KADİR HAS UNIVERSITY
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UNDERSTANDING SPATIAL EXPERIENCE THROUGH BACKGROUND NOISE: ENACTIVE LISTENING ACCOUNT

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MASTER'S THESIS

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ISTANBUL, JANUARY, 2022

DECLARATION OF RESEARCH ETHICS / METHODS OF DISSEMINATION

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This work entitled **UNDERSTANDING SPATIAL EXPERIENCE THROUGH BACKGROUND NOISE: ENACTIVE LISTENING ACCOUNT** prepared by **ALTAN BAŞIK** has been judged to be successful at the defense exam on **5 November 2021** and accepted by our jury as **MASTER'S THESIS**.

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ABBREVIATIONS

Abbreviations used in this thesis have the following meanings:

a) **AL:** Analytical Listening section of the survey test
b) **AsL:** Associative Listening section of the survey test
c) **De:** Density, subsection of the survey test
d) **Di:** Direction, subsection of the survey test
e) **EbM:** Embodied Mind
f) **EmL:** Emotional Listening section of the survey test
g) **EmM:** Embedded Mind
h) **EnM:** Enactive Mind
i) **ExM:** Extended Mind
j) **ImL:** Imaginative Listening section of the survey test
k) **NpEn:** Non-Perceptual Environment
l) **SG**: Subject Group
m) **SSA:** Spectrogram Sound Analysis
n) **SmK:** sensorimotor knowledge
o) **Ty:** spatial Typology, subsection of the survey test

UNDERSTANDING SPATIAL EXPERIENCE THROUGH BACKGROUND NOISE: ENACTIVE LISTENING ACCOUNT

ABSTRACT

This thesis questions the potential use of listening practices for spatial explorations in architecture. For this reason, listening is considered a perceptual/sense-making cognitive experience. While the intended investigation is dedicated to the spatial experience of listening, background noise conception is taken as the fundamental notion for problematizing spatial experience in the context of everyday life. The required cognitive approach for this exploration is grounded on the Enacted Mind Thesis as a research method to reach perceptual experiences. Within these considerations, this study aims to intersect the conceptual extensions of enactive account spatial experience in listening to background noise and the obtained results from the conducted case study experiment for the listening experience. One of the reasons is to propose an approach to speculate architectural discourses on the ground of spatial experience. Because, although the cognitive relationship between body and environment is such a fundamental matter for architecture, the given value for the spatial experience's ambiguous plurality in architecture practices and studies is always open for discussion. However, this study does not interest in discussing these discourses. Instead, referring the background noise conception to this ambiguous side of the experience holds any expected speculations for architectural discourses on the conceptual level. On the other hand, it proposes a research method for reaching the spatial experience of listening to a noisy urban environment, it questions the potentials of the method for revalinf the plurality, instead of politicizing the urban experience.

Keywords: Listening, Spatial Experience, Background Noise, Enactive Cognition

ARKAPLAN GÜRÜLTÜSÜ ARACILIĞIYLA MEKAN DENEYİMİNİ ANLAMAK: EYLEM-BEDEN TEMELLİ DİNLEME YÖNTEMİ

ÖZET

Bu tez, mimaride mekan araştırmaları için dinleme pratiğinin potansiyel kullanımını sorgulamaktadır. Bu nedenle dinleme, algısal/anlam oluşturan bilişsel bir deneyim olarak kabul edilir. Amaçlanan araştırma, dinlemenin uzamsal deneyimine adanırken, arka plan gürültüsü kavramı, uzamsal deneyimi gündelik yaşam bağlamında sorunsallaştırmak için temel kavram olarak alınır. Bu keşif için gerekli bilişsel yaklaşım, algısal deneyimlere ulaşmak için bir araştırma yöntemi olarak Enacted Mind Tezi'ne dayanmaktadır. Bu değerlendirmeler kapsamında, bu çalışma, arka plan gürültüsünü dinlemede etkin hesap uzamsal deneyiminin kavramsal uzantıları ile dinleme deneyimi için yapılan örnek olay incelemesinden elde edilen sonuçları kesiştirmeyi amaçlamaktadır. Sebeplerden biri, mimari söylemleri mekansal deneyim temelinde kurgulamak için bir yaklaşım önermek. Çünkü beden ve çevre arasındaki bilişsel ilişki mimarlık için bu kadar temel bir konu olsa da, mimarlık pratiklerinde ve çalışmalarında mekânsal deneyimin muğlak çoğulluğuna verilen değer her zaman tartışmaya açıktır. Ancak bu çalışma bu söylemleri tartışmakla ilgilenmiyor. Bunun yerine, arka plan gürültüsü kavramını deneyimin bu belirsiz yönüne atıfta bulunmak, kavramsal düzeyde mimari söylemler için beklenen tüm spekülasyonları barındırır. Öte yandan, gürültülü bir kentsel ortamı dinlemenin mekânsal deneyimine ulaşmak için bir araştırma yöntemi öneriyor, kentsel deneyimi siyasallaştırmak yerine yöntemin çoğulluğu duymaya yönelik potansiyellerini sorguluyor.

Anahtar Sözcükler: Dinleme, Mekan Deneyimi, Arka Plan Gürültüsü, Eylem-Beden

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For my mother and father…

1. INTRODUCTION

The relationship between body and environment is such a central issue in architectural thought and practice. This thesis aims to discuss how spatial experience emerges by the relationship of our bodies and the environment we are living in through some auditory experiments and borrowing concepts developed in cognitive studies and enactive theory.

According to the enactive approach to cognition, our living environments become a part of our minds through our actions. Bringing this enactive account and cognitive understanding into architectural discourses looks inevitable; especially, in the context of everyday life for problematizing how we build, design, re-organize, deconstruct, and live with environmental structures. The concept of everyday life is not used here as the repetitions of particular orders in the environment but as the disordered and discontinued actions/events. Everyday life is seen as a scene where our bodies 'enacts.' The uninterested, unwanted, unnoticed are coded deterministically as disturbing like noise and a failure, leaving no room for plural experiences. Therefore, this thesis implicitly likes to argue that if we recognize the undeniable contribution of the noisy background of everyday life to our spatial experiences, listening to background noises should be the action that allows the affordances of the environment to be part of the mind.

