this self-assembling compound acts, builds, and communicates, a hierarchical static view is not applicable. Alternatively, Donna Haraway suggests playing games of string figures to find and contact these threads that stretch from one living or non-living event to another:

Playing games of string figures is about giving and receiving patterns, dropping threads and failing but sometimes finding something that works, something consequential and maybe even beautiful, that wasn’t there before, of relaying connections that matter, of telling stories in hand upon hand, digit upon digit, attachment site upon attachment site, to craft conditions for finite flourishing on terra, on earth [26 P 10].

Separate media articles, scientific papers, the meadow’s history of human invasions, and vague legal status call for new combinations, lenses, and disciplines to apply. Gatchina needs a precedential shift away from the sense of expansive (father-like) responsibility towards the practice-oriented co-existence with Chudopolyana’s plants. If we want to save and inherit generational lines in times of destruction, and if we want to create and inherit multispecies knots, great human (that of rational communities) and out-of-human (that of not rational communities) cautiousness and attentiveness are essential. Mindful cultivation of non-pathogenic knots, that create biodiverse nonexpansive co-existence, requires no fewer changes in the public consciousness than popular zero-waste or vegan movements. Even the

smallest stories, which we tell ourselves and to the world, form new heritages and appear to be work of inheritance.



(Fig. 6) *Cat's Cradles, And Other String Figures*. 1979. Penguin, First UK Edition edition.

String Figures is a game Donna Haraway refers in order to explain possible ways of living with.

Contrary to classifications, abstractizations, narrow contextual pictures, or several disjointed contextual pictures, storytelling is a dialog of trust. “We need other kinds of stories,” Donna Haraway proposes in the narrative of *Story Telling for Earthly Survival* (2016).

Stories are told about Chudo-polyana are human-generated. They are interpretations of the loss, happening outside of the rational community—in the non-human worlds. These stories are a conceptual membrane, forming a truly humanistic approach to the non-human. To tell the story of a loss is to tell from the position of respect towards living and non-living matters; it is to (slightly) open the door to the worlds of others.

Following the storytelling approach, the outside look, offered by traditional scientific paradigm, does not properly work, since nature is not a pristine environment, but is created by someone (us too) in particular places and particular moments [27]. A researcher's task is to unpack created concepts, entwined in *the cat's cradle*. In other words, a researcher should play games of string figures, while interacting with the research object. They need to stay with the matter instead of flying away in search of the safest abstract spot. To go away is to go quiet. Deborah Bird Rose defines storytelling as speaking-up against silence. Stories matter, because they are affirmations of the complexity of life, which reveals itself in entanglements:

Writing is an act of witness; it is an effort not only to testify to the lives of others but to do so in ways that bring into our ken the entanglements that hold the lives of all of us within the skein of life [59 P 139].

It matters what stories we tell, and it matters how we tell them. The following part of this work is dedicated to Chudo-polyana's plants: namely, *Valeriana dioica* and *Ajuga reptans*, which are presented by populations in the meadow. They also grow in Komarov Botanical Institute's and were relocated from their lawn and potted in my apartment in Spring 2020. I chose to talk about these species, because one is classified as extremely rare, and the other is not articulated enough and is defined as being "somehow interesting" [45]. I also have spent two months, cultivating these species at home, and observing their behavior. I will scrutinize both plants from the following perspectives: the history of human attention to the plants, personal interactive experience, and botanical information. Latter these intertwined descriptions will help to perform their relocation and to initiate human-plant interactions in a gallery space.

3.1 Valeriana dioica

Telling stories about something that consists of hundreds of organisms, each of which has its own story to tell, is a complicated task for one, thinking of a complex

system, that happens 50 km away. Nonetheless, some species of Chudo-polyana are here with me, kilometers away from their kin. A rare plant of *Valeriana dioica* (*Marsh Valerian*) which I got from Komarov Botanical Institute on 26th March 2020 has never been closer to the meadow than me. The plant has been cultivated near the institute's building for several years and managed to grow up strongly, covering meters of the institute's lawn. One institute's valerian species was relocated to my windowsill, where it is currently thriving and flowering.

