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Psychological Restoration during the Contemplation of Japanese-style Stroll Garden Views:

Survey about the elements of *iyashi* at Koishikawa Kōrakuen and Hamarikyū Gardens.

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1. Introduction

Academic achievements in environmental psychology from the late seventies have been unveiling many aspects of the relationship between psychological health and environment. Our surroundings influence our mood and level of stress to the point that our life quality is affected. Atmospheric temperature, noise, pollution and also what we see around us have a significant impact on our wellness[1]. Among these factors especially the last one has attracted the attention of interior designers, architects and urban planners whose job is to design functional and pleasant living spaces. In fact, we visually interact with and we are significantly influenced by the environment we live in. The environment may be depressing or suffocating as well as inspiring or relaxing. Ongoing research is trying to shed light on the environmental characteristics that trigger negative feelings or benefit people in the attempt to improve our life quality by designing better accommodations and cities. In particular, nature has been at the center of this discourse: a view of natural elements alone has been demonstrated to decrease stress, catalyze recovery from mental fatigue and improve concentration[2].

As it will be explained later, nature does not unconditionally have positive effects on people: there are in fact some aspects that favor healing more than others and some that do not[3]. In this study I propose the Japanese garden as a restorative environment and examine if and why visitors consider it so. In order to answer these questions, quantitative and qualitative data were collected through fieldwork in two Japanese-style gardens in Tokyo.

[1] Cassidy (1997), *Environmental Psychology*, 69-100.
[2] Saegert and Winkel (1990), "Environmental Psychology", 450-51.
[3] Gaterleben and Matthews (2013), "When Walking in Nature is not Restorative".

1.1. Why gardens?

Several cultures around the world have indulged in the creation of those aesthetically enjoyable outdoor spaces that in English we call gardens. Many are the styles and many are purposes, but they usually share the attempt to provide a pleasant place where to spend leisure time. In the West, the garden was defined as "the greatest refreshment to the spirits of man"[4] by Francis Bacon and nowadays is for many people the perfect place to relax. The beauty of nature is condensed into a limited space, which can be easily accessed and is part of everyday life. Gardens contain nature, but the unpleasing and distressing elements are removed. Furthermore, nature is not presented in its raw form; there is an encounter between raw nature and human arts that gives life to a wide range of interesting creations.

1.2. Why Japanese gardens?

In the past, Westerners who encountered Japanese art were struck by the aesthetics of Japanese gardens. Already in the seventeenth century Sir William Temple praised their asymmetrical and irregular beauty[5] and, during the Meiji period, the British architect Josiah Conder and the British artist Elle Du Cane enthusiastically wrote about them[6] [7]. Conder and Du Cane were both impressed by the choices in the composition of the views, inspired to real Japanese landscapes. As Conder says, "the laws of natural growth and distribution are closely studied and punctiliously applied in the management of even the smallest detail" [8]. The beauty of the garden thus reflects the beauty of a real scenery which is further enhanced through the designing of the space and constant maintenance. While nature is restrained and frequent maintenance is needed, man's intervention is concealed in order to bring into prominence nature. This kind of garden may be one of the most suitable places for relaxing and recovering from mental fatigue because it offers comfort and artistic beauty while preserving natural forms. Some studies by Japanese psychologists have already demonstrated the restorative/healing potential of Japanese-style gardens[9] [10] [11]. In this study the same goal is pursued through a more qualitative approach that emphasizes visitor's experience.

[4] Bacon (1857-74), "Of Gardens", 485.
[5] Kuitert (2014), "Japanese Art, Aesthetics, and a European Discourse: Unraveling *Sharawadgi*", 77-79.
[6] Du Cane (1908), *The Flowers and Gardens of Japan*.
[7] Conder (1893), *Landscape Gardening in Japan*.
[8] *Idem*, 1.
[9] Taniguchi et al. (2003),"Teienkei kara ukeru iyashi no imēji ni kansuru chōsa kenkyū".
[10] Matsumoto (2012), "Nihonteien no iyashi hyōka skēru ni okeru tokuchō".
[11] Uchida et al. (2012), "Teien ya bijutsuhin no kanshō ni yoru iyashi ga hito no shinri ya seiri ni oyobosu kōka".

2. State of the field

2.1. The general framework: person-environment-health relationship

The person-environment-health relationship has been a topic of debate in many disciplines: environmental psychology, human geography, sociology, landscape studies, natural resource management, landscape architecture, agricultural studies, etc.. Each discipline has its own preferred research methods, but there are also studies that take an interdisciplinary approach. In this case, interpretative models can be combined to have a more comprehensive grasp of such a multi-faceted relationship. The models upon which scholars and scientists relied the most so far are: attention restoration theory, psychophysiological theory, the biopsychosocial-spiritual model, the idea of "sense of place", and the concept of "therapeutic landscape". For a brief explanation of the above-mentioned models, as well as an example of an interdisciplinary approach applied, see "Understanding Urban Green Space as a Health Resource"[12]. The frameworks used for this study are presented in the sub-chapters below (2.1.1. and 2.1.2).

As there are several theoretical frameworks and perspectives, there are also many, if not countless, different circumstances where person and environment interact. Although my resolution was to take an interdisciplinary approach, the study deals with a very specific situation of person-environment interaction; namely, the visual appreciation of a garden view. Accordingly, not all the above-mentioned models are equally suitable. First of all, the interaction with the environment is visual, therefore there is no real contact and no physical activity is involved. Secondly, this type of interaction is highly contextual because the focus is on a particular view of the garden, not on the garden as a whole or on the idea of garden. For these reasons I mostly rely on environmental psychology, which can better explain the connection between health and contemplation of a view. The most influential – and helpful in this context – theories in the field are the above-mentioned attention restoration theory[13] [14] [15] developed by Kaplan and Kaplan and the psycho-evolutionary theory[16] [17] [18] as proposed by Ulrich.

[12] Irvine et al. (2013), "Understanding Urban Green Space as a Health Resource", 419-420.
[13] Kaplan and Kaplan (1989), *The Experience of Nature*.
[14] Kaplan (1995), "The Restorative Benefits of Nature".
[15] Staats (2012), "Restorative Environments", 4.
[16] Ulrich (1983), "Aesthetic and Affective Response to Natural Environment".
[17] Ulrich (1993), "Biophilia, biophobia, and natural landscapes".
[18] Staats (2012), "Restorative Environments", 5-6.

2.1.1. Attention restoration theory

The action of being in nature and looking at the surroundings does not require the same type of demanding concentration that is required when working, reading, driving a car, etc.. The latter type of concentration has a precise focus and is necessary to accomplish tasks; it is called "voluntary" or "directed attention" by Kaplan[19]. On the contrary, the amount of concentration needed to interact with natural surroundings is considerably lower and the brain does not have to process the information with the same depth. It has been observed that this state of mind enables recovery from mental fatigue and stress relief.

The natural settings where psychological relief happens have such characteristics that elicit certain states of mind. Kaplan explains these characteristics through four concepts: "being away", "fascination", "extent" and "compatibility"[20]. "Being away" means to be detached from the source of stress or mental fatigue; the detachment is psychological, but it often occurs first through geographical/physical detachment. "Fascination" is considered the most important and means to be psychologically engaged in a pleasant activity; it is through fascination that the mental healing occurs. "Extent" refers to the "coherence in the experience of the environment"[21]: the environment cannot be cluttered and has to provide scope for exploration. "Compatibility" means that the environment has to be compatible with the action intended.

2.1.2. Psycho-evolutionary theory

According to the psycho-evolutionary theory, people show a natural, instinctive preference for those environments where the healing process takes place[22]. These environments evoke a positive affective response that precedes any cognitive process[23]. In fact, this preference is not dictated by individual taste, but by a natural predisposition. Thus, as Ulrich maintains, it is innate and cross-cultural[24]. Cognitive accompaniments, which on the contrary are strongly influenced by culture, experience, etc., are subsequently built upon this affective response. To understand the essence of this affective responses we may borrow the nowadays old-fashioned but intuitive theories popular among the psycho-evolutionists between the sixties and the seventies[25]. Innate preferences are explained as traces of the human evolution. Therefore, natural places or natural elements that are connected with the survival of the species are more likely to be good settings for stress relief. This idea is reflected in the above-mentioned Ulrich's theory

[19] Kaplan (1995), "The Restorative Benefits of Nature", 169-170.
[20] *Idem*, 173.
[21] Staats (2012), "Restorative Environments", 4.
[22] Ulrich (1999), "Effects of gardens on health outcomes", 50-52.
[23] Ulrich (1983), "Aesthetic and Affective Response to Natural Environment", 88-89.
[24] *Idem*, 87.
[25] *Idem*, 115.

about affective response as well as in other theories proposed by his colleagues, such as the biophilia hypothesis[26].

Preference for natural elements such as water or vegetation are common themes in psycho-evolutionary theories, yet Ulrich provides a deeper analysis of visual properties of a scene that goes beyond simple natural elements. He illustrates how complexity, structural properties, depth, textures, etc. have an impact on the affective response of the individual that determines his appreciation of the scene itself[27].

2.2. An outline of the neighboring fields.

The contemplation of a garden view is here proposed as an opportunity for mental energy recovery and a positive feelings booster. However, it must be pointed out that contemplation/visual appreciation is only one of the many healing methods that involve nature. A relatively up-to-date account of them is to be found in Chalquist's "A Look at the Ecotherapy Research Evidence"[28] or in Russell's "Therapeutic Uses of Nature"[29]. As is clear from the title of these works, the authors are concerned with studying nature as a therapy, whose goal is to heal or relieve disorders. Although these therapies are matter of studies of medical sciences, among them there are also activities intended for healthy people. These activities have some significant features in common with the contemplation of a garden view. I will outline them in the following paragraphs. For the sake of clarity I distributed them into a spectrum that has physical interaction with nature on one extreme and visual appreciation of nature on the other. Garden contemplation, as proposed in this study, belongs to the latter. Horticulture and garden therapy to the former. In the middle we can find activities such as hiking or "forest air bathing" (*shinrin yoku* 森林浴). Through this brief overview of the neighboring fields I intend to better define the nature of garden view contemplation.

Horticultural/garden therapy require the closest interaction with plants and are also the solution to stress and depression that have been around for the longest[30]. These therapies share the same object of garden contemplation – i.e. the garden itself – but the approach is significantly different: in horticulture/gardening the person who carries out the action is a gardener, not an observer as it happens in garden contemplation. It is the concrete involvement with the gardening activity that catalyzes the restoring experience. In other words, people often find working outdoor liberating. Moreover, being able to observe the progress and the results of one's own work is rewarding and helps positive thinking. Another difference with garden

[26] Kellert and Wilson (1993), *The Biophilia Hypothesis*.
[27] Ulrich (1983), "Aesthetic and Affective Response to Natural Environment", 95-105.
[28] Chalquist (2009), "A Look at the Ecotherapy Research Evidence".
[29] Russell (2012), "Therapeutic Uses of Nature".
[30] Shoemaker (2002), "Research Methodologies for Studying Human Responses to Horticulture", 22.

contemplation is that horticulture/gardening often involve cooperation between participants who enjoy the social aspects of these activities (helping each other, making new friends, etc..). All in all, the positive effects of horticulture/gardening therapy mainly derive from physical interaction with plants, but physical interaction is not everything, because even horticulture seems to have a contemplative side[31]. Moreover, already back in the seventies, scholars were pointing out that benefits derive also from simply being in touch with the plants because people tend to find fulfillment in places where the "ancient linkages between person and plant are reestablished"[32].