This thesis questions the potential use of listening practices for spatial explorations in architecture. Aside from the implied broadness of this research interest, listening is considered a perceptual/sense-making cognitive experience. While the intended investigation is dedicated to the spatial experience of listening, background noise conception is taken as the fundamental notion for problematizing spatial experience in the context of everyday life. The required cognitive approach for this exploration is grounded on the Enacted Mind Thesis as a research method to reach perceptual

experiences. Accordingly, in the fifth -case study- chapter of the thesis, an experiment is conducted as a research method. The second, third, and fourth chapters could be seen as the conceptual background of the case study. However, the main focal point of the thesis is not given to the fifth chapter. Instead, each chapter of the thesis is given the same value because the main goal of the thesis is: to intersect spatial experience, listening, enactive mind thesis, background noise, and everyday life in each section differently, and to question the different aspects of spatial experience.

In sum, this thesis implicitly proposes these concepts as a tool of critique to attack the creeds of contemporary architecture practices in an indefinite way. Because nowadays, one may argue that architecture is mainly practiced as if it is only about designing a visual object. The politics of everyday life and its sensual environments are less prioritized issues and only discussed in 'alternative' practices. Visual dominance and the determinist / reductionist language could be found almost in all practices and mainstream academia. In contrast to this problem, background stands still as the age-proof conception for revealing the plurality of spatial experiences is diminished. However, this thesis will not discuss the reasons and causes of the visually oriented attitude of contemporary architecture. Instead, by conceptually approaching architecture and spatial experience, it will use the enactive account as a guide to understanding this experience using sound and voices, only the sense of listening. I believe the importance and influence of the concepts like (en)action, listening, and background noise are central to architectural design and can readily be studied more lucidly in the domain of auditory experience without visiting the more popular visual environment and reductionist approaches in architecture.

Based on personal observation acquired between 2006-2021 as a student, freelance architect, and scholar, reductionist and determinist ways of thinking/ making behaviors/ tendencies in architectural practice are:

-object/ building oriented design attitudes and the giving less importance on socio-economic, cultural social constructions and user experiences,
-primarily using computer software in each stage of architectural practices,

-most the weekdays working in front of computers, sitting on a chair, and having no time for discovering anything contextual to the project,
-inevitable use of the common languages of the practices which speak through on well-popular and fashioned design criteria, and undermine the otherness,
-as if it is an unbroken law, attempting to design architectural spaces well functioning and to draw a nice piece of architectural composition on a paper for increasing productivity and enriching sensual qualities of living experiences,
-less commonly believing that architecture could decrease the reasons and causes of the emerging ecologic crises and save the living beings, nature, and locals if sustainable materials and solutions are well-researched and used adequately in the projects.

Although these articulated issues are such controversial speculations, there are some reasons for defining them as problematic. These issues could readily raise questions about architectural practices and the limited options architects have for acting, possibly caused by the little diversity of their living environments. The reductionist, determinist, and populist tendencies are very common and caused by defining what or how to live pragmatically as if the world is black and white.

The proposed background noise conception is a good metaphor for projecting a grey zone for living and designing experiences based on the body's acting abilities and embodied practices to discuss these problematized issues. Listening is taken as a focus against visual dominance, and the (en)action-based cognitive approach is found as a way of questioning a body's mind according to its relationship with its actions and environment.

Apart from this speculative background of the thesis intentions, there are some other reasons on the conceptual level to conduct the study in this particular way. The first reason is the existing gap in the literature on spatial experience and listening, the second is a new perspective provided by the association between the chosen concepts, and the third is the construction methodology of the thesis narrative, which allows us to discuss spatial experiences in their different aspects.

During the research phase and fact-finding process, topics like approaches on sounds of background noises, the notion of noise, listening, spatial practices in sound art, politics of everyday life, production of space, rhythm analysis, sensual determinism, failures were the prior research cases of the thesis before meeting with enactive mind thesis. With enactive mind theories, all the pieces of the puzzle have fallen into place. Because the (en)action-based understanding of cognition has a critical position to:

-formulate the learning, knowing, and perception processes, and reach to the spatial experience of listening,
-question the actions that we do in everyday life and architectural design, and the auditory environment where we live in and what is perceptually appeared to us
-relate the enacted thesis to listening, the body's intentional actions towards sounds.

In considering these valued critical positions, when the research interests were searched, there was no previous literature research that brought the concepts of enaction, spatial experience, background noise, and everyday life together. As another way of saying, no one specifically discussed enactive inquiry on politics of architecture (or -spatial experience of everyday life) through background noises. Nevertheless, these four concepts are broad, and there are some related studies that superpose a couple of these concepts with different intentions. For example, background noises, listening and everyday life, the spatiality of sound, and sound perception are prominent subjects in musical and sound studies and sound art practices. However, when enactive cognition is taken into account for the listening experience, the number of the related studies are reduced and mostly became interested in: re-formulating and mapping listening modes (such as Tuuri & Eerola, 2012; Arteaga, 2014; Caramiaux et al., 2014); theorizing and discussing enactive account musical cognition, gestural sonic affordances, sound object, and sonic environment interaction related researches and art practices (such as Matyja& Schiavio, 2013; Godøy, 2010; Jensenius et al. 2010; Caramiaux et al., 2011; van den Bosch et al., 2018; Leman, 2007; Armstrong, 2006; Franinović & Serafin, 2013; Clifton, 2016; Altavilla, 2018; Elo & Luoto, 2014). However, background noises become the missing point in these fields.