Valeriana dioica also grows in Chudo-polyana, and develops a completely different set of naturecultural skills from that of my new potted friend. Chudo-polyana's valerian exists in an ongoing competitive state, fighting for sunlight and nutrients with other plants within the species-rich fen meadow. The potted valerian gets enough sun, does not compete with other species, and its roots get all needed nutrients in solution every seven-to-ten days. Since valerian prefers wet or moist soil, it grows in wet and fen meadows, calcareous mires, and along riversides. My home-based *Valeriana dioica* requires daily watering, otherwise, its stems and leaves rapidly wither. Contrary to my windowsill, the meadow creates a competitive but “all-inclusive” environment, in terms of nutrient soil, light, and humidity regulation. To survive, valerian interacts with other species, be these competitors or a supplying human.

There is only one block of *Valeriana dioica* at Zverinets park, but the place is being overgrown by willows, leaving less and less territory for valerian's growth. *Valeriana dioica* propagates both vegetatively and by seeds. It has short rhizomes, so daughter rosettes remain connected to the maternal plant. Fruits are one-seeded achenes with a pappus, primarily adapted to wind dispersal [55]. *Valeriana dioica* is a dioicous plant, thus if propagating by seeds, both male and female species must grow together to make pollination possible. There are only female plants present in the meadow—they propagate vegetatively and are genetic clones of one specimen [43].

As Chudo-polyana's compound, *Valeriana dioica* is fluid both sexually (since it needs to adapt and replicate) and in a sense of its relocative qualities. After

botanists have relocated some valerian species from the meadow to the Komarov Botanical Institute's lawn, plants found ways to adapt, grow, and bloom. Relocated to my place, valerian has grown up so strongly, I needed two more pots to host its already autonomous parts (Fig. 7)



(Fig. 7) *Valeriana dioica*, potted on the windowsill. 31.05.2020

I cannot deny the special attention, that I have been given to the valerian from the first day we met. In contrast with *Ajuga reptans*, which I considered a strong and immortal weed, valerian was fragile and moody creature to me. And it actually is: otherwise, I would not start every morning running around valerian pots with a spray pump. Having in mind, that valerian is endangered, I felt that my careful attention was grounded, but for some reason, it had more value than the recognition I was given to my other plants. The valerian's status of rare started playing a big role in our relationships, mostly relying on my responsible behavior towards the plant. It was also crucial to remember, that by relocating the plant, I became a host, thus the

one, who should be responsible for setting, environment, and abiotic factors. All abstractions of rare and endangered plants, I had in my head before. have turned into careful and conscious home-gardening.



(Fig. 8) *Valeriana dioica*. Left: Гатчинская правда.py Right: Fig. from book *Deutschlands Flora in Abbildungen*

Although I was extremely careful with valerian due to lack of experience, humans have interacted with this species for long centuries. The generic botanical name *Valeriana* comes from the Latin verb *valere*, meaning “to be healthy”. Native to Europe and Asia, its roots, rhizomes (horizontal stems) and stolons (underground stems) have been used as a treatment for insomnia, as animal baits and supposedly as sleeping poison since the time of ancient Greece and Rome. It has also become a remedy for gastrointestinal spasms and distress, epileptic seizures, and attention deficit hyperactivity disorder [71]. A lot of people cultivate valerian for personal use and make teas, spice, and salads from its roots and leaves. There are many tutorial articles online, which explain how to plant, grow, and use valerian at home. Valerian is also used in alcohol and tobacco production. According to *Rodale's Illustrated Encyclopedia of Herbs* (1987), valerian has been used to perfume soap and is good for preparing a soothing herbal bath [35].

The plant took root to human health through medicine production, and in an integrational way—by acting upon human bodies and minds. All these qualities, that people actively and widely use, assign *Valeriana officinalis*, which is domesticated and is strongly involved in human culture. *Valeriana dioica*, in turn, dies out because of swamp drainage and is known for its rarity.

Informational note:

- If you want to cultivate valerian at home, make sure it gets at least 6 light hours;
- Valerian is a marshy plant—water it at least once per two days. Water late in the evening or early in the morning;
- Choose wide and deep pots, because valerian's strong and massive root system goes deep down, and its stolons grow wide;
- Grow valerian outside, if possible.