A step towards the contemplative approach is "nature therapy", understood as spending time in nature. A walk or a hike in the nature are well-known mental diversions that function as stress relievers. In this case the effect is partly due to the fascination towards the natural environment where they take place and partly due to mere physical exercise. These are the properties that have favored the use of wilderness as a therapy[33]. Among the nature-oriented activities, the so called *shinrin yoku* – "forest air bathing" [34] [35] – is worth a mention. Apart from the fact that, coincidentally, it was born in Japan, *shinrin yoku* is more akin to garden contemplation because the component of physical exercise is secondary, if not irrelevant at all. The point is to be in contact with nature, hence the environment is more important than the action itself.

To sum up, the action of contemplating is part of these activities, but it is not central. Horticulture/gardening *et similia* focus on the social (e.g. working with other people) and the rewarding aspects (e.g. watching over the plants/flowers growing), wilderness activities on the social (e.g. overcoming hurdles together) and the physical aspects (e.g. hiking), and *shinrin-yoku* on the psychophysiological ones (e.g. breathing clean air in the forest).

Another significant difference worth mentioning regards the artistic-aesthetic aspect of gardens. The activities summarized in the previous paragraphs share similarities in terms of appreciation of the natural environment and, especially, of the plants, but none of them truly possesses the artistic component that is fundamental in garden contemplation. Overall, garden contemplation and nature therapies differ because in garden contemplation, first of all, the only action required is that of viewing, and, secondly, because the view – the object of contemplation – is the embodiment of aesthetics and the result of the gardener/designer's artistic choices. On the other hand, nature therapies mostly focus on physical contact with plants and experiencing the wilderness; aesthetics is secondary, if not absent.

[31] Lohr (2006), "The Beneficial Effects of Plants on People", 2.
[32] Lewis (1979), "Comment: Healing in the Urban Environment", 337.
[33] Manning (1988), "Social Research in Wilderness: Man in Nature", 123.
[34] Morita (2007), "Psychological effects of forest environments on healthy adults".
[35] Jordan (2015), *Nature and Therapy*, 11.

2.3. The healing power of nature

The importance of nature in our daily life is reflected in the choices of urban planners and interior designers who often try to add trees to urban streets and decorate rooms with plants and flowers. The need to bring nature into our daily environment is not a prerogative of experts and professionals: in many cultures private gardens are highly appreciated for both recreational and aesthetic purposes. Although most of us live in an urbanized environment[36], our behavior suggests that we cannot reject our bond with nature. These preferences originate from needs that everyone may relate to, such as being away from daily routine[37] [38] [39], recreation[40] [41] or a genuine longing for beauty[42] [43].

However, there is something more ancestral that drives us towards nature. Humans have lived in the wild for much longer than civilization exists and that ancient humans completely relied on nature for survival. Environmental psychologists explain that human behavior has been shaped by the environment during this evolutionary process[44]. Our mind has evolved in a natural context, therefore in strong connection with the environment; this has left traces in our way of thinking and behaving. Some of these traces exist in form of associations between environmental features and states of mind. In other words, some instinctive preferences and emotional responses are products of our biological evolution. In fact, what we perceive as relaxing environments are often places with a good visibility and with easy access to water and food (or at least they recall such environments). These are the places where primitive humans had more chances to survive and they are now the places where it is more likely for us to recover from stress and feel better[45].

The fresh water of a stream and the green of a broadleaf forest usually evoke in the observer a sense of freshness and tranquility. In a Japanese study about "images of 'healing landscape'"[46], 312 people were asked to imagine a peaceful place where to relax and restore energy. 84% of the respondents described a natural environment and 77% of these mental sceneries were dominated by greenery. The benefits derived from the view of a natural environment are not a simple suggestion. Already back in the seventies and eighties, it was demonstrated that green surroundings help a faster recovery after a physically demanding exercise[47].

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[36] United Nations (2014), *World urbanization prospects: The 2014 revision*.
[37] Kaplan and Talbot (1983), "Psychological Benefits of a Wilderness Experience", 187-188.
[38] Russell (2012), "Therapeutic Uses of Nature", 10-11.
[39] Oulette et al. (2005), "The Monastery as a Restorative Environment".
[40] Norling et al. (2010), "The Benefit of Recreational Physical Activity to Restore Attentional Fatigue".
[41] Irvine K.N. et al. (2013), "Understanding Urban Green Space as a Health Resource".
[42] Kaplan and Talbot (1983) , "Psychological Benefits of a Wilderness Experience", 188-189.
[43] Zhang et al., (2014), "Engagement with Natural Beauty Moderates the Positive Relation Between Connectedness with Nature and Psychological Well-being", 56.
[44] Ulrich (1993), "Biophilia, biofobia and natural landscapes", 74-76.
[45] *Idem*, 86-97.
[46] Asano et al. (2006), "'Iyashi no fukei' imēji ni kansuru kenkyū".
[47] Kondo et al. (1977), "Midori no motarasu shinriteki kōyō ni kansuru kisoteki kenkyū".

Striking effects were also observed on patients recovering from surgery in a famous study by Ulrich. He observed that patients who could see trees from their bed through the window recovered faster than those who had the view obstructed by a wall[48]. The discovery encouraged new research to explain this phenomenon. The intuitive notion that we benefit from being in contact with nature had to be partially revised because Ulrich's study illustrated that the view of trees alone could be beneficial and that it is not a simple matter of contact. This was further supported by studies which demonstrated the positive effects that pot plants or even posters of natural views have on employees' concentration and perceived tiredness[49] [50].

The preference for water and vegetation has an alternative explanation in a more recent theory about "perceptual fluency" by Joye and Van den Berg[51], who take a more critical approach and argue Ulrich's idea of innate affective response towards nature. However, despite the critical stance, their conclusion does not negate the psycho-evolutionary theory, but rather claims the need to explain what Ulrich sometimes seems to simply define innate or biological. Instead of focusing on the innate affective response to nature, they suggest that our brain processes natural environments more easily, thus we are likely to prefer them to urban environments when we seek relaxation. The expression "perceptual fluency" refers to the fact that human brain smoothly processes natural environments. This new interpretation sets the ground for new perspectives in environmental psychology, but it does not eradicate the pyscho-evolutionary theory, as the reason why we "fluently perceive" natural environments has adaptive origins and is therefore biological.

2.4. Nature in the garden

According to the above-mentioned studies, the view of nature has positive effects on our mind and subsequently on our body. However, nature has many forms and we do not relate to each of them in the same way. The following paragraphs illustrate how wild nature and nature in a garden are differently perceived.

First of all, nature in its purest form, what we call wilderness, can be as much as beautiful as dangerous. The danger can be evident, like during mountain climbing when a wrong step may lead to disastrous consequences; otherwise it can be less obvious like during a hike in the forest when the danger may be hidden behind the trees. Unlike wilderness, the garden is always free of any danger: no risk to fall from a precipice or to be attacked by a wild animal. Despite seeming obvious, this consideration is fundamental to

[48] Ulrich (1984), "View through a Window may Influence Recovery from Surgery".
[49] Burchett (2003), "Capacity of Indoor Plants to Improve Indoor Environmental Quality".
[50] Kweon et al. (2008), "Anger and Stress".
[51] Joye and Van den Berg (2011), "Is love for green in our genes?".

understand that our response to the environment is affected by the stressors that are found in the environment itself.

In the garden, not only the risk of suffering an injury is extremely low, but walking around is easy and nearly effortless. This feature, called "accessibility"[52], has been studied in natural settings such as forests and it has been proved that high accessibility leads to high pleasure. If walking along the path becomes more difficult, pleasure usually decreases[53] [54]. Since gardens give the opportunity to be in contact with or contemplate nature from a completely safe and comfortable position – a path, a bench or a lawn – we are led to assume that negative feelings are unlikely to arise.

Regarding the danger of possible hidden menaces, it seems that environments with dense vegetation that could conceal a danger, even if only imaginary, may hinder restoration[55]. Although dense vegetation may also be seen as a shelter, the stress derived from the risk of a sudden attack due to the lack of visibility is higher than the sense of safeness derived from the chance of escaping the attack thanks to the abundance of natural shelters[56]. This is also a major reason why tended forests are preferred to wild forests to have a relaxing walk[57].

Other features of wild environments that may negatively affect people's mood are the fear of losing orientation, of being caught in a storm, etc.[58].

All these negative aspects are nearly completely absent from most of the gardens all over the world. From this perspective, gardens excel as restorative environments because of the lack of discomforts and distressful elements. However, it is not all a matter of what they do not have: gardens are also a source of "fascination", as defined by Kaplan[59]. Opposed to natural sceneries, they are purposely designed to appeal to the visitor. In fact, wild environments – intended as places left to nature – may not provide enough elements to draw our attention or could be repetitive. In this case, our mind may be not sufficiently engaged to let the healing happen. According to the attention restoration theory, in fact, fascination is crucial to activate the healing process. Gardens, on the other hand, are designed to be contemplated and therefore are likely to provide enough elements that draw our spontaneous attention. Hunt says that "gardens focus the art of place-making or landscape architecture in the way that poetry can focus the art of writing"[60]. Consequently, gardens differ from raw nature because they are artworks at the same time.

[52] Staats et al. (1997), "Change in Mood as a Function of Environmental Design".
[53] *Ibidem.*
[54] This is not true for people who seek adventure. They actually find pleasure in overcoming hurdles. However here I am talking about those who are looking for relaxation, not challenging experiences.
[55] *Ibidem.*
[56] Gatersleben et al. (2013), "When Walking in Nature is not Restorative".
[57] Martens (2011), "Walking in 'wild' and 'tended' urban forests".
[58] Gatersleben et al. (2013), "When Walking in Nature is not Restorative", 2.
[59] See chapter 2.1.1.
[60] Hunt (2000), Greater Perfetions, 11.

However, not everyone agrees on the value of gardens. Hegel dismissed gardens for their attempt to reproduce the immensity of nature; an attempt deemed to miserably fail and end in fake copies of nature itself. On the other hand, Kant recognized that gardens have the double merit of being appreciated both as nature and as artworks[61]. Nevertheless, in Kant's vision, pure nature has still the best over gardens. A third stance in this philosophical debate maintains that gardens are inferior to nature only if evaluated through the same criteria used for raw nature[62]. Raw nature, otherwise defined as *first nature*, is to be distinguished by the *third nature*, namely gardens[63]. Gardens are in fact cultural products that become "vehicles of representation and symbolism"[64]. In fact, "the garden could be said to stand at the crossroads of nature and culture"[65] and this precise characteristic may be the quintessence of the ideal restorative environment that I intend to investigate.

2.5. Japanese gardens

The definition "Japanese garden" is too wide as it includes many types of gardens that have strikingly different features: gardens designed around a miniature lake and dry landscape gardens; gardens that contain pavilions and, conversely, gardens contained in pavilions. As Ono remarks, the main feature they share may not be stylistic but rather geographical as they are located in Japan[66]. This variety reflects the diversity of natural environments in the Japanese archipelago, which is represented in the garden itself. Moreover, the history of garden making in Japan spans over a thousand years and numerous historical and cultural changes through the ages have given birth to a rich variety of diverse architectural works.

At first glance perhaps surprising, this variety has actually an analogue in Western gardening. England, France, Italy, etc. have a long tradition of gardening that has produced gardens dramatically different in style. Among the multitude of disparate elements and designs, is it possible to identify models with coherent characteristics?