On the other hand, when it is looked at the intersection between architecture and enactive cognition, in the field of design cognition and cognition and perception in architecture, there could be seen the growing numbers of interests, although the diversity of this interest may not be found varied. For example, Malgrave (2013) and Vittorio et al. (2015) may be found as such fundamental and only books that give great insight, but general and less critical, about the wide topography of enactive account architecture among the broad literature of cognitive architecture and environmental physiology studies. On the other hand, although the case-specific studies in this field may be more in number than them, these studies' research intentions would be seen focused: more heavily on spatial and design cognition and interaction design approaches (such as Tversky, 2008; Lueg, 2014; Jelic et al., 2016; Gattara & Gallese, 2016; Smithwick & Sass, 2014, Heylighen, 2012; Jelic, 2015; Malinin, 2016; Alaçam & Çağdaş, 2014; and a bit lesser on aesthetic experience (such as Gallese & Gattara, 2015; Mallgrave, 2015). Nevertheless, the conceptual correlation between listening and background noise was again missing in these studies. When urban soundscape studies and the topics like spatial experience and cognition in listening, sensual experience of urban space, and noises of everyday life are searched in the context of enactive cognition through the literature, it could not find any enactive mind specific studies. However, each of these studies and topics is found quite broad researched fields as their own which are hard refer them in here. Asides, the books of Cox & Warner (2004), Blesser & Salter (2007), LaBelle (2006; and, 2010), Groh (2014), Lefebvre (1991; and, 2004), Attali (1985), McLuhan (1962), Molles (1990), Halberstam, (2011) were quite affected on while building a broad understanding for sound cultures, experiences of aural architecture, and politics of noise, everyday life, reductionism, and failures; even though they are not mentioned and cited in this thesis.

When these findings on the literature are reconsidered, the gap on giving interest for enactive account spatial experience of (background) noises in listening -especially, in the context of everyday life practices of urban spaces- is taken as such critical matter question this experience. Therefore, this thesis posits itself far from experiential deterministic and reductionist approaches and intends to give a place to emerging questions, discussions, and noises. Calling readers to listen and pay attention to the

noises of urban life is a statement clarifying the political standpoint of the thesis. I argue that listening to the noises is about changing and deconstructing the well-known meanings of things and allowing spaces for failures, otherness, plurality, or diversity. The concept of listening to noises should be taken more seriously and more frequently in the language of architectural practices and academia. Even if this concept is practiced only by its literal meaning, giving attention for a moment on affordances of the occurring contrast between order and disorder through listening to everyday life noises, the reward could be to take action and re-consider the potentials of where we live. According to the enactive mind thesis, we make our minds through our actions. That is why taking noise listening as a mind-making action is considered a particular practice for embodying, learning to take action against reductionist and deterministic approaches, and how to be together with others and the environment.

The structure of the thesis is built on the ground of the four questions in a row: (1) how do we experience (make our minds); (2) how do we listen; (3) where do we live. Accordingly, in the second chapter, the first question is dedicated to the enactive account cognitive approach to re-consider environmental contributions to cognitive processes of mind and investigate their spatial references.

In the third chapter, while enactive account listening experience is unfolded through two different but related approaches, different modes of listening and embodied concerns in enactive listening are discussed according to the roles of a body and its actions in sense-making and perception.

In the fourth chapter, the outlined learnings from the second and third chapters are applied to the spatial experience of everyday life step by step from the general understanding of the experience and the listening. The conclusion is made on background noise conception, as the third question's answer. Aside from revealing the conceptual correlations between the mentioned notions, the main reason for writing this chapter is to open a space for speculating an enactive account of spatial experience. Therefore, instead of building particular understandings, this chapter intends to bring

the well-known environmental affections on perception into a discussion without conclusions.

In the fifth chapter, an enactive account of background noise conception is problematized in the context of everyday life experiences of noisy urban areas as the case study of the thesis. By doing so, the intention is to propose a research method for recording and reading the experience. Through the obtained results from the designed research case, the research method is questioned as a potential representation for revealing subjective, collective sides of the experience. However, because the fifth chapter is the case study part of this thesis, this chapter is not prioritized as the focal point. Instead, each chapter is valued the same for unfolding spatial experience into a discussion in different aspects.

In the sixth chapter, based on conceptual backgrounds given at the second and third chapters, speculations on the experience delivered at the fourth chapter and the proposed research method will be re-evaluated, and the critical points of the thesis will be underlined.

2. THE QUESTION OF ENVIRONMENT AS THE MIND OF A BODY

As it is well known, the mind is such a complex concept and still an unsolved mystery
As it is well known, the mind is such a complex concept and still a mystery of living experiences. Although no one-proven law explains the complete understanding of the mind, there are different approaches and theories that aim to enlighten this mystery. The enactive mind thesis is one of them as a part of the 4E Cognitive approach. In brief, 4E Cognition consists of four different -but disputatiously interrelated- theses which counteract the traditional (Cartesian) model of cognitive understanding, and the term of 4E is coined by Shaun Gallagher to encapsulate embedded, extended, embodied, and enacted mind theses under the one title to indicate their common grounds and associative contradictions. The cartesian cognitive model accepts that cognitive processes are actualized only in the brain. As it is mainly explained by analogy with a computer, the brain is considered the central processing unit of computer hardware, working as a receiver, transmitter, and translator. The mind is the software where information becomes knowledge by its programming language. The body is the hardware configuration and does not influence the obtained knowledge. In this regard, 4E Cognition denies the assertion of the Cartesian approach (mental processes only occurring in the brain) but does not disclaim any possible roles of the brain on the processes and argues that some cognitive processes (not all) could occur by expanded from the brain through the bodily and to environmental structures.

Among the other approaches in cognitive studies and inside from 4E Cognition, Enactive Mind Thesis is found quite interesting for this study. Because the given great concern (on actions of a body and environment's contribution to cognitive processes by the Enacted Mind) is such an essential matter for the spatial experience; and, for architectural theory and practices, if architecture is conceptually centralized on the living experience in this world. When (en)action-based inquiry is made for architecture,

actions that we do while we live, such as designing, building, deconstructing to construct our social organizations through the physical environment, will take prominence. Learning, knowing, remembering, and other actions to accomplish daily tasks and practices are crucial to coping with the environment that we act and perceive through our actions. Similarly, actions that leave sensual traces like making noises and smells become our sensual environment.

Moreover, this (en)action-based cognitive approach is easily related to the spatial experience of listening within the conceptions of background noise and listening, when the sound is defined as it is resulted by the sound causing events and the listening experience is understood as intentional and attentional actions of listening that are performed in different ways. However, conducting conceptual inquiry for enactive spatial and listening experiences is not the intention of this chapter. They will be unfolded after this chapter step by step, but first, here is the Enactive Mind Thesis through the 4E Cognition.