3.2 Ajuga reptans

The other plant the Botanical Institute provided me with is *Ajuga reptans*. It is a mint family plant characterized by clonal growth. Mericarpic nutlets, produced by Ajuga, have hard shells nutlets that are adapted to fossil preservation and are dispersed by ants [49]. Ajuga's flowers are homogamous (rarely gynodioecious) and are pollinated by Apidae if outdoors [49]. The indoor species reproduce vegetatively through runners that spread across the surface of the ground. Ajuga is nectareous, however, it is chosen by bees only in absence of other nectareous plants. The species is not rare but is often mentioned by researchers and Chudo-polyana's visitors as a site-specific typical plant. Though it is an invasive weed of great vitality, *Ajuga* hardly survived outdoor-to-indoor relocation, to which the plant was exposed while being under my supervision (Fig. 9). As with *Valeriana dioica* (and most of the plants), the environment is crucial when it comes to vegetal behavior.



(Fig. 9) Left: *Ajuga reptans* right after relocation from indoors to the front yard. Right: *Ajuga reptans* two days after indoor-to-outdoor relocation.

Within my interaction with *Ajuga*, the plant was relocated twice. On 26th March eleven outdoor specimens were transported from Komarov Botanical Institute (10°C, Humidity 50%) to my apartment (23°C, Humidity 50%). On 24th April three plants were taken from the apartment and planted outside (6°C, Humidity 70%). On 26th April, two days later, relocated plants were found nearly dead (7°C, Humidity 50%). Under almost equal weather conditions, outdoors-to-indoors and indoors-to-outdoors relocations affected *Ajuga* visibly differently. Relocated from outdoors to indoors, the plant was growing and producing new plants intensively, and in a week after relocation, it already flowered. Relocated from indoors to outdoors, *Ajuga*'s leaves and stems got weak and yellowish in two days, indicating that the plant failed to assimilate. The reasons for failure are numerous and could be drawn to the soil issues, extreme changes in temperatures, and stress caused by transplantation. Based on my last check-in on 17th May, the plant has completely lost its green body. Newly grown buttons and dandelions occupied lawns and took

oligopoly on soil nutrients. On 25th May, relocated Ajuga along with other inhabitants of the lawn, were cut by city services.



(Fig. 10) A worker is mowing the place where *Ajuga reptans* was planted. 25.05.20

When my domesticated *Ajuga* started blooming in the middle of April, the attack of aphids happened. In less than three days three out of seven infected plants were dead. There were many symptoms of aphid damage noticed, including decreased growth rates, mottled leaves, yellowing, stunted growth, curled leaves, browning, wilting, low yields, and, eventually, death. Along with the loss of plant juices from direct feeding, aphids can spread diseases [4]. Thus, if insects are noticed, the plant should be immediately isolated from its vegetal neighbors and disinfected with a soap solution. Lady beetles, syrphid flies, and lacewings are important aphid predators and are usually welcomed and encouraged by gardeners. Sulfur and garlic, which also help to drive the insect away, were successfully used

in our battle with aphids. Two weeks after the assault, I noticed a spider net, stretched between Ajuga's leaves, which meant that one of the Ajuga pots had become a home for another (noninvasive, this time) insect.

People cultivate Ajuga in gardens to provide useful groundcover. A lot of cultivars have been selected, among which are: Ajuga reptans 'Alba', Ajuga reptans 'Atropurpurea', Ajuga reptans 'Rosea', and others. Ajuga (or Bugle) has a long history of use as a wound herb, particularly in England, and, is still considered helpful in arresting hemorrhages. It is also in the treatment of coughs and spitting of blood in incipient consumption. The plant contains digitalis-like substances and is thought to possess heart tonic properties. It has also been found good for the treatment of excessive alcohol intake. The whole plant is aromatic, astringent, and bitter and is usually applied externally. It is widely used in various preparations against throat irritations and especially in the treatment of mouth ulcers [2]. Ajuga was strongly recommended by an English botanist Nicholas Culpeper in the 17th century. In his *The Complete Herbal* book (1653) he points out: "If the virtues of it make you fall in love with it (as they will if you be wise) keep a syrup of it to take inwardly, an ointment and plaister of it to use outwardly, always by you" [17].