A convenient distinction that can be made is between "natural landscape garden" (*shizen fūkeishiki teien* 自然風景式庭園) and "shaped gardens" (*seikeishiki teien* 整形式庭園)[67]. Japanese gardens belong to the former. They are modelled on the natural environment and tend to mingle with it. This is particularly true for the "stroll garden" (*kaiyūshiki teien* 回遊式庭園) type which covers a large area and is designed in harmony with

[61] Cooper (2003), "In Praise of Gardens".
[62] *Idem*, 105-107.
[63] Hunt (2000), *Greater Perfections*, 32-75.
[64] Cooper (2003), "In Praise of Gardens", 106.
[65] Nitschke (1999), "Japanese Gardens", 238.
[66] Ono (2009), *Nihon teien*, i.
[67] Mori (1988), *Teien*, 70-71.

the topography of the site. Koishikawa Kōrakuen is an example[68]. In sum, although clearly manufactured, the result is a scenery that evokes the beauty, the immensity and the variety of a natural scenery.

The features that make the visual experience in a Japanese garden pleasant and fascinating are already outlined in the most ancient treatise about gardens in Japan, the *Sakuteiki*[69]. The *Sakuteiki* addresses the typical Heian period aristocratic gardens, but the core principles are the same for Japanese style landscape gardens built until today[70]. First of all, the art of garden-making is based on a careful study of the natural environments and the landscapes that are represented. A major goal is to successfully recreate famous sceneries reduced in scale. Secondly, the overall view has to convey a sense of unity and harmony. This does not only regard the inside of the garden; a balance between the inside and the natural environment or scenery outside has to be achieved as well.

It is interesting to look at these basic structural and aesthetic features through the lens of psychology. According to the psycho-evolutionary theory, a healing place is to be found in a human-friendly natural environment. Japanese gardens, as we expect gardens to be, are man-made spaces designed for leisure and entertainment, hence threatening elements are excluded and they are human-friendly. Furthermore, the Japanese gardens treated here are natural landscape gardens, hence they reproduce natural sceneries creating a strong connection between the garden and raw nature. The attention restoration theory provides further insights. In a Japanese garden the perfected nature and the design are objects of "fascination", while the overall unity and harmony give the "extent"[71] to the view, which is easily perceived as a whole. In addition, the typical asymmetries offer a major scope for exploration than a symmetric landscape, therefore enhancing the "extent" quality. The visitor may perceive the "being away"[72] feeling from the moment he enters the garden, but the sensation could become stronger if he can read the language of the garden and envision the famous sceneries it represents.

[68] Shirahata (1997), *Daimyō teien*, 49-50.
[69] Kuitert (1988), *Themes, Scenes, and Taste in the History of Japanese Gardens*, 33-34
[70] *Ibidem.*
[71] See the definition in chapter 2.1.1.
[72] See the definition in chapter 2.1.1.

3. Method

3.1. Study setting

Research about the restorative elements in Japanese-style garden views was conducted in two Japanese-style gardens in Tokyo, Japan. Koishikawa Kōrakuen 小石川後楽園 in Bunkyō ward and Hamarikyū Onshi Teien 浜離宮恩賜庭園 in Chūō ward. Both gardens cover a vast area and contain sub-gardens/areas with different features. For this study, two typical "stroll garden" (*kaiyūshiki teien* 回遊式庭園) views, one for each garden, were chosen. See the appendix A for further information about the gardens and a detailed description of the two views analyzed in the study.

3.2. Questionnaire[73]

The purpose of the questionnaire was to understand whether visitors felt mentally restored during the contemplation of the garden views and to clarify what were the elements of the view that made them feel that way.

The questionnaire is made up of eight questions that can be sorted into three groups: personal details (question number 1, 5, 6, 7, 8), quantitative assessment of *iyashi* (question number 2 and 4) and description of *iyashi* (question number 3).

Iyashi 癒し in Japanese generally means "healing", but in the last decades has been chiefly used to refer to mental or spiritual healing[74]. In this study it is used with the meaning of "psychological restoration" – a combination of stress reduction, recovery from mental fatigue, etc.. – as conceived by Japanese psychologists and medical experts[75].

The purpose of these three types of questions is respectively: collecting basic data about the respondents, assessing the level and the typology of *iyashi* they perceived, and understanding what elements of the view were responsible for the same *iyashi*. The last, namely question number 3, provides the most relevant data to the research, since it directly inquires about the reasons why visitors feel better while viewing the garden landscape. Accordingly, responses to question number 3 are the focus of the analysis in chapter 5. The following is a detailed description of each question included in the questionnaire and of the methodology applied to analyze the data.

[73] See Appendix B for a sample of the questionnaire.
[74] Yumiyama (1995), "Varieties of Healing in Present-Day Japan", 272-274.
[75] Asano (2006), "Hito ni yasashii kōenzukuri".

In question number 1 the respondent is asked the purpose of his visit through a multiple-choice question. This question aims to highlight general trends in what people are most interested in when visiting a garden. It also has the task of introducing the general topic of the questionnaire to the respondent.

Question number 2 is a table that contains six categories (Figure 1): the respondent is asked to assess every category on a rating scale. Each category is a "distinctive feature of *iyashi*" selected from the "*iyashi* evaluation scale" created by Matsumoto[76] and already applied by Matsumoto himself in a study on *iyashi* perception in Japanese and Western gardens[77]. Since the original "*iyashi* evaluation scale" by Matsumoto consists of thirty items and may take more than a few minutes to be filled in, it is not suitable for a questionnaire delivered to random visitors. In order to fit in the questionnaire, it had to be reduced. Luckily, Matsumoto also categorizes the thirty items in six wider categories[78]: "calmness" (*nagomi* なごみ), "perfection" (*kiwami* きわみ), "pureness" (*kiyoraka* きよらか), "freshness" (*uruoi* うるおい), "liveliness" (*hazumi* はずみ), and "detachment" (*mushin* むしん). I readjusted them in line with Matsumoto's definition so that their meaning could be immediately and easily comprehended by the respondent (Figure 4). The respondent is then asked to reply to what extent he agrees with the content of each category through a five-option scale: "not at all", "just a little", "average", "quite", and "extremely". In the question it is specified that "average" corresponds to the normal state of mind, which is neither positive nor negative. In the subsequent phase of data analysis, these five options are translated into numerical values and "average" is associated with "0". Accordingly "not at all" is "-2", "just a little" is "-1", "quite" is "1", and "extremely" equals to "2".

Question number 3 follows up the previous question. The respondent is asked to name the elements of the view that had or are having a positive effect on him. This question is open-ended and the reply is written in a table similar to that of question number 2 (Figure 2). Since only positive judgments are significant to the research question, the explanation was required only for those categories that the respondent had rated "quite" or "extremely". For example, in case the respondent replied "average" or less to all the categories and "quite" only to the last – namely "Sense of pleasant void/nothingness" – he was asked further elucidation about the reason why he felt a sense of pleasant void while looking at the scenery. The response could be anything like "the silence", "because of the harmony of the garden", etc.. Question number 3 is the only one in the free-response format. This is because it was paramount to consider every possible opinion. However, the soft data obtained had to be classified in order to make the analysis feasible.

Question number 4 asks directly the respondent to give an evaluation of how much he feels "healed" (*iyasareru* 癒される) by the view. This question was deliberately placed on the second page of the

[76] Matsumoto (2005), "Nichigeiban 'iyashi' hyōka skēru no kansei".
[77] *Idem*, "Nihonteien no iyashi hyōka skēru ni okeru tokuchō".
[78] Uchida et al. (2012), "Teien ya bijutsuhin no kanshō ni yoru iyashi ga hito no shinri ya seiri ni oyobosu kōka".

questionnaire in order not to interfere with the previous questions. The term *iyashi* itself may in fact influence the respondent. The purpose of question number 4 is to have a grasp of the level of *iyashi* perceived by the visitor. The scale ranges from "definitely not healed" to "definitely healed" and contains seven options (Figure 3). The middle option is "don't know" and corresponds to the numerical value of "0". Accordingly, the two extremes "definitely not healed" and "definitely healed" respectively correspond to "-3" and "3".

Question number 5, 6, 7, and 8 are all about general information about the respondent. Question number 5 asks whether he is visiting the garden alone or not. The rest are about sex, age and occupation of the respondent. This information may be useful to highlight correspondences between a type of respondent and a trend of responses.

	全然	少しだけ	普通	かなり	とても
安心感・暖かい気持ち					
心が磨かれる・前向きになる					
清らかな気分・澄んだ気持ちになる					
気が晴れる・リフレッシュできる					
軽やかで、楽しい気分					
何も考えないで、ボーっとできる					

Figure 1. Table from question number 2. The respondent is asked to check one box per row.

安心感・暖かい気持ち	
心が磨かれる・前向きになる	
清らかな気分・澄んだ気持ちになる	
気が晴れる・リフレッシュできる	
軽やかで、楽しい気分	
何も考えないで、ボーっとできる	

Figure 2. Table from question number 3. The replies are written in the column on the right.

	強く思う	思う	少し思う	わからない	少し思う	思う	強く思う	
癒されない								**癒される**

Figure 3. Table from question number 4. The respondent is asked to check one of the seven boxes.

3.3. Data collection

The questionnaire was delivered face-to-face to Japanese visitors who were contemplating the garden. Every respondent was already on the spot either sitting on a bench or standing in front of the view. Before asking for participation, it was made sure that they were not simply passing by, but they were actually looking at the view. I personally approached them and explained that I was conducting a survey about the appreciation of the garden for my own research. During the time of the survey I had to wear an armband to show that my actions were authorized by the garden office. Once consent was verbally obtained, the participants were given the two-sheets questionnaire and a pen to complete it. It took on average 2-3 minutes to complete the questionnaire.

At Koishikawa the survey was conducted on the 28th and the 29th of November 2016. During the two days the weather was sunny and a little windy. Temperature ranged from 10°C to 15°C. Although the 28th and the 29th were weekdays, the garden was alive with many visitors, come to view the Japanese maples that turn red in autumn and reach their peak of colorful beauty at the end of November. All the respondents were sitting on the benches facing the pond, therefore they shared the same point of view. The benches are quite close to the entrance, about three minutes of slow walk from the ticket office. Most of the respondents were accompanied by friends or family and were chatting, eating or simply relaxing in front of the landscape.

At Hamarikyū the survey was conducted on the 12th and the 18th of December 2016. The weather was sunny, sometimes a little cloudy and windy. The temperature was around 10°C. The questionnaire was delivered to the visitors who climbed up the Fujimiyama – the artificial hill located at the south edge of the garden – and stopped to gaze at the landscape. This location is far from both the entrances, so visitors walk through the garden for at least ten minutes before reaching it. Since there is a single bench on the top of Fujimiyama and not enough space for all the visitors to sit, most of them stood while contemplating the view.

3.4. Respondents

At Koishikawa sixty-seven out of eighty-seven visitors that were asked to participate to the survey accepted. Among the sixty-seven participants, six were excluded due to incomplete or mistaken responses, hence the total number of valid respondents is sixty-one people; 70% of those asked.

During the two days at Hamarikyū Gardens seventy-four Japanese visitors were asked to answer the survey. Among them fourteen people refused and three did not correctly answer or skipped important parts of the survey. Overall, fifty-seven out of seventy-four visitors correctly completed the survey. This means that 77% of the visitors who were asked to answer the survey produced usable data.

3.5. Analysis

The same procedure has been applied to both the gardens. The responses were entered into Excel spreadsheets in Japanese, as they were written in the questionnaires. The procedure is as follows.

First, I translated the responses cutting possible useless details. Second, I created tentative "keywords" that could represent the content of the responses. Third, I reduced them as much as possible avoiding overlapping of meaning between keywords. Several responses contain more than a single bit of information, therefore they generated more than a single keyword. Fourth, once all the responses were reduced down to standardized keywords, I counted how many times they were mentioned and drew up a table with the results. The results are reported in Figure 8, 9 and 10.

A detailed description of the keywords is to be found in the appendix C, while the aforementioned tables can be found in the appendix D. Below are three examples of the procedure used.