In this chapter, while the main focus is dedicated to the enactive mind thesis, the intention is to give brief insights about each E's conceptual background to draw a better understanding. This intention is also thought to be helpful in beginning to question the contribution of environment and body to spatial experiences through each four E approaches in different aspects. On the other hand, the given brief introductions for these four E's will be based on the book of Mark Rowlands (The New Science of the Mind, 2010). The main reason for this is that when the first version of the thesis was written, around late 2017 and early 2018, any other comprehensive work, aside from Rowlands, on 4E Cognition could not be found or reached during the literature research processes. Although The Oxford Handbook of 4E Cognition (2018) is found, at the second turn of writing the thesis - around mid-2021, Rowlands's (2010) book has remained more valued for this study because of the conceptual differences between their scopes. Rowlands (2010) develops, defends, and discusses his arguments vibrantly by highlighting the critical points of 4E conceptions instead of giving guidelines for 4E's research interest. Although Rowlands's work could be found reasonably arguable by the

others, the structures he developed for his criticism sounded more attractive to fall into the discussions for learning 4E Cognition.

2.1 Extended Mind: Environment As An External Source of Memory

The basic idea of ExM could be summarized as ExM argues that (some) cognitive processes are driven partly by a body's environment, but it's conceptual discussion would be missing. Because, although the title of Extended Mind (ExM) was named and conceptualized by Andy Clark and Dave Chalmers (C&C,1998), ExM was not the only approach that questions an extension of mind relatively, such as: vehicle externalism (Hurley 1998; Rowlands 2006), active externalism (Clark and Chalmers 1998), locational externalism (Wilson 2004), and environmentalism (Rowlands 1999). Regarding this background, C&C proposal ExM is aimed to encapsulate this associative diversity of the extension concept but is still open to re-interpretations and criticism. In this sense, ExM could be explained through C&C (1998)'s exemplification and discussed with Rowlands's criticism.

If paraphrasing their example would not be wrong, they compare two different behaviors to remember a thing. In the example, Inga and Otto (who suffers from Alzheimer's disease) are two separate individuals but they have some things in common: both see the add on the newspaper for the new exhibition at the Museum of Modern Art and want to visit it. Thus, Inga just remembers the address of this museum with having no-doubt about whether the address that is in her mind is right or not. And therefore, she did not use any external source for second-checking to correct the address. On the other hand, Otto requires his notepad to remember the address because this particular notepad works for him as external memory. Thus, Inga and Otto become sharing a kind of similar belief that indicates: the address is in their storage unit and what they found in there is correct. According to C&C, these two ways of remembering processes are concerned as similar processes (within a discussion on, which will be mentioned later, whether cognitive states or processes are identical with environment) and, thus, the notebook is recognized as the part (an external source) of the mind. Besides this indication on the environment, C&C give also particular importance on all

the actions that Otto performs to make the information available in the environment and, thus, accompany the cognitive processes of remembering.

In conclusion, the idea that argues “some cognitive processes are made up, in part, of the manipulation, exploitation, and/or transformation of information-bearing structures in the cognizing organism's environment” , C&C and Rowlands could be seen as like-minded. But, the one of the main critical points that Rowland addresses is what C&C concern as an identical in their example. According to Rowlands, the environmental structure should not be understood as identical to cognitive states such as believing and having intention. In this matter, he might be right because giving an intention for attending to the exhibition and finding the addresses in where they already stored and believing on that the found or memorized addresses are correct do not alike as derived from the exterior (non-bodily) structure, instead they are seemed very internal (personal) processes. Therefore, cognitive states are not related to environmental structure as an identical. With Rowlands’s words :

> “The thesis makes no claim about cognitive states at all. It is a thesis that concerns cognitive processes and it claims some of these processes are, in part, composed of processes of manipulating, exploiting, or transforming environmental structures. (…) This is compatible, of course, with the idea that environmental structures can form parts of cognitive processes. They do so, but not because they are identical with cognitive states. It is the manipulation of environmental structures that forms part of the cognitive process; and so these structures form part of the process only insofar as they are part of the process of their being manipulated. (ibid,67)

Rowlands underlines two things that are critical for an understanding of ExM. The one is that ExM distinguishes the occurrences of cognitive states and processes according to the contribution of external structures on them. The second thing is the un-forgotten consideration of the body and its actions. ExM does not deny the body’s contributions to cognitive processes since being defined as “information-bearing structures.” These two highlighted concerns for ExM are just driven by the main discussion on the relation between body, environment, and mind - specifically to the roles of external and internal structures on it. Apart from that, the ExM thesis seems likely to give some idea to start

re-thinking where the mind begins and ends or what other structures of the environment are part of the mind or everyday life.

2.2 Embedded Mind: Utilizing Environmental Structures To Reduce Complexity

When it is only looked at the title of Embedded Mind (henceforth, EmM), it might be assumed as if it implies that the mind is embedded in the environment and resembles Extended Mind. Although this assumption would not be wrong on the surface, it would be a misconception because there can be found, at least, two fundamental issues to disclaim this argumentation. The one is about the main question of 4E. None of them intend to prove whether an environment is a part of the mind and address its location and direction. Such as claiming that the mind is embedded in an environment or extended through the body to the environment. Instead, they question how the environment contributes to the emerging process of the mind by having a particular relationship with the body. For this matter, the second issue is dedicated to the question of how. According to Rowlands (2010), EmM is a fundamentally distinct thesis not only from Extended Mind but also Embodied and Enacted Mind Theses because of its "dependency." This drawn distinction is a thing that while Rowlands unfolds each E into a discussion, he mainly questions whether they are conceptualized according to the mind's dependency on bodily or environmental structures or the constitution of these structures on mental processes and discusses their possibility in specific cases. By outlining the ExM thesis as "the thesis of composition or constitution of the cognitive process: some cognitive processes are partly composed of environmental processes" and paralleling it with "the thesis of the embodied mind, according to which some cognitive processes are partly composed of wider bodily structures and processes," Rowlands (2010; p.68) concludes the distinction of EmM as:

> "According to the embedded mind, cognitive processes are often (and on some versions essentially) embedded in the environment. (…) By relying on the environment in an appropriate way (…) the guiding idea underlying the thesis of the embedded mind is that in accomplishing cognitive tasks, an organism can utilize structures in its environment in such a way that the amount of internal processing it must perform is reduced. Some of the complexity of the task is, thereby, off-loaded onto the environment, given that the organism has the ability to appropriately

> exploit that environment. (…) According to this thesis, some cognitive processes are dependent on environmental structures in the sense that these processes have been designed to function only in conjunction, or in tandem, with these structures. In the absence of the appropriate environmental structures, an organism may be unable to accomplish its usual repertoire of cognitive tasks because the processes it typically uses to perform such tasks work only in conjunction with the missing structures. Or it may be able to accomplish these tasks, but in a less than optimal way - it takes longer, for example, or exhibits a greater frequency of mistakes."