(Fig. 11) *Ajuga reptans*. Left: gobotany.nativeplanttrust.org Right: wilde-planten.nl

Informational note:

- Choose wide and deep pots, because ajuga's stolons grow wide;
- Keep ajuga in shadow—the plant is sensitive to sun rays and burns easily;
- Grow ajuga outside, if possible;
- Although ajuga is an expansive weed, it can be a sensitive creature: check the plant for insects and make sure it gets all nutrients it needs.

Chudo-polyana's *Valeriana dioica* and *Ajuga reptans* are nicely described in *Russian garden: an option to preserve the species diversity of plants in Gatchina parks*, a report, written by an eighth-grader in 2015. The paper tells about the Russian Garden project, which was implemented in the Gatchina State Museum-Reserve several years ago [45]. The main idea of the initiative was to create a place, where visitors could freely cultivate pharmaceutical and rare plants of the Gatchina region. An initial collection of cultivated plants was selected following the traditions of pharmacies: both valerian and ajuga made it to the list. When cultivation was completed, organizers planned to move all rare and endangered plants back to their habitats. The best part about the project was that not only botanists were involved, but local schoolchildren too. Maintaining the old practice of pharmaceutical gardening, The Russian Garden combined participativity (or interactivity), traditions (or work of inheritance), and conservation practices. Unfortunately, the project was closed and its founder was fired from the Gatchina State Museum-Reserve for unknown reasons. However, this initiative was the first and perhaps one of a kind. It has become an important precedent, which we hope will be repeated or revived in the future.

CONCLUSION

The Plant Reporter, a Russian online media, that connects people and vegetal community by interviewing the latter, greets their readers with the following heartwarming words:

We do not know how you live, what you are doing right now, and what you think, but we know, that a human heart beats, blood runs, lungs are filled with air inside of you, the same as inside of us. It is something, that we have in common. Emerged inside our bodies, the same force emerged from the earth and formed leaves, branches and roots, inflorescences and antennae, brightness, and greenery. We recognize this force when we encounter plants. We do not understand it but we are glad to meet the force in a different shape. Can it recognize us? Can we talk to it? We do not know. But we want to try [50].

Basic similarities are more important than the ability to communicate since the exchange of information is already taking place at the level of matter and energy. The more we rack our brains over what plants think, the more we close ourselves from physicality, sensitivity, and cohabitation. The idea that we do not need to understand the other for successful co-existence, is seen in Deborah Bird Rose's essay *Monk Seals at the Edge: Blessings in a Time of Peril* (2017), where she tells about activists, who interact with endangered Hawaiian monk seals:

We often do not, and may never, understand others with whom we do not share the qualities of the rational community, and yet we recognize that they, too, inhabit worlds of meaning. We acknowledge our shared vulnerability, and it follows that although our ethical responsibilities have no clear rational command, they make claims on us [59 P 134].

Eager for justification of action, the rational community should always listen to its initial intention (to help), which goes before any rationalization. Emmanuel Levinas stated, that ethics anticipates self and emerges outside the rational

community, thus cannot be calculated [59]. Ethical thinking does not imply, that we should speak the same language animals or plants do, but it forces us to find ways of multilingual and multicontextual co-existence.

Storytelling, used in the present work, starts the knotty conversation about co-existence in the times of extinction: it consists of historical notes, personal stories, and botanical systematics—intertwined and anchored to the place and its inhabitants, who have invaded the meadow 300 years ago. Long-term relationships between people and endangered species onsite are among the most exciting facts about Chudo-polyana: they call for work of inheritance and create the ground for new relations.