> *midori ga ooi* > 1. lots of green > 2. greenery > 3. vegetation > 4. *see "vegetation" in Figure 8, 9 and 10*
>
> *kusa, ki wo mite iru to* > 1. the grass and the trees > 2. plants > 3. vegetation > 4. s*ee "vegetation" Figure 8, 9 and 10*
>
> *ike, shizukesa* > 1. The pond and the quietness > 2. pond; special space (quietness) > water; special space (quietness) > 4. s*ee "water" and "quietness" in Figure 8, 9 and 10*

4. Results

4.1. Quantitative assessment of *iyashi*[79]

In Figure 4 are reported the average scores for each *iyashi* category of both the gardens. From now on the abbreviated forms will be used to refer to the *iyashi* categories.

Results from Koishikawa and Hamarikyū show similar patterns. "Purified" and "Refreshed" have the highest scores, which are abundantly over 1.0, meaning that the garden views elicited strong positive feelings. While at Koishikawa "Purified" and "Refreshed" equally scored 1.4, at Hamarikyū "Refreshed" has an average score of 1.5; 0.2 higher than "Purified". Although the average scores of the rest of the items are considerably over 0, and therefore positive, the gap between them and "Purified" and "Refreshed" is remarkable. "Warmth" and "Nothingness" are exactly at 1.0 for both the gardens. "Happy" and "Inspiration" have the lowest scores, but they are nevertheless high enough to suggest that these feelings contribute to the general sense of *iyashi*. Respondents could also give a negative evaluation to the items, yet only a few people wrote -1 or -2.

The average score of question number 4 about general *iyashi* perceived (not included in Figure 4) is remarkably high as well: 2.5 for Koishikawa and 2.3 for Hamarikyū. Nobody replied to have perceived no *iyashi* or to have felt bad. This outcome supports the high average scores of question number 3.

	***Iyashi* categories (original)**	**Approximate meaning in English**	**Abbreviated**	**Average scores KOISHIKAWA**	**Average scores HAMARIKYŪ**
1	安心感・暖かい気持ち	Sense of security / warm feeling	Warmth	1.0	1.0
2	心が磨かれる・前向きになる	Inner growth / be inspired	Inspiration	0.8	0.7
3	清らかな気分・澄んだ気持ちになる	Feeling purified / serene	Purified	1.4	1.3
4	気が晴れる・リフレッシュできる	Feeling relieved / refreshed	Refreshed	1.4	1.5
5	軽やかで、楽しい気分	Feeling light and happy	Happy	0.8	0.8
6	何も考えないで、ボーっとできる	Sense of pleasant void or nothingness	Nothingness	1.0	1.0

Figure 4. Data from question number 2. The data discussed in chapter 4.1 are highlighted in grey.

[79] As explained at the beginning of chapter 3.2, in this study "*iyashi*" means "psychological restoration".

4.2. Description of *iyashi*

"Vegetation" was the most widely present element: 42.4% of the total respondents mentioned it. However, there was a considerable gap in the number of mentions between the two gardens: while at Hamarikyū "Vegetation" dominated over nearly all the categories of *iyashi*, at Koishikawa it only made through the top five in "Warmth" and "Refreshed". These two categories are those where "Vegetation" is strongest at Hamarikyū as well. The most common responses were about the abundancy of trees and, secondly, about the grass. Flowers, that usually attract many visitors, were not present since the survey was conducted in late autumn. Many respondents showed their enthusiasm for garden's "green" (*midori* 緑), which in this case, despite it being a color, is considered a synonym of plants or nature, thus included in "Vegetation" and not in "Color". Only a few responses that explicitly referred to the "beautiful green of the trees" (*ki no midori ga utsukushii* 木の緑が美しい) were included in both the categories because of the clear reference to the color.

"Scenery" was second with 38.1% and the percentage was almost the same in both the gardens. It also showed a similar pattern in the *iyashi* categories: "Purified", first, is followed by "Inspiration" and "Refreshed". The responses referred to the general beauty of the view. "Scenery" or "landscape" (*keshiki* 景色 or *fūkei* 風景) were the most used words to refer to the view, followed by "garden" (*teien* 庭園). The most used adjective was the very general "beautiful" (*utsukushii* 美しい or *kirei* きれい). Unlike "Vegetation", that primarily elicited feelings of refreshment and relief, the beauty of the "Scenery" was associated with feelings of purification and inspiration.

"Weather" was the third most mentioned element. With its 30% it was not as important as "Vegetation" or "Landscape", but still was a crucial factor in the appreciation of the garden. Respondents at Hamarikyū paid more attention to the weather than those at Koishikawa and mostly mentioned it in "Purified" and "Happy". Similarly, "Purified" was the most mentioned (together with "Inspiration") at Koishikawa as well, but "Happy" did not collect as many mentions. The weather was sunny and sometimes a little cloudy in both the locations and the portion of the sky visible was almost the same as well, so the divergences must be due either to coincidence or individual preferences. All in all, the results indicate that the weather can influence the way a landscape looks like and consequently have an effect on visitors' mood. A very common comment was "the weather is good" (*tenki ga ii* 天気がいい). Apart from that, many responses contained positive comments about the "blue sky" (*aozora* 青空).

"Water" was mentioned by one fourth of the respondents in total and it was actually the third most mentioned keyword at Koishikawa. Here, the strong presence of water in the responses was probably due to the proximity of the point of view to the miniature lake. In fact, water at Koishikawa occupies a good

portion of the whole scenery and obviously stands out. Conversely, at Hamarikyū it is quite far from the point of view and thus only occupies approximately one fourth of the visible garden. Nevertheless, it was the fifth most mentioned element. In both gardens comments about water are condensed in a specific category: "Purified". Overall, comments about "Water" in the "Purified" category were as much as three times higher than in the "Refreshed" category which ranked second. The objects of the comments grouped into the keyword "Water" were "water" (*mizu* 水), the "pond" (*ike* 池), and the "surface of water" (*suimen* 水面).

"Quietness" was the overall fourth most mentioned keyword together with "Water" and the third most mentioned at Hamarikyū. While the elements of the keywords mentioned so far visually interacted with the visitors, "Quietness" also refers to an auditory experience of the space. The "Quietness" consisted of the silence – unusual in the middle of a hectic city – and of the sight of a tranquil, open landscape. Taking into account these features, it is clear that "Quietness" and "Spaciousness" were somehow related and enhanced each other. Respondents described the garden as "quiet" (*shizuka* 静か) and "calm" (*ochitsuiteiru* 落ち着いている). While at Koishikawa "Quietness" was mentioned more or less equally in all the categories except for "Happy", at Hamarikyū it was mostly mentioned in "Nothingness".

"Animals" was mentioned by slightly less than 20% of the total respondents. However, it was much more significant at Koishikawa where the "water birds playing peacefully" (*mizudori ga nodoka ni asondeiru* 水鳥がのどかにあそんでいる) drew the attention of one fourth of the respondents. Although the water birds generally stayed away from the bank, the proximity of water established a close contact with them. Most of the comments about animals referred to the "water birds" (*mizudori* 水鳥), but a few respondents also mentioned the "birds tweeting" (*tori no saezuri* 鳥のさえずり). Comments were distributed over all the categories except for "Inspiration". In particular, "Animals" was central in "Warmth" at Koshikawa and in "Happy" at Hamarikyū.

"Autumn leaves" was mentioned only at Koishikawa. Actually, it was the second most mentioned keyword there. On the other hand, nobody mentioned it at Hamarikyū. There were a few trees with red leaves at Hamarikyū but the view was definitely dominated by the dark green of the pines along the paths and of the woods in the background. Moreover the red leaves belonged to cherry trees, which are a major attraction during the blossom season, but not so popular during the autumn. At Koishikawa it was mostly mentioned in "Refreshed", "Purified" and "Warmth". Nearly all the comments included in this keyword contained the Japanese term for "autumn leaves", i.e. *kōyō* 紅葉. Although less than half of the trees had red leaves, the high rate of their presence in the responses, especially compared to "Vegetation", indicates that autumn leaves easily caught the eye of the visitors and were a major object of fascination.

The keywords that follow have two features in common: they have virtually equal mention rates and they belong to the superset "special space/time", which consists of those keywords that stress the opposition between time spent in the garden and urban everyday life. The superset includes "General", "Oasis", "Spaciousness", "Special time", and the already mentioned "Quietness". Apart from the last one, they all had a mention rate around 14%. These keywords did not show particularly meaningful patterns. The only noteworthy trends were a good number of mentions of "Special time" in "Nothingness" and the numerous mentions of "Spaciousness" at Hamarikyū. The latter was the sixth most mentioned keyword at Hamarikyū, but it was not as relevant at Koishikawa. The sense of spaciousness perceived at Hamarikyū is also due to the location of the point of view that enabled a panoramic vision of the pond and of the sparse vegetation around it. Taken singularly, the special space/time keywords are only minor elements, but as the superset "special space/time" they are mentioned by most of the respondents. This shows that the space of the garden and the time spent in it were considered qualitatively superior to that spent in an urban environment.

"Oasis" stresses the merit of having a green beautiful space in the middle of the concrete and asphalt of the city. The word "oasis" (*oashisu* オアシス) was mentioned only once, but analogue ideas were expressed through comments such as "there's a wonderful garden in the middle of the city" (*tokai no mannaka ni sutekina niwa ga aru* 都会の真ん中に素敵な庭がある). Since there is no oasis without vegetation, this keyword is associated with "Vegetation" and thus adds further weight to the "Vegetation" keyword.

"Spaciousness" can be a positive feature regardless of the fact that the garden is located in an urban environment or not. Nonetheless, spacious areas are very rare in Tokyo and being able to enjoy a wide view is surely appreciated. The most used adjectives were "spacious" (*hiroi* 広い), "extensive" (*hirobiro to shita* 広々とした) and "sense of spaciousness" (*kaihōkan* 解放感). As already mentioned before, "Spaciousness" and "Quietness" probably interacted and enhanced each other.

"General" encompasses the responses that allude to special features of the space in the garden, but cannot fit into the other keywords. For example, the garden was also appreciated because it is a "non-ordinary space" (*hinichijōteki kūkan* 非日常的な空間) or because it is "suited for a walk" (*sanpo ni ii* 散歩にいい).

"Special time" focuses on the perception of time rather than space. The garden is clearly separated from the surrounding urban environment and the time spent in such a secluded place is perceived as it flowed more slowly. Accordingly, respondents said that "it seems that time is flowing at a slower pace" (*yukkuri to jikan ga susumu kanji* ゆっくりと時間が進む感じ) and "I'm not pressed by the busy everyday life" (*nichijō no sewashii jikan ni owarenai* 日常のせわしい時間に追われない).

"Colors", in total, was mentioned by 13,6% of the respondents. The percentage is almost the same in both the gardens, but at Hamarikyū the aesthetic appreciation of garden's colors is related to the shades of green of the trees, whereas at Koishikawa the respondents mainly referred to the red of the foliage and the

blue of the sky. Comments about the colors were most numerous in “Warmth” and “Purified”, followed by “Refreshed”. Especially at Koishikawa, this keyword is connected to “Autumn leaves” and “Weather”. Representative comments were: “the contrast between the red of the leaves and the blue of the sky” (*kōyō to aozora no kontorasuto* 紅葉と青空のコントラスト) and “the green is easy on the eyes” (*midori ga me ni yasashii* 緑が目にやさしい).

“Other” was mentioned by eighteen respondents and “Individual preferences” by seven. These results suggest that the appreciation of the view is sometimes influenced by factors that do not have anything to do with the garden, but are mere occurrences.

By number of mentions, the remaining keywords are: “Air”, “Historical value”, “Beautiful contrast”, “Seasonal beauty”, and “Traditional buildings”. Although they have a minor impact on the perception of *iyashi*, they may be significant for certain individuals.