Rowlands exemplifies the emergence of EmM through the usage of GPS or MapQuest-like navigation devices. These devices reduce the complexity of the mental processes we must perform for wayfinding, such as imagining, remembering, and mental image rotation. It is understood that environmental structures are not required for accomplishing cognitive tasks from beginning to end, but the mind depends on some of them to utilize some processes. Therefore, EnM could be seen as an actual cognitive process occurring in the brain, but this argument is also found suspicious and one of the untouched points of the thesis by Rowlands (2010).

2.3 Embodied Mind: Body And Mind Specifications

As it could be noticed so far, Rowlands (2010) gives great attention to the conceptual distinction of whether Extended and Embedded Minds were constitutional or dependent theses; and also keeps this skeptical inquiry for explaining Embodied Mind (henceforth, EbM) too. This inquiry should not be surprising because, to be able to draw a clear distinction (if it is possible) between cartesian and non-cartesian (4E) understandings, it should be required as long as the actualization of mental processes is dependent on out of brain structures just because actual processes are concerned as occur in the brain. For this matter, Rowlands (2010) begins with Sharpio's (2004) assertion on the dependency for EbM to discuss why EbM should be understood as constitutional and outcomes that "at least some mental processes are constituted not just by brain processes but a combination of these and wider bodily structures and processes." By deriving from Rowlands's (ibid.) the critiques on Shapiro's (ibid.) stance points and exemplifications, EbM thesis could be inferred as there are (at least) two significant concerns of EbM, which are commonly defended and accepted by the diversity, about the role of wider

bodily structure on cognitive processes, and they could be defined as body and mind specifications.

Body specification refers to Shapiro's counteract on separability thesis, and he emphasizes the undeniable contribution of bodily specific configurations on cognitive processes. The body specification concept might be seen, at first sight, as indicating bodily differentiations of species and/or questioning the differentiation of cognitive processes when the configuration of a body is deformed (such as losing a sense of seeing or legs). However, these assumptions could not be qualified to well-sophisticate the EbM thesis in the context of bodies' plurality. Because, EbM thesis could be found as more focused on the uniqueness of each body of the same kind of cognitive organisms, such as differences between human bodies, for explaining how these unique differences specify or individualize bodily processes (such as bodily transmissions of a heard sound).

In this regard, mind specification is summarized from Shapiro's second attack on the idea of body neutrality, where he disclaims that the mind is a closed-circuit program and characteristics of a body make no differences on the body's mind. He emphasizes that cognitive processes such as listening, perceiving, and meaning-making are also individualized because of the differentiation of body configurations.

If his body specifications concept is likened to the roles of the physical environment in listening that forms propagation of sound waves and characterizes acoustic properties of the heard sounds. However, the exciting part of this analogy would be unfolding the concept of relational spatiality into a discussion. Because, although the cognitive relationship between environment and body is not EbM's focal point but the Enactive Mind thesis's main subject, the spatiality of a body is still an undeniable issue for EbM. If this spatiality is exemplified through the given analogy, here should be emphasized that the ears' position on the listener's body and the spatial location of the listener in its surroundings have such a determinative role in receiving, re-forming, and processing the sound waves that come to the ears. Besides, when the body-specific shapes of ears

are also included in these spatial futures of the body, the sense-making processes - attributed meanings of sounds become varied by these body unique features.

In conclusion, according to the EbM thesis, the occurrences of mental processes are not dependent on any environmental and body structures because they can not be actualized without a body. However, the role of the body's actions and environment in this remains questionable. This question becomes the turning point where an enactive mind thesis is developed under the title of EbM.

2.4 Enacted Mind: Action In Perception

As it is already warmed up by giving a short glimpse on embodied account sense-making processes, Enactive Mind (henceforth EnM) will be unfolded here within its perceptual extension. Enacted Mind is developed under the title Embodied Mind (Varela, Thompson & Rosch, 1991) of the book, and the main concerns of EbM, which are mentioned as body and mind specifications, could be assumed as still available for EnM thesis but only partially. Because, according to EnM, although the body is concerned with making differences in mental processes, mental processes are not defined as actualized explicitly in a body but emerge between body and environment.
According to Torrance (2005), EnM is a complex notion that can not be simply defined. Nevertheless, it still could be explained through generally accepted two main concerns of EnM: the nature of mind and perception. About the nature of mind, Torrance (ibid.) consults Thompson's (et al., ibid.) five themes by assuming that these themes characterize EnM by responding to the questions of "What are minds, and how do they relate – epistemically and experientially – to the world?" Accordingly, these themes are defined by Torrance (ibid.) as:

> "(a) Minds are the possessions of embodied biological organisms viewed as autonomous – self-generating and self-maintaining – agents. (b) In sufficiently complex organisms, these agents possess nervous systems working as organizationally closed networks, generating meaning, rather than processing information as inner representations of the external world. (c) Cognition, conceived fundamentally as meaning-generation, arises from the sensorimotor coupling between organism and environment. (d) The organism's world is 'enacted' or 'brought forth' by that

> organism's sensorimotor activity; with world and organism mutually co-determining one another, in ways that have been analysed by investigators in the continental phenomenology tradition. (e) The organism's experiential awareness of its self and its world is a central feature of its lived embodiment in the world, and therefore of any science of the mind."