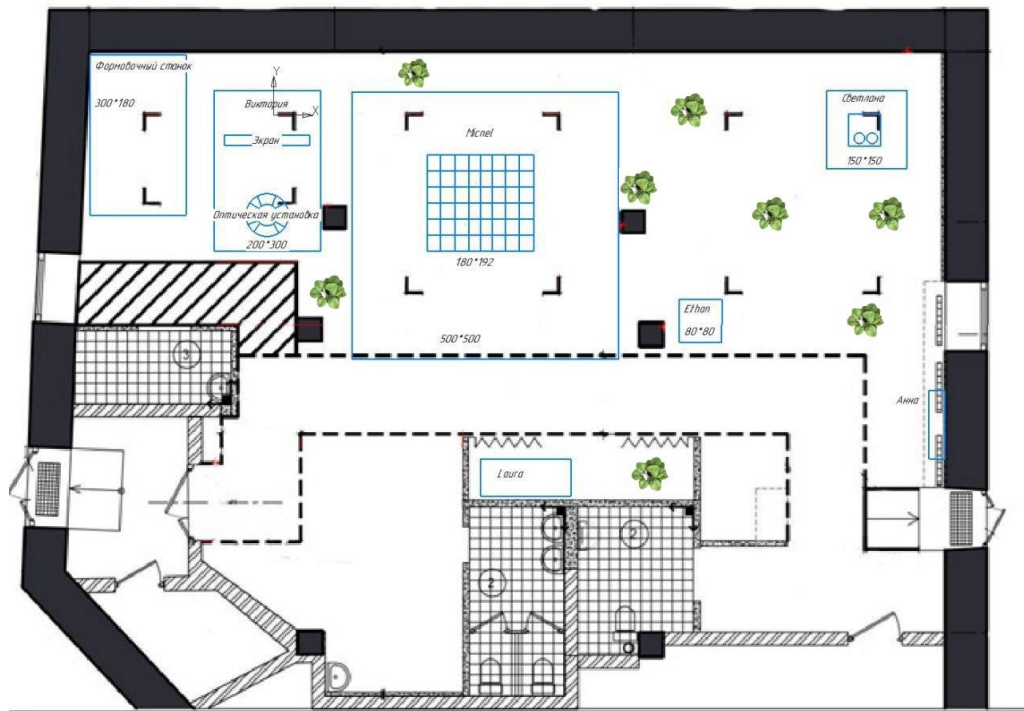
Participative art, supported by scientific knowledge and technologies, is a way to dig into the not yet institutionalized and classified interactions with the plant world. After realizing, that the knot of Chudo-polyana, (waiting to be institutionalized in five years), is presently open for partial transplantation, we, artists, with help of theoreticians and botanists, have decided to initiate relocation and cultivation of rare and endangered species of Chudo-polyana at the gallery space in St.Petersburg. The installation, which is going to be the continuation of the present research work, is aimed at free plant-human interaction with Chudo-polyana's plants via simple robotics. It is planned to install from 5 to 10 pots with Chudo-polyana's species including *Valeriana dioica*, *Ajuga reptans*, *Sesleria caerulea*, *Carex davalliana*, *Primula elatior*, *Cólchicum autumnále*, *Cirsium rivulare*, *Carex hartmanii*, *Carex tomentosa*, *Carex flacca*, in the gallery hall, so there was enough space between the plants, and viewers could walk from one installed object to another. The dynamics of the audience's attention towards the plants will be regulated by sound. Each pot will be equipped with a motion detector and a speaker system, so the pots will be constantly emitting meditative vibration-like sounds and filling the exhibition hall with homogeneous background sound. The sound will be randomly switching from monotonous to irritative or engaging every time viewers approach the pots. The sound as a sensational media contradicts with classificational

or informational notes around rare plants and welcomes viewers to build their personal unfiltered real-time experience with the vegetation.

The educational part of the project will be presented by handouts with short vegetal stories from Chudo-polyana. After the two-week show, the plants will be relocated back to the city apartment, where they have been cultivated; or will be handed over to botanical institutes. Some plants may be transferred to Chudo-polyana if the weather and other external factors allow.



(Fig. 12) *Chudo-polyana 2.0. Preparational visualization of the installation*



(Fig. 13) *Chudo-polyana 2.0. Supposed location of the plants in the exhibition space*

In conclusion, put as the experimental shift from the traditional discourse of institutionalized conservation practices, the present work is an attempt to review existing scientific and media activities around Chudo-polyana, and to implement new ways of human-plant interaction, aiming at direct learning of rare vegetal life. Experimental storytelling, inspired by actor-network theories, multispecies knots of ethical time, plant studies, and extinction studies, was made possible due to everyday interaction with rare species. As a result, four of Chudo-polyana's species are being successfully cultivated indoors. The stories gathered from the botanists, who have been studying Chudo-polyana for decades, historical sources, and media articles all together have created the new image of the place, which is now will be a challenge to entangle. The plants' relocation to the gallery space will, in turn, create the new modes of Chudo-polyana's existence, detached from its original location, but composed of the same species.

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