At last, “No reason” was mentioned forty-eight times by eighteen different respondents. Generally, respondents tended either to give the reasons for all the categories of *iyashi* perceived, or to not provide responses at all. Less frequent is to find a single category of *iyashi* left blank whereas the reasons for all the other categories are provided. Overall, although respondents were informed to feel free to reply with an “x” whenever they could not give a precise explanation, those who used it at least once were only 15.3%.

5. Discussion

As showed in the previous chapter, the analysis of the responses to question number 3 led to the formation of twenty-one keywords that correspond to elements or characteristics of the two garden views. In order to better grasp the nature of these keywords and the connection that they have to each other, I propose a division into three great categories: nature, aesthetics and space-time. It is needless to say that these super-categories are not absolute and not every keyword perfectly fits into one single super-category. Some keywords are univocal and easy to categorize, others are more ambiguous because they partly fit into other super-categories as well. For example, "Animals" can be safely placed into the "nature" super-category. Wild ducks do not have any relevant aesthetic value and they are not a feature of space or time[80]. On the contrary, "Autumn leaves" certainly is "nature", but it also has an aesthetic component. Therefore, it belongs to the "nature" super-category, but also tends towards the "aesthetics" super-category. Such keywords should be visualized in the area where the semantics of two super-categories overlap. The distribution of the keywords across the three super-categories is illustrated in Figure 5. At the vertices of the triangle are the three super-categories. Inside the triangle, the keywords are represented by circles, whose diameter depends on the number of people who mentioned the keyword itself. In other words, the larger the circle, the more significant the keyword is as a source of *iyashi*. The position of the circles inside the triangle tells about the relationship between keywords and super-categories. These relationships are discussed below.

[80] The may have it in other circumstances; for example when they are objects of a painting or decorative elements in kimonos, accessories, etc.. The analysis of the responses suggests that this is not the case.

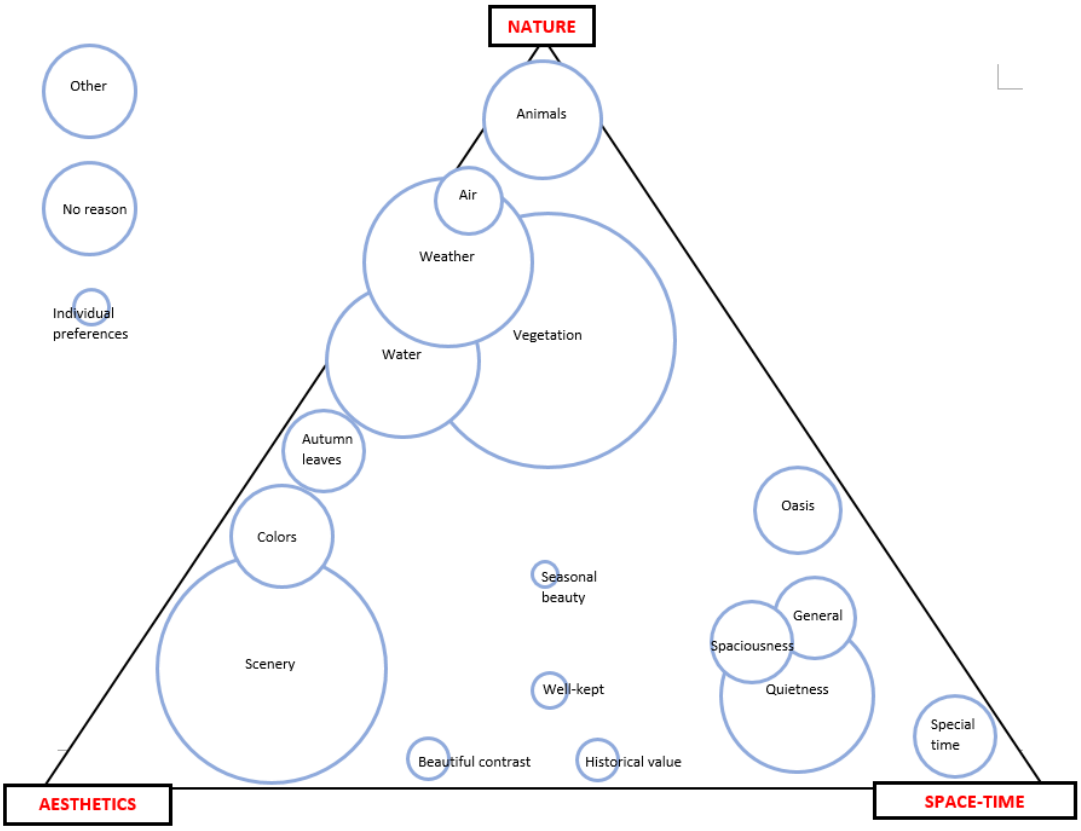

Figure 5. Keywords – super-categories relationship chart.

5.1. Nature

In the "nature" super-category are grouped the natural elements found in the garden views. The appreciation of these elements primarily derives from the fact that they belong to the biosphere. According to the biophilia hypothesis and the psycho-evolutionary theory, the ancient bond we have with natural elements is somehow inscribed in our DNA and is the reason why a lot of people, although in different ways and circumstances, feel the need to be connected to nature. The biophilia hypothesis suggests that humans have a tendency to focus on life forms and that the human-nature relationship brings personal fulfillment[81]. Actually, "Water", "Weather", and "Air", are not life forms, but they are still necessary for life. Water is at the base of every organism, the sun provides energy for life and air is necessary to breathe. Life forms, water, air, etc. altogether constitute the environment that we have been interacting with since the dawn of human species. The key element that connects all of the keywords of the "nature" super-category is indeed this innate connection between man and environment.

[81] Jordan (2015), *Nature and Theraphy*, 9.

Why did visitors attribute to natural elements part of the sense of restoration they perceived? The reasons are manifold and often hard to prove, yet it is possible to highlight the main two.

The first is also the key element that I discussed above: the valuable chance to reconnect with nature. The importance of urban green spaces has already been documented, as well as their role as restorative environments[82] [83] [84]. The appreciation of green urban area in Tokyo is not new neither: for example, a study by Padoan has reported comments about psychological restoration during visits to botanical gardens of the metropolis[85]. Interestingly, the visitors spontaneously used the term *iyashi* to describe the positive feelings elicited by the contact with the plants. The strong preference that humans show towards vegetation documented in the previous studies was confirmed by the visitors at Hamarikyū and, as I will discuss later, at Koishikawa as well. Similar positive feelings were stimulated by the animals; mainly by the wild ducks. Overall, the natural elements altogether – beautiful weather and relatively clean air included – created a peaceful reassuring scene free of stressors: the kind of human-friendly and unthreatening nature that favors positive feelings[86].

The second reason why natural elements strongly contributed to the creation of a restorative view can be explained with the attention restoration theory. Natural environments are object of fascination, in particular that type of fascination that Kaplan calls soft-fascination[87]. Vegetation, water, animals and the sunny weather create a pleasant environment that can be appreciated – or contemplated – without the use of direct attention. In other words, the visual appreciation of nature does not require effort, therefore it lightens the burden on the brain which is constantly processing information. However, a natural scene with water and trees may not be enough appealing to sustain prolonged fascination. In the two garden views here examined, animals add dynamism to the scene and may provide the novelty necessary to prevent the view to become boring. Whatever the effect of animals may be, it is still a minor element compared to another source of fascination: "Scenery". "Scenery", which I included in the "aesthetics" super-category, is discussed in the following chapter.

While "Vegetation" and "Water" were expected to be central elements, the high mention rate of "Weather" and "Animals" was unexpected. To begin with, weather and animals are not even usually taken into account in the appreciation of a garden view[88]. At most, gardens are sometime mentioned in relation to animals because, as green urban spaces, they may become shelter for birds, little mammals and insects

[82] Lewis and Sturgill (1979), "Comment: Healing in the Urban Environment".
[83] Irvine et al. (2013), "Understanding Urban Green Space as a Health Resource".
[84] Staats et al. (2016), "Urban Options for Psychological Restoration".
[85] Padoan (2010), PhD diss., 184-195.
[86] Ulrich (1993), "Biophilia, biophobia, and natural landscapes", 102.
[87] Kaplan (1995), "The Restorative Benefits of Nature".
[88] the English word "garden" also defines "zoological garden" where obviously animals are present, but here I always refer to the most common meaning of

endangered by urbanization[89]. Nevertheless, "Animals" occupies a not negligible share of the responses and it may have enough weight to influence the impression of the whole view. In particular, the high scores in the "Happy" category of *iyashi* suggest that it remarkably contributes to the overall liveliness of the scene.

"Autumn leaves" is the last element in the "nature" super-category that needs to be discussed. This keyword is present only in Koishikawa, where the autumn foliage gathered much attention, making up for the less interest in "Vegetation" compared to Hamarikyū. In fact, the red of the leaves stands out over the greenery and dominates the scene. Although red is supposed to be an excitant opposed to the calming effect of green[90], the data about "Autumn leaves" and "Vegetation" show an analogue pattern across the categories of *iyashi*. Therefore, similarly to "Vegetation", "Autumn leaves" evokes a sense of comfort, calmness and refreshment. However, it must be noted that autumn foliage is different from sheer green vegetation, as it may have additional meanings attached. The autumn red leaves are a season marker and an object of aesthetic appreciation strongly tied with the idea of autumn and the images and feelings that it evokes in Japanese culture. As Saito says regarding the Japanese appreciation of nature, "some natural objects or phenomena are celebrated for their symbolic presentation of their respective season"[91]. This is why "Autumn leaves" tends towards aesthetics appreciation and may be seen as a point of contact between the two super-categories.

5.2. Aesthetics

According to the "formal aesthetic model" used to assess landscape quality, "harmony, unity and contrast among the basic landscape elements are the principal determinants of aesthetic value"[92] and "basic landscape elements" means "basic forms, lines, colors, and texture and their interrelationship"[93]. In other words, aesthetics refers to the formal properties of the landscape and the level of aesthetic appreciation can be regarded as the extent the whole scene pleases the eye.

This super-category was actually meant to be wider than the aesthetics described above. It was supposed to encompass all the characteristics of the gardens as works of architecture and/or art including meanings, references, etc.. Nevertheless, I preferred to use the term "aesthetics" limited to the visual appreciation of the formal/structural properties because in the survey there were no comments pointing out the meanings or the interpretations of the gardens beyond the form. For example, respondents at Koishikawa frequently referred to beauty of the landscape with the pond, but nobody mentioned the fact that the pond represents

[89] Ono (2001), "Rikugien ni miru edo no daimyō teien no dōbutsu".
[90] Kim and Fujii (1995), "Shokubutsu no shikisai no seiri".
[91] Saito (1985), "The Japanese Appreciation of Nature", 245.
[92] Daniel and Vining (1983), "Assessment of Landscape Quality", 49.
[93] *Ibidem*.

the vast sea. In the questionnaire it was not directly asked whether the respondent could read into the symbology of the garden, therefore it is not clear if someone could actually visualize the sea and the Hōrai island[94] or not. In any case, since nearly the totality of the comments were about the form, I preferred to stress the predominance of the visual aspect.

As mentioned in the previous subchapter, aesthetics is a major source of fascination. In Koishikawa and Hamarikyū several natural elements are condensed in a single view and arranged to look balanced and beautiful. The views look natural, although they are unarguably man-made. This is possible thanks to the achievement of the harmony between "right angle and natural form"[95], that is to say between design and nature. As Kuitert maintains, the cardinal principle of Japanese gardening is an "intimate relationship" with nature[96], which means that the garden must be in harmony with the surrounding natural environment. Seen from a psychological perspective, this "natural form" activates soft-fascination, while the "right angle" sustains prolonged interest. In this regard, asymmetry plays a double crucial role: firstly, it contributes to create a more natural equilibrium[97]; secondly, while symmetrical structures are predictable and may become dull, a more complex structure engenders prolonged interest[98].