In this regard, Torrance (ibid.) summarizes an enactive account of the nature of mind by emphasizing that: "living is itself a cognitive process – a process whereby a living being creates and maintains its own domain of meaningfulness, in generating and maintaining its own self-identity as an embodied organism." On the other hand, for the nature of perception, Torrance, first, underlines the given great interest in the sense of vision by the enactive perception studies from the well-known sources (such as O'Regan & Noë, 2001a, b, c; Myin & O'Regan, 2002; O'Regan, Myin & Noë, 2004). Moreover, secondly, he paraphrases the two properties of the enactive approach -corporality and alerting capacity- which is derived from O'Regan, Myin & Noë's (2004) conceptual development of perceptual phenomenology. According to Torrance (ibid.):

> Corporality refers to the way that changes in our bodily movements (even tiny ones) radically affect our sensory inputs – for instance, when looking at a cloud, by moving my head left, the cloud 'moves' from the centre to the righthand periphery of my visual field. Alerting capacity refers to a (complementary?) property, whereby a change in the sensory input will elicit a motor response so as to orient attention towards the change – so that a large bird flying across the cloud will make me shift my gaze rightward, bringing the cloud back into the centre of the field. These properties are, according to the authors, experimentally measurable and, they claim, together capture the specially vivid feel of sensory phenomenality – the 'what it's like' of seeing a bird flying across the sky – as compared with other phenomenal states, such as imagining a bird flying across the sky, or believing that birds eat worms.

About these two properties, several things should be reminded. Although Torrance did not mention openly, these properties are implied for the EnM thesis's main argument, body and environment's inseparable relationship in cognition. Because, as seen in the examples, birds, clouds, in short, the environment, are taken as a matter of emerging enactive perception, as much as the body's action. In fact, by doing so, body and environment as the foundation of enactive perception become referred to as two different sources of action: actions of a body and action in the environment. The importance of underlining these two sources of action is to bring the less spoken issue

into consideration: the conceptual association between action and change. Because, while some affluently mentioned action-defining verbs such as “changing” and “moving” are remained as untouched conceptions, moving is used for the way of practicing actions, changing is for the results of these actions, and these changes define the perception. Enactive perception not only refers to the body's action abilities that cause changes in the body’s sensory displays but is defined by the changes that emerge between body and environment as a result of any of these two sources of action.

2.4.1 Learning the changes by acting; and, knowing as expecting

On the other hand, Rowlands (2010) discusses this action-oriented understanding of perception based on enactive account “learning and knowing” experiences through Noe’s -well known- cube and tomato examples. He draws some particular conceptual distinctions between expectations & sensory-motor knowledge and abilities to probe & exercising. According to Rowlands (ibid, 72):

> “Noe captures the basic idea of his enactive account in passages such as this: As you move with respect to the cube, you learn how its aspect changes as you move-that is, you encounter its visual potential. To encounter its visual potential is thus to encounter its actual shape. When you experience an object as cubical merely on the basis of its aspect, you do so because you bring to bear, in this experience, your sensorimotor knowledge of the relation between changes in cube aspects and movement. To experience the figure as a cube, on the basis of how it looks, is to understand how its look changes as you move. (Noe 2004, 77)
>
> Alternatively, consider your visual experience of a tomato. If you look at a tomato you experience it as three-dimensional and round, even though you only see its facing side. Suppose, further, that your view of the tomato is blocked by the pepper pot that stands in front of it. Nevertheless, you experience it as a tomato, and not as a pair of noncontiguous tomato parts. The tomato is phenomenologically present to you, despite the apparent limitations of the visual scene. Traditional accounts would explain this in terms of the construction of a visual representation of the tomato-your brain's guess concerning what is causing your visual impressions. Noe, however, demurs:
>
> Our perceptual sense of the tomatos wholeness-of its volume and backside, and so forth-consists in our implicit understanding (our expectation) that the movements of our body to the left or right, say, will bring further bits of the tomato into view. Our relation to the unseen bits of the tomato is mediated by patterns of sensorimotor contingency. Similar points can be made across the board for occlusion phenomena. (ibid, 63)”

The cube example is used for explaining learning a novel property that has never been experienced anything like it, and the tomato example is referred to as knowing experience where the learned properties could be recognized with no requirement to re-act on it. In this regard, Rowlands brings "expectations" into the consideration of "knowing how," emphasizing that the world visually perceived to us is built upon (1) expectations and (2) abilities to act; and, relating them with the concept of "sensorimotor knowledge or knowledge of sensorimotor contingencies." If we become knowing how the experience of an object will change, it is: depended on our past experiences (as a source of knowledge where we can compare the objects accordingly and become knowing similar kinds of objects); and, more intrinsically, related to our bodily abilities (to perform some particular actions for perceiving this object) and our cognitive abilities (which are required for knowing such as remembering, recognizing, comparing/ resembling/ reasoning/ relating-like mental processes). Learning the shape of a cube is not dedicated to or cannot be reduced to knowing the shape of this cube. Instead, it is about becoming to know what particular action caused some changes on the sensual displays and expecting what would happen when similar kinds of actions are performed on similar properties with a cube.

The issue that should be underlined here is that the experienced and expected changes in enactive perception are not specific to the focused sensory, such as seeing for knowing the shape of a cube, but to the contributions of the other senses. The one reason for making this emphasis is that this contribution is not mentioned in the given examples. The second is to relate the concept of sensorimotor knowledge (henceforth, SmK) with expectations because this contribution is exactly what SmK is concerned about and discussed. Nevertheless, this contribution should not be meant that each sense participates in every single mental process with the same full attention; instead, according to SmK, contributions of each sense are determined by context and subject-specific situations defining our expectations.

For example, there is one particular color that we like and find on the paint-shop catalog, but when we paint the room with this color, it does not look like to us as the same color on the catalog. According to SmK, this happens not only because the same

chemical content does not make the wall-paint color and paper-print color or the lights different even if their material differences are not a problem but also due to the contribution of other senses of us. We sense the colors within their unique atmospheric properties in very subjective and contextual levels. Besides, as to how the attributed meanings on this contribution could define our feelings/emotions, any other feelings evoked by something different than sensual environments could also be part of the experience of the color. On the other hand, we may also assume the exact opposite of this scenario where the expectations are fulfilled. We may not be surprised by the changes of the color in different conditions, and the reason for it would be that we may already have experienced similar kinds of possible changes.

Within these considerations, Rowlands brings his other emphasis on knowing into the discussion. Rowlands denies Noe's assertion of "knowing how" and argues that Noe might be meaning "knowing that." Rowlands may have a point for defending "knowing that" because Noe's focal point in his example of a cube is nothing more than knowing (that) the geometric form of the cube, although "knowing how" is referred to the process of a specific action, the changes on the visual properties of the cube's form. However, no one mentions the cube's color and any other conditions about where this cube belongs. The contribution of the sensual environment could be the point where we can draw a distinction between knowing how and that. Besides, while he defends his argument through Noe's words, "these expectations are a form of practical knowledge or knowing how," he becomes making another point of view for us to consider his assertion to be valid. Because Noe's word could be seen unclearly implying a particular distinction between conceptual and practical knowledge as if Noe intrinsically claims that the geometry of a cube is just a practical knowledge where any subject and context-specific knowledge is not represented. Reducing this cube experience into the visual appearance of the geometry could be more practical for resembling it to other things, and the expectations would not be failed easily.

If "knowing that" only refers to this kind of practical knowledge, Rowlands would be right with no doubt. Since enactive perception is concerned as SmK, it cannot be reduced into the visual recognition of a shape like practical knowledge, and Noe should

also be right about his claim “knowing how” as emphasizing the process of how. While he probably uses “knowing how” in the cube and tomato examples, he might aim to simplify the learning and knowing experience by only focusing on the visual properties of the shapes of these objects. Otherwise, he cannot forget or deny the contribution of any other body and environment-related changes around the cube or tomato on perception.

2.4.2 Failing on expectations and re-acting

When it is looked at Rowlands's second concern, the ability to act on the world, he drives the readers’ attention to the role of the ability to exercise, probe, and explore in perception in the context of learning and knowing. According to Rowlands (ibid.; p.79), “visually perceiving the world requires not only the ability to probe and explore the world by way of the visual modality; it also requires an exercise of that ability.” However, he emphasizes that these abilities' actual exercises may only be performed during learning. Novel properties would not be perceived until we act on them. To defend, Rowlands underlines that the ability to probe and explore without exercising could be seen as unwillingly doing actions (that cognitive body performs ceaselessly, although he finds this argument as discussable). As it is understood, he implies that these unawarely performed actions cause some particular selectivity where a body could know what is familiar/ expected and unexpected around itself. While these probing and exploring abilities are related to detecting expected and unexpected features of the environment, failing on expectations is seen as some kind of trigger point for exercising these abilities to learn the unexpected features.

In conclusion, here we could be sure that the given emphasis by Rowlands is wide-open to be criticized in different aspects, but still, he is giving us some crucial insights to know where we should be critical about. While we acknowledge enactive account learning and knowing through Noe’s examples, thanks to Rowlands, we have the chance to reconsider the EnM thesis through expectations and exercising the abilities in relation with SmK and attentionality & intentionality. However, for the other theses to be careful about how and where the cognitive processes are accomplished, his emphases

could be found problematic due to resulting the occurrences of having expectations and the evocation of exercising the abilities to probe and explore, in specific, to the body's acting abilities, instead of combining it with the environment. Although the EnM thesis does not deny and give great intention to the body's abilities, his approach still sounds like an embodied account interpretation of enactive perception where the contribution of the environment on cognitive processes is less relevant. To support his embodied concern, here could be concluded that, in the contexts of "expectations" and/or "knowing", his assertion on "knowing that" only confronts the changes on sensual displays rather than considering "knowing how" which is defined by the process of change and emerged in between body and environment.

2.4.3 Traces of actions: what the action is meant in enactive perception

Apart from any possible critiques which could be developed for Rowlands's arguments, here should be outlined what the concept of action is meant for the EnM thesis. For that reason, here could be reminded of the two sources of action which are already mentioned through Torrence's explanations: actions of the body and actions in the environment. However, these sources define only the foundation of enactive account cognitive processes (or, perception) but they do not seem likely to draw the perceptual understanding of actions. Although enactive perception will be discussed in the next chapter more specifically in the context of listening, here would begin to argue about it, as what we could know in this world would just be about the actions that we can do and did perform in exactly the same way or in a similar way. For example, when we see the two different clay vases, the one is an industrial product, and the other is a handmade object, but both have the same shape and color, we may know what kinds of actions that they are made of when we notice the left traces, such as hands or fingerprints and mold marks, on their surfaces by their production processes. Because, even though we never made a clay vase with our bare hands, at least, we may have already experienced playing with clay-like dough materials which are easy to shape with our hands or the help of mold-like frames or knives and show the traces of these touches even when it dried. Besides, in general, we may also know how using molds makes it easier, faster the production and sharper and repeatable the desired form of an object in contrast to

hand-making. Or, on the contrary, there can be found lots of things that our bodily abilities unable to perform the same actions of what these things are made of but we can assume how these actions are felt, such as flying like a bird or touching to the clouds, as result of our previous actions which could be resembled with them.

In this sense, at last, it could be proposed to call the understanding of action in enactive perception as traces of (embodied) actions. Basically, actions, in general, whether we did or not, cause some changes: it cannot be argued that these changes remain exactly the same for a while but, if they are sensible, the changes leave their sensible traces which last until losing their sensible features. Most of the sounds are caused by particular events, like clapping hands or crashing cars, and practically, the traces of these events are heard as a sound until losing their hearable features for human ears but, perceptually, we may keep experiencing the sound for a while after it is gone from our ears.

Nevertheless, this “trace” concept should not be understood as it has an only direct indication of the results of any kinds of sensible actions, such as fingerprints on a lump of clay or sound causing events, but also abstract/indirect or relational references to any possible actions which could be known through the body's actions. Although touching a cloud cannot be possibly known, at least for most of us, we assume how it is felt to touch it if we experience touching a piece of cotton or cotton candy, and the trace could refer to the tactile sensation of the cotton or the feeling of mild and freedom.