The property of an environment of being psychologically engaging enough to sustain fascination is called "extent". According to Kaplan's attention restoration theory, a scene "must provide enough to see, experience and think about so that it takes up a substantial portion of the available room in one's head"[99]. In addition, the view has also to be coherent[100]. Both the conditions are met in Koishikawa and Hamarikyū; in fact, the overall balance of the scenery is paramount in Japanese gardens. If the view lacks in coherence, the beholder is hardly able to contemplate it smoothly, without making use of directed attention.

The keyword that best represents the "aesthetics" super-category is "Scenery". Most of the comments about the scenery are about the appreciation of the landscape in its totality. The distribution of the elements in the space of the gardens seems to encourage this comprehensive approach. In fact, in their illustrated book about the aesthetics of Japanese gardens, David and Michiko Young write that "in asymmetric forms and compositions, no single element is dominant"[101]. Even in Koishikawa, where the rocks on the Hōrai island are located right in front of the point of view and are thus supposed to be central, visitors' attention was not focused there, but rather moved around to grasp the whole scene. As a matter of fact, nobody mentioned the rocks or the island, therefore we can assume either that the rocks and the island were not

[94] See the description of Koishikawa Kōrakuen in the appendix A for further details.
[95] Nitschke (1999), *Japanese Gardens*, 10.
[96] Kuitert (2016), "Japanese Garden: To Whom do they Belong?".
[97] Van Tonders and Lyons (2005), "Visual Perception in Japanese Rock Garden Design", 362-63.
[98] Ulrich (1983), "Aesthetic and Affective Response to Natural Environment", 95-97.
[99] Kaplan (1995), "The Restorative Benefits of Nature", 173.
[100] *Ibidem*.
[101] Young and Young (2005), The Art of the Japanese Garden, 20.

connected to positive feelings at all, or that despite their position they were not central in the view. The latter agrees with the aforementioned principles of asymmetry and lack of predominant elements. Anyway, the island and the rocks were not specifically addressed in this study, therefore it is impossible to make sure statements; thus these are nothing more than assumptions.

Following "Scenery", in the second place we find "Colors". "Colors" tends to the "nature" super-category because, for example, unlike a Dutch garden where flowers are purposely planted in order to create geometrical colorful combinations, the arrangement of colors is natural or at least it looks so. At Koishikawa the sky, the green and red of the leaves combined together are not part of the original design. Yet, they are object of aesthetic appreciation. "Seasonal beauty" is a kindred element that differs only for the focus on time and on the change of the seasons, which engender a more emotive reaction.

Lastly, two partially aesthetic elements that unexpectedly gathered a few comments are "Beautiful contrast" and "Well-kept". Buildings or skyscrapers soaring in the background of the gardens are supposed to ruin the view, but, on the contrary, were considered appealing by some respondents. At Hamarikyū, while the traditional tea houses around the pond were mentioned only once, the skyscrapers were mentioned by six visitors. According to garden art experts, skyscrapers at Hamarikyū disrupt the harmony of the original landscape[102], but the responses to question number 3 of the survey show that some visitors appreciate the originality of this kind of view. Some modern buildings are visible in the background of the view at Koishikawa as well, but they are quite ordinary and, thus, they were mentioned only by two respondents. All in all, even if they create a strong contrast with the traditional appearance of the garden, we can assume that modern buildings with outstanding architectural features may add an element of fascination to the view. However, only positive comments were collected during the survey, therefore it is not possible to verify how many visitors did not appreciate them. We can say instead that the contrast between modern buildings and traditional garden is not necessarily a negative aspect, in fact, it may be positively evaluated.

Visitors may be struck by the perfection and attention to details of a garden view, but, perhaps surprisingly, appreciate even more the thoughtful work of gardeners that take care of it. While nobody expressly talked about the perfection of the view, seven visitors appreciated the effort that gardeners had put into the care of the garden and five of them said that it made them feel serene and purified. The job of the gardener is simply to keep intact the design of the garden, it is not meant to be appreciated by visitors. Their work is a means supposed to serve the garden designer, but in this case it becomes object of praise and delivers a message of thoughtfulness and zeal to some visitors. The garden designer inscribes his own ideas and/or meanings in the garden, but eventually the visitors do not necessarily get his original intent. Trieb, a landscape architect who has extensively discussed the role of the architect/designer in the meaning

[102] Shinji et al. (1989), "Tōkyōto bunkazai teien no keikanhakai to genkyō".

creation process, maintains that in the end the meanings arise from the encounter between people and place, rather than from the architect's idea[103].

5.3. Space-time

A garden is not appreciated only for its intrinsic artistic value. The experience of looking at a garden view *in situ* – that is not a photo on a book – is an act that takes place in a certain place and at a certain time, therefore it is affected by the context. A significant amount of the responses are neither directed to the nature nor the aesthetics, but rather to the special temporal and spatial qualities of the garden. These qualities are "special" because the space and the time experienced during the visit of the garden are different from those experienced during daily life. As illustrated in the previous chapter, this contrast emerges from the comments; sometimes it is clearly reported, sometimes it is implicit.

According to the attention restoration theory, psychological distance – psychologically "being away" from the source of stress – is needed for the restoration to take place. It may be argued that geographical/physical distance – physically "being away" from the source of stress – is not necessary, but, as a matter of fact, it is actually helpful[104]. "Being away" means to "get away from distraction", to "avoid a particular content" or to "rest from pursuing certain purposes"[105]. Accordingly, many comments regarding special space-time indicate that visitors in the garden could feel this sense of being away. However, what are exactly the characteristics of the gardens that trigger this sensation?

"Special time" is maybe the most representative keyword of this super-category because it is the least connected to natural or aesthetic element; thus it best expresses the essence of the "space-time" super-category. Sixteen visitors said that during their time in the garden they could take it easy and forget their busy lives. The focus was definitely on the comparison between the busy and hectic pace of city life and the slow and contemplative mood they were in during the visit. The "Special time" in the gardens leaves space for individual reflection: in fact this keyword had the highest number of mentions in the "Nothingness" category of *iyashi*.

Another keyword partially related to time is "Historical value", which, even though it is not as relevant as "Special time", was still mentioned by eight people in total. Apart from creating the sense of being away, it is also source of fascination, hence it stands in the middle between the "space-time" and the "aesthetics" category.

[103] Trieb (2002), "Must Landscape Mean?".
[104] Kaplan (1995), "The Restorative Benefits of Nature", 173.
[105] Kaplan and Talbot (1983), "Psychological Benefits of a Wilderness Experience", 187.

The rest of the keywords are somehow related to space. The responses show that they have two main merits in common: they help to forget everyday stressful environment and encourage to take up healthy or restorative activities such as contemplation or walking[106]. The comments included in "General", "Oasis", "Quietness", and "Spaciousness" reveal the positive qualitative appreciation of the features of the space inside the gardens opposed to Tokyo's urban environment. Russell, illustrating the merits of spending time in the wild, lists a series of studies that shed light on the shortcomings of living in an urban environment:

> Research has also shown that people specifically use natural areas to escape their daily lives and civilization (Driver & Tocher, 1970), and report restoration from spending time in wilderness from a variety of stressors, including noise (Lucas, 1963), crowding (Lime & Cushwa, 1969), the city Hendee, Catton, Marlow, & Brockman, 1968), predictability (Catton, 1969), role overload (Knopf, 1972), and social restriction (Etzkorn, 1965).[107]

Although garden is far from being a wild environment, we can see that visitors relate to the same issues and feel better by spending time in it, since it is an environment free of these stressors. The garden provides a chance to escape noise, overcrowding, clutter, etc..

The results show that "Quietness" stood out over the other "special space" keywords. Quietness has been already proved to be an important element in a restorative garden view[108] and this was further confirmed by the results of this survey. The value of quietness can also be explain by what Kaplan calls "compatibility"[109]: quietness helps the visitors who desire to relax or contemplate the garden to achieve their goal. This would be much harder to achieve in a noisy environment.

"Spaciousness" is a typical feature of daimyo gardens[110], which are usually designed around large ponds. In a high density urban area this feature does not pass unnoticed. In Tokyo open areas with good visibility are rare, hence visitors reported pleasure in enjoying a spacious, unobstructed view. This tendency was stronger at Hamarikyū, where visitors could overlook the garden from the top of the artificial hill. Concerning this point, Ulrich also explains that we have an innate preference for open spaces because they "facilitate cognitive evaluation" by providing more depth clues and a clearer spatial definition[111].

Lastly, an urban garden has the additional value to be an oasis in the middle of the city. Of course, "Oasis" and "Vegetation" are related, but the former is charged with a stronger emotional component. Vegetation itself may not have drawn the same attention from these respondents, because their opinion of the garden might be strictly tied to the fact that it is surrounded by the city. The responses grouped into "Oasis" suggest that some urban dwellers "seek out the natural… in the sense of refuge from the everyday

[106] Although respondents were asked to strictly talk about the view, someone extended his comments with remarks on the garden in general.
[107] Russell (2012), "Therapeutic Uses of Nature", 10.
[108] Taniguchi et al. (2003), "Teienkei kara ukeru iyashi no imēji ni kansuru chōsa kenkyū".
[109] Kaplan (1995), "The Restorative Benefits of Nature", 173.
[110] Shirahata (1997), *Daimyō teien*, 188-190.
[111] Ulrich (1983), "Aesthetic and Affective Response to Natural Environment", 100-01.

world"[112]. This "refuge" that in this study I call "Oasis", does not necessarily require the presence of vegetation. In different circumstances, different environments other than gardens may work as "refuge". However in this particular case vegetation seems to be crucial because the garden is seen as the counterpart to "everyday world", which is the urban environment that some visitors are seeking to avoid. The garden is a "special space" because it provides a setting different from the usual. Here the visitor can "be away" and, free from the everyday stressors, relax.

[112] Wohlwill (1983), "The Concept of Nature: A Psychologist's View", 23.

6. Conclusions

The purpose of this study was to understand whether visitors consider a view of a Japanese-style garden restorative and, in case of positive response, why they feel so. The data about the quantitative assessment of *iyashi* illustrated in chapter 4.1 show that most of the visitors felt "healed/restored" or even "extremely healed/restored" while looking at the garden views, thus providing a positive response to the first research question. From the data it has also surfaced that the type of *iyashi* that this kind of restorative environment engenders is chiefly associated with feelings of refreshment and purity. As explained in chapter 3.2, the assessment of the type of *iyashi* was based on Matsumoto's "*iyashi* evaluation scale"[113], but considerably simplified. Because of this inevitable simplification [114] and some differences in the measurement conditions[115] the results could not be properly confronted with Matsumoto's. However, at least it has been confirmed that, as in Matsumoto's research, feelings of purification and freshness are major components of the *iyashi* perceived at Hamarikyū and Koishikawa[116].

To answer the second question, namely why the visitors felt restored by looking at the garden, the respondents were asked to write down on a written questionnaire the elements of the garden view that made them feel healed or restored. The analysis of these data has produced three super-categories which contain the restorative elements of the two garden views and provide an interpretation of how they relate to each other. From Figure 5 in chapter 5 it can be seen that natural elements cover a large area of the triangle, thus being the main features that visitors judged restorative. The fact that visitors gave great attention to natural elements makes sense because Japanese-style stroll gardens tend to give the priority to natural forms over formal arrangements. However, the other two super-categories are fairly represented as well, resulting in a balanced distribution of the elements across the surface of the triangle.

In brief, the restorative environment as seen by the visitors at Koishikawa and Hamarikyū is made up by trees and water beautifully combined together in a space-time system that differs from the usual; in other words, it is the combination of the three super categories: nature, aesthetics and special space-time.

The connection between vegetation/water and restoration that emerged in this study agrees with the observations made by Ulrich about the restorative power of plants[117] and water[118] and further supports the pyscho-evolutionary theory and the biophilia hypothesis which sustain that humans tend to be instinctively attracted to these natural elements. However, these theories that give great importance to restoration as an

[113] Matsumoto (2005), "Nichigeiban 'iyashi' hyōka skēru no kansei".
[114] The reason why the simplification was necessary is explained in chapter 3.2.
[115] Matsumoto collected the responses of only nine subjects after they had had a walk in the garden; on the contrary this study addressed a larger number of people and the responses regarded a single view.
[116] Matsumoto (2012), "Nihonteien no iyashi hyōka skēru ni okeru tokuchō".
[117] Ulrich (1984), "View through a Window may Influence Recovery from Surgery".
[118] Ulrich (1983), "Aesthetic and Affective Response to Natural Environment", 104-105.

adaptive trait have become controversial in the last decade[119]; therefore it is advisable to have a look at the results also from a slightly different perspective.

The view of those who argue the psycho-evolutionary theory is closer to Kaplan's[120]. His attention restoration theory, in fact, proved to be a useful framework for the interpretation of the survey's results. Most of the healing elements or characteristics of the garden views can be seen as a source of either "fascination" or "being away" and this explains why they are relevant as restorative elements.

The analysis of the data also showed that, maybe surprisingly, the appreciation of a garden view, an apparently exclusively visual experience, actually includes many factors that are not visual. In addition, it is noticeable that the mentioned elements are not necessarily strictly related to what is formally considered part of a garden in arts or architecture. For example, birds' tweeting and the sunshine have significantly influence on the feelings that the view evokes although they are not taken into account when a garden is designed. These extra elements are important because, as Cooper – a philosopher who has written about the aesthetics of gardens – asserts, "a garden is something one is *in* and surrounded by", therefore "several senses – sight, hearing, smell, touch – are typically and simultaneously engaged"[121]. Despite the fact that a garden view is designed in order to be contemplated – visually enjoyed – the observers actually experience it through the other senses as well, in a more comprehensive way.

Not only this was true for the respondents, but I believe it also applies to those gardens whose mode of contemplation is even more tied to the sheer visual components, such as the "dry landscape gardens" (*karesansui* 枯山水), which cannot be entered and can be seen from a limited number of points of view. During a few in-depth interviews I conducted at the Hōkokuji – a Kamakura Zen temple of the Rinzai sect – regarding the appreciation of the semi-dry landscape garden seen from the temple veranda, it repeatedly emerged the significance of the overall atmosphere that included the silence, the wood panels of the veranda's floor, the idea of the temple as a place for meditation, etc.. The view of that garden does not have a particular meaning or purpose: it is simply conceived as one of the major features that create the atmosphere. The fieldwork at the Hōkokuji was not included in this study for the sake of coherence and I do not intend to further discuss it, but it may be considered as an additional evidence of the role of the overall atmosphere over the sheer view in a restorative/healing process.

The importance of the atmosphere suggests that the experience needs to be contextualized. In order to really understand what the individual perceives as restorative it is of paramount importance to take into account where and when the experience takes place. Psychology is able to determine what the effects of a certain color or shape on our brain are, but it does that only in a controlled environment which intentionally

[119] Joye and Van den Berg (2011), "Is love for green in our genes?".
[120] *Idem*, 6-7.
[121] Cooper (2003), "In Praise of Gardens", 105.

excludes countless variables. By directly asking visitors about their feelings *in situ* it was possible to highlight a few discrepancies between controlled experiments and reality and, especially, to grasp some nuances that are unavoidably disregarded in scientific research.

In this regard, this study has shed light on some features that are not always taken into account in the discourses on gardens as restorative environments. First of all, it has highlighted the significance of the atmosphere of the place, which leads visitors to experience a space-time system different from the usual and thus potentially free from the stressors they constantly have to deal with. Secondly, it has drawn attention on the influence of collateral elements such as animals, weather or air quality on the overall impression that the view has on the observer. These elements play an often unpredictable role in changing the appearance of a garden view and accordingly influence its effect as a restorative environment.

Appendix A – Description of the gardens

Koishikawa Kōrakuen Gardens 小石川後楽園

Koishikawa Kōrakuen (*koishikawa kōrakuen* 小石川後楽園) is a "daimyo garden" (*daimyō teien* 大名庭園) located in Koishikawa, Bunkyō ward, Tokyo[122]. It was built during the early Edo period by the Mito branch of the Tokugawa family. The construction was started by Tokugawa Yorifusa 徳川頼房 (1603–61) in 1629 who wanted a garden for his residence in Tokyo. It was meant to be a private garden where he could relax and enjoy himself after having accomplished his duties as a governor. In fact, the name "Kōrakuen" bears this meaning[123]. As most of the daimyo gardens, it is a "stroll garden" type. A "stroll garden with artificial hill and miniature lake" (*kaiyūshiki tsukiyama sensui teien* 回遊式築山泉水庭園), to be more accurate. The garden reflects the Chinese taste of the daimyo and has therefore some Chinese architectural features such as an arched stone bridge and winding paths paved with stones, some references to Chinese famous places[124]. During the Edo period Neo-Confucianism was adopted by the Tokugawa shogunate and became the philosophy of the ruling samurai class. For this reason, references to Chinese culture were popular and they were seen as a sign of erudition and power.

Currently, the garden is under the administration of the Tokyo Bureau of Construction (*tōkyōto kensetsukyoku* 東京都建設局)[125] and it is open to the public with an admission fee of 300 yen. It is one of the most famous gardens of the capital as in 1952 it was designated as a "Special Historic Site" (*tokubetsu shiseki* 特別史跡) and as a "Special Place of Scenic Beauty" (*tokubetsu meishō* 特別名勝). Koishikawa and Hamarikyū are the only two gardens in the metropolitan area to have received both the designations. Koishikawa covers an area of 70,847.17 m^2 and is also one of the largest gardens: third after Hamarikyū and Rokugien[126].

The survey was conducted on the southern bank of the "great garden pond" (*daisuisen* 大泉水), in the area called "maple forest" (*momijibayashi* 紅葉林). The landscape seen from there can be divided in four levels by the distance of its elements from the observer. First, closest to the observer there is the pond, populated by many wild ducks. Second, an island called Hōrai island (*Hōraijima* 蓬莱島) after the renown

[122] Tōkyōto Kōen Kyōkai, Koishikawa Kōrakuen. (The Tōkyōto Kōn Kyōkai is a managing organization that is part of the Tokyo Bureau of Construction and directly manages parks and gardens in Tokyo. It also takes care of advertisement, information leaflets, etc.).
[123] Shirahata (1997), *Daimyō teien,* 63-65.
[124] *Ibidem*.
[125] Tōkyōto Kensetsukyoku.
[126] Parks (*kōen* 公園) are not included.

Mt. Hōrai – the sacred mount of the immortals from the popular Chinese legend – is in the middle of the pond and occupies the center of the view. There is a tiny sanctuary with a *torii* on the island, however it is barely visible from the southern bank because hidden among the trees. The main feature of Hōrai island is a composition of stones piled up in the front that looks like a cliff. Actually, according to the tradition, Hōrai island has the shape of a turtle and the rocks represent its head. Other stones are scattered around the island and give the impression of a wild landscape. A stone lantern is situated on a miniature pebble beach on the right edge. In the grove on the island, the red leaves of a couple of Japanese maples stand out among the overall dark green foliage. On the third level there are the northern bank behind the island and the woods that grow there. The foliage of some of those trees had turned yellow or red and reflected into the pond. Fourth and last, in the furthest background outside the garden, there are some middle height modern buildings. Finally, it must be mentioned that the benches are surrounded by Japanese maples that are not part of the frontal landscape but contribute to create the atmosphere. At the time of the survey the maples of the "maple forest" were of many colors, especially yellow-red and bright red.

Figure 6. Koishikawa Kōrakuen. View of the pond and Hōrai island.

Hamarikyū Gardens 浜離宮恩賜庭園

With an area of 250,215.72 m^2, Hamarikyū (*hamarikyū onshi teien* 浜離宮恩賜庭園) is the largest garden[127] in Tokyo and is located in Chūō ward, bordering Tokyo Bay[128]. As Koishikawa it is one of the most representative examples of "daimyo garden". It was a domain of the Tokugawa family already at the beginning of the Edo period, but it was turned into a garden only in 1654 by Tokugawa Tsunashige 徳川綱重 (1644–78), brother of Tokugawa Iemitsu 徳川家光 (1604–51), the fourth Tokugawa shogun. Subsequently it became the summer residence of the sixth shogun Tokugawa Ienobu 徳川家宣 (1662–1712), son of Tsunashige. In the Meiji Period the northern part was widely renovated and the garden became imperial property. It was then partially destroyed during the war and repaired afterwards. The southern part best conserves the form of the ancient daimyo garden and fits in the category of "stroll garden with artificial hill and miniature lake" (*kaiyūshiki tsukiyama sensui teien* 回遊式築山泉水庭園).

Hamarikyū Gardens were donated by the imperial family to the city of Tokyo and opened to the public in 1946. Currently, it is administered by the Tokyo Bureau of Construction and the entrance fee is 300 yen as in Koishikawa. In the same way it was designated "Special Historic Site" (*tokubetsu shiseki* 特別史跡) and "Special Place of Scenic Beauty" (*tokubetsu meishō* 特別名勝) in 1952.

The survey was conducted on the top of the artificial hill named Fujimiyama 富士見山 at the south corner of the garden. This location is quite far from both the entrances. Fujimiyama is only a few meters high but it offers a wide view on the garden below. The landscape can be divided in two part: on the left there is the "great garden pond" (*daisensui* 大泉水) with three tea houses facing the water and woods in the back; on the right there are sparse Japanese pine trees and two gravel winding paths that disappear among the trees. Outside the garden, in the direction of the pond, huge skyscrapers soar to the sky covering a wide portion of the background. Other skyscrapers are visible in the background all around, but their impact on the view is smaller because they are further in the distance.

Despite the season, the foliage was generally green. The view was dominated by the sober dark green of the pine trees and the woods beyond the pond. Only a few cherry trees had still a few brown-red leaves.

[127] It is not the largest green area; there are larger parks.
[128] Tōkyōto Koen Kyōkai, Hamarikyū Onshi Teien.

Figure 7. Hamarikyū Gardens. View from *Fujimiyama*.

Landscape differences at Koishikawa Kōrakuen and Hamarikyū

At Koishikawa references to many famous places are carved into the limited space of the garden. In fact, it was common for daimyos to have representations of their favorite places built into their properties and Koishikawa is especially rich of references, both to Japanese and Chinese celebrated sights. In order to recreate these geographically diverse and distant scenes, the garden is divided into sub-gardens connected by paths, but separated by woods or by the morphology of the garden itself. The point of these stroll gardens is to be able to enjoy all the views while strolling around. Accordingly, the space is planned so that the scenes are not visible from one single point of view, but unfold as the visitor – the daimyo in the past – walks along the path[129]. This planning concept does not directly relate to this research, but it is useful to understand how space is organized in Koishikawa. From the area of the "maple forest" the visitor is supposed to look at the pond with the pond island, which, as already mentioned before, imitates the legendary Hōrai island far in the middle of the vast sea. For these reason the space in Koishikawa is dense of meaning and quite elaborated. In contrast, the elements and places of interests at Hamarikyū are more scattered as the garden covers a larger area. The land where the garden is located was reclaimed from the sea in the Edo period, therefore it was open and free of any obstacle. In addition, that costal area was designated for duck hunting, so there was a fair amount of land left to semi-wild vegetation. Nowadays, the

[129] Inaji (1998), *The Garden as Architecture*, 75-77.

garden still has a part of woods around the ancient spots for duck hunting and a vast part with the garden ponds and the traditional tea houses. The latter has the same type of garden pond that is central at Koishikawa, however here it is larger and the surrounding space is less cluttered.

These features do not apply only to the gardens, but also to the views that were selected for the survey. While from Hamarikyū's Fujimiyama the visitor has a sweeping view on a plain with the ponds and some sparse trees, the visitor who sits on the benches at Koishikawa's "maple forest" has the pond right a few steps straight ahead and is immersed into the woods, which frame the stretch of water. In sum, the view from Hamarikyū's Fujimiyama is wider, the trees are scattered and the pond occupies only a part of the view, while from Koishikawa's "maple forest" the view is relatively enclosed, the vegetation is dense and the pond occupies most of the landscape. Last but not least, Koishikawa has a lot of Japanese maple and colored foliage trees while Hamarikyū has mainly dark green foliage trees.

Appendix B – The questionnaire[130]

お忙しい中、当アンケートにご協力いただきまして、誠にありがとうございます。
当アンケートを完成させるには 5 分前後かかります。2 ページまでお答えくださいますよう、宜しくお願い申し上げます。
※個人を特定できる情報は一切取得いたしません。

1) 本日、どういう理由で庭園にいらっしゃいましたか。**一つだけ**お選びください。
   - o 散歩
   - o 観光
   - o リラックスする
   - o 友達と時間を過ごす・デート
   - o 花・木を見る
   - o 特に理由はない
   - o その他 _____

2) 目の前の景色に対し、下の気持ちはどれくらい当てはまりますか。景色をご覧になりながら、6 つの項目のところに○をお入れください。
   ※「普通」は心の日常の中での普通の状態を表す

	全然	少しだけ	普通	かなり	とても
安心感・暖かい気持ち					
心が磨かれる・前向きになる					
清らかな気分・澄んだ気持ちになる					
気が晴れる・リフレッシュできる					
軽やかで、楽しい気分					
何も考えないで、ボーっとできる					

3) 質問２に「かなり」および「とても」を答えた項目についてはどうしてそう思われますか。下の表にそう思わせた景色の特徴・要素をお書きください。
   ※答えられない場合は x をお入れください。

安心感・暖かい気持ち	
心が磨かれる・前向きになる	
清らかな気分・澄んだ気持ちになる	
気が晴れる・リフレッシュできる	
軽やかで、楽しい気分	
何も考えないで、ボーっとできる	

[130] The font has been reduced to fit in the page.

4) 目の前の景色をご覧になり、癒されると感じられますか。あるいは癒されないと感じられますか。下の表に○を一つお入れください。

	強く思う	思う	少し思う	わからない	少し思う	思う	強く思う	
癒されない								**癒される**

5) お一人でおいでになりましたか。

- はい
- いいえ

6) 性別：

- 男
- 女

7) 年齢：

- 20 歳以下
- 21 歳から 40 歳まで
- 41 歳から 60 歳まで
- 60 歳以上

8) 職業：_____

最後までご協力いただきまして、心よりご感謝申し上げます。
当アンケートの目的などに関しては気軽に係員にお尋ねください。
どうもありがとうございました。

Appendix C – Analysis of the survey: description of the keywords

Air: referring to the quality of the air. It differs from "Weather" because it does not depend on the weather, but rather on the lack of busy roads and vehicles that emit exhaust gas in the proximities. E.g. "the smell of the air", "the air is refreshing".

Animals: the wild animals in the garden. Mainly ducks and little birds. E.g. "the wild ducks swimming in the pond", "the birds tweeting".

Autumn leaves: the foliage that in autumn turns red. E.g.: "the red maple leaves".

Beautiful contrast: the appreciation of the visual contrast between the garden and the modern buildings that surround it. It also refers to the coexistence of ancient and modern elements in the same view. It has a positive value and differs from "Special space – oasis" because the garden and the surrounding urban environment are equally addressed as positive elements. E.g. "the Japanese style garden matches with the background", "the buildings and the garden look beautiful".

Colors: when the respondent explicitly mentions qualities of the colors of the trees, of the sky, etc.. The general statement "there's a lot of green" is not included into this keyword when it is used as a synecdoche, namely when it refers to the trees or the grass as natural elements, more than to the color itself. E.g. "I feel better when I see the green of the grass and the trees", "the blue of the sky and the white of the clouds".

Historical value: the garden or part of the garden appreciated as a historical heritage. E.g. "I feel that this garden has a history", "I feel in touch with the Japanese tradition".

Individual preference: the reason given is related to the respondent's past or to his preferences. This keyword is different from "Other" because the reasons given are supposed to be always true for the respondent. E.g. "because I often come here", "the garden has the right extension to have a walk in".

Scenery: the aesthetic appreciation of the view and/or the appreciation of the formal composition of the garden. This keyword includes all the short responses that simply give the (beauty of the) "garden" (*teien* 庭園) or the "landscape" (*keshiki* 景色) as the reason. E.g. "the view is beautiful", "Japanese-style garden".

No reason: the respondent is asked to reply with a "x" if there is no particular reason or if he cannot explain.

Other: all kinds of responses that do not concern the garden. This keyword differs from "Individual preferences" because the reason is related to something that happened or existed only that specific day. E.g. "because I woke up early and had a walk", "because I rarely come alone".

Seasonal beauty: the changing of the seasons. It differs from "Autumn foliage" because the focus is not on the visual effect of the colorful leaves, but on the perception of the nature that changes. E.g. "I can perceive the seasons changing".

Special space – general: the keyword “Special space” includes those responses that refer to a quality of the garden’s space as opposed to the urban environment outside. The responses that do not fit into one of the more specific keywords below are categorized as “Special space – general”. E.g. “I can enjoy a landscape that is different from the usual”, “because it’s not cluttered”.

Special space – oasis: the space of the garden gives the visitor the opportunity to escape from the urban environment and to feel closer to nature. Garden’s nature is opposed to the surrounding urban environment. It is connected to “Vegetation”, but here the emotional aspects are stressed because special space alludes to the relationship with the city. E.g. “because I’m surrounded by nature and I can slow down”, “there’s nature in the middle of the city”.

Special space – quietness: compared to the city, the garden is a quiet and calm environment. E.g. “because it is quiet and there’s a good atmosphere”, “the quietness”.

Special space – spaciousness: compared to the city, the space in the garden is vast and open. E.g. “the sense of spaciousness”, “it is vast and calm”.

Special time: the time spent into the garden is more enjoyable than the hectic daily life. This keyword is similar to “Special space”, but the focus is on time more than space. E.g.: “I can feel relaxed”, “I feel that the time moves at an unhurried pace”.

Traditional buildings: appreciation of the tea houses (Hamarikyū only). E.g.: “the tea house”.

Vegetation: grass, bushes, trees. All the plants that have green foliage, from broad-leaved trees to pine trees. Nature in general. E.g. “the green”, “the trees”.

Water: the water of the ponds. E.g. “the beauty of the surface of the water”, “water and trees”.

Weather: atmospheric temperature, the sun, the sky and the wind. It differs from “Air” because it concerns the state of the atmosphere at that moment. E.g.: “the weather’s nice”, “the sky is clear”.

Well-kept: the paths are clean, the grass is nicely mown and the trees are skillfully trimmed. It also refers to the appreciation of the efforts of the gardeners. E.g. “the garden is beautiful and in good condition”, “the maintenance is scrupulous”.

Appendix D – Results of the survey

Koishikawa Kōrakuen	*Times it was mentioned*	*No. people who mentioned it*	Warmth	Inspiration	Purified	Refreshed	Happy	Nothingness
Air	4	3	-	-	1	3	-	-
Animals	25	16	7	1	5	5	4	3
Autumn leaves	45	20	9	5	9	10	6	6
Beautiful contrast	2	2	-	-	-	-	-	2
Colours	18	9	5	1	4	4	3	1
Historical value	5	3	2	2	1	-	-	-
Individual preferences	2	2	1	-	-	-	1	-
Landscape	48	23	6	10	12	10	8	2
No reason	37	12	7	6	7	4	5	8
Other	13	8	2	1	1	1	4	4
Seasonal beauty	3	3	-	2	-	1	-	-
Special space – general	15	8	2	1	1	5	3	3
Spacial space – oasis	7	7	-	2	-	4	-	1
Special space-quietness	16	10	3	2	3	5	-	3
Special space – spaciousness	5	5	-	-	1	1	-	3
Special time	12	8	-	2	-	3	2	5
Traditional buildings	-	-	-	-	-	-	-	-
Vegetation	19	12	7	-	4	5	1	2
Water	19	17	4	2	8	3	1	1
Weather	24	14	4	1	6	6	3	4
Well-kept	4	2	-	-	2	1	1	-

Figure 8. Result of question number 3. Koishikawa Kōrakuen.

Hamarikyū	*Times it was mentioned*	*No. people who mentioned it*	Warmth	Inspiration	Purified	Refreshed	Happy	Nothingness
Air	12	10	1	-	5	2	2	2
Animals	7	7	-	-	-	3	4	-
Autumn leaves	-	-	-	-	-	-	-	-
Beautiful contrast	7	6	2	2	1	1	1	-
Colours	7	7	2	1	3	1	-	-
Historical value	5	5	1	1	2	-	1	-
Individual preferences	8	5	3	1	1	1	1	1
Landscape	34	22	6	7	10	6	2	3
No reason	11	6	2	5	1	2	-	1
Other	11	10	-	1	-	1	6	3
Seasonal beauty	2	2	1	-	-	-	-	1
Special space – general	10	8	-	-	-	3	1	6
Spacial space – oasis	21	10	7	2	4	3	2	3
Special space-quietness	33	20	4	4	5	6	2	12
Special space – spaciousness	16	11	4	1	1	6	2	2
Special time	9	8	-	-	1	3	1	4
Traditional buildings	1	1	-	-	-	1	-	-
Vegetation	79	38	21	10	15	20	7	6
Water	16	13	-	1	10	3	2	-
Weather	30	19	5	1	6	10	8	-
Well-kept	8	5	-	2	3	2	-	1

Figure 9. Result of question number 3. Hamarikyū.

Koishikawa + Hamarikyū	*Times it was mentioned*	*No. people who mentioned it*	Warmth	Inspiration	Purified	Refreshed	Happy	Nothingness
Air	16	13	1	-	6	5	2	2
Animals	32	23	7	1	5	8	8	3
Autumn leaves	45	20	9	5	9	10	6	6
Beautiful contrast	9	8	2	2	1	1	1	2
Colours	25	16	7	2	7	5	3	1
Historical value	10	8	3	3	3	-	1	-
Individual preferences	10	7	4	1	1	1	2	1
Landscape	82	45	12	17	22	16	10	5
No reason	48	18	9	11	8	6	5	9
Other	24	18	2	2	1	2	10	7
Seasonal beauty	5	5	1	2	-	1	-	1
Special space – general	25	16	2	1	1	8	4	9
Spacial space – oasis	28	17	7	4	4	7	2	4
Special space-quietness	49	30	7	6	8	11	2	15
Special space – spaciousness	21	16	4	1	2	7	2	5
Special time	21	16	-	2	1	6	3	9
Traditional buildings	1	1	-	-	-	1	-	-
Vegetation	98	50	28	10	19	25	8	8
Water	35	30	4	3	18	6	3	1
Weather	54	33	9	2	12	16	11	4
Well-kept	12	7	-	2	5	3	1	1

Figure 10. Total result of question number 3.

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