2.5 As Conclusion: A Brief Introduction to Spatial Inquiry Of 4E Cognition

In the following introductions of four E conceptions, some particular cognitive processes are examined by questioning the contribution of a body and environment on these processes. Each concept was not competed for being the one complete understanding of mind without any doubt. They are more valued for explaining some specific cognitive situations within their term. Besides, here could also be found as they have some referential concerns for each other within its discussions. While the Extended Mind thesis is explained through the notebook as external memory and

Embedded Mind is discussed through GPS devices to reduce the load of cognitive process in wayfinding, the Enactive Mind thesis may not be interested in explaining these examples in its terms without giving a great concern on the environment. Similarly, Extended and Embedded Minds also leave the question marks for the contribution of a body and its actions- in their conceptual developments.

Apart from their conceptual correlation, the given values on each conception are about their potential for projecting some particular understandings in the relationship between body, mind, and environment to put architecture into re-considerations. Considering a notebook as the outer part of a mind as Extended Mind suggests does not simply bring us to the question of how buildings become the parts of our mind in everyday life but also unfolds the wide-open space of cognitive interests in architecture, anything environmental, and their roles in socio-spatial order, to more specific cases, such as the role of a sketchbook in design thinking processes of the first-year architecture students. Moreover, this environmental account cognitive inquiry for architecture has also retained its value for the Embedded and Enactive Mind theses. Like GPS devices, from model making or drawing materials to computer software for drawing and 3D modeling, they all could be examined as to how they become a part of our body and our minds in design thinking processes. However, for the Embodied Mind and partly Enacted Mind, these inquiries may require re-configured. According to the body specification concept of Embodied Mind, here could be asked how our body differences affect our experiences with the environment if the size of the physical environment is a matter. Because, according to Embodied Mind, when our body height is changed, the way we perceive the heights of the object will change, and the changed meaning of the heights will change our interaction with them according to our personal preferences. Although it is hard to exclude the enactive cognition from this example, without concerning the contributions of the body's actions and environment on perception, we can still ask how we socially and personally arrange or become adapted to the environmental properties according to body-differentiated meanings.

2.5.1 The three nodes of enacted concern on spatial experience: environmental factors, traces of actions, fails on expectations

If we begin by defining architecture as a built environment, architecture would be nothing more than where we live/act in and through and what we build as livings and designers. Besides, as long as these living and building concerns are the main subject of this architectural inquiry, this built environment definition of architecture could also be extended easily to social, economic, cultural, ecological, and sensual environmental conceptions and design practices and thoughts. In sum, the reason for signifying the broadness of "body's action" related architecture concepts is to demonstrate that this broadness just defines the enactive mind thesis's roots and extensions in architecture. Nevertheless, the relationship between enactive mind and architecture or mind and environment could not be simply explained as their undeniable bond is indicated. For example, it can not be simply argued that the physical environment has crucial affection on our minds more than our actions or vice-versa because that enactive mind thesis does not seem to prioritize the contributions of the body's actions and environment on cognitive processes one to the other. To be able to question the emerging complexity between body and environment from their even contribute to cognitive processes, this thesis requires to propose a conception that, underneath it, could outline the learnings of the enactive mind thesis and articulate them in the context of spatial experience.

For this reason, the proposed concept - three nodes of enactive concerns on spatial experience- is dedicated to questions "environmental factors," "traces of actions," and "failures on expectations" on spatial experience. In the first node, the environmental factors are questioned how they could be the parts of the processes of defining the limits of our actions. In the second node, traces of actions are questioned what kinds of actions in the environment are perceptually present to us concerning what we pay attention to based on how we used to act. And, at last, in the third node, the failures on expectations are questioned as a requirement for alternating the known meanings and, or, revealing the potential possibilities/affordances of the environment. Accordingly, these three concerns are aimed to be unfolded in the fourth chapter through the general

understanding of spatial experience to its listening specification by adopting the obtained learnings from enactive listening in the third chapter.

3. THE QUESTION OF (EN)ACTION IN LISTENING

In the second chapter, while the conceptual framework of Enacted Mind Thesis (EnM) is introduced briefly through 4E Cognition, enactive account learning and knowing processes are outlined. Besides, the meaning of action for enactive perception and the three nodes of enactive concern on spatial experience are questioned through the end of the chapter. However, the given examples for explaining these four approaches were mainly based on a sense of vision. Although beginning this study with the sense of vision is thought to ease the readers' understanding of 4E Cognition and the EnM thesis, this general understanding of EnM needs to be narrowed down to listening experiences because of the scope of this thesis.

Aside from learning and knowing, the enactive perception was also not considered in the previous chapter. For these reasons, this section is dedicated to unfolding listening experiences in the context of enactive perception. Nevertheless, an enactive account of the cognitive approach to listening is not exactly intended to be discussed through the differences between the perceptual properties of the sense of vision and hearing. Because, although their differences are such a matter of enactive perception, the main concern of EnM is the differentiation of our action abilities towards them.

Here will be described two different but also interrelated approaches to enactive listening. At first, Tuuri&Eerola's enactive account listening proposal will be unfolded based on their article "Formulating a Revised Taxonomy for Modes of Listening" (2012). And, by doing so, through their conceptual background, the previous approaches on listening and body-related actions towards sounds will be introduced. Then, through Alex Arteaga's (2014) proposal, the four varieties of listening, enactive perception in listening will be explained. The reason for bringing these two approaches into account is that while Tuuri&Eerola's (2012) enactive concern is based on meaning-making processes in listening, Arteaga's approach is the proposal for reaching the

listening experiences. Besides, because their conceptual developments are also fundamentally differentiated, the emerging intersection between them is intended to be interpreted for coming to a conclusion on enactive listening and deriving this conclusion into the spatial inquiry of experience in the fourth chapter.

3.1 Meaning Related Responsive Actions: Embodied Approach To Enactive Listening

In the article “Formulating a Revised Taxonomy for Modes of Listening" (Tuuri & Eerola, 2012), the authors develop their idea based on that listening is “the action-oriented intentional activity of making sense of the world.” Besides, they also define and schematically distinguish conceptual diversity of listening modes by adopting Enactive Approach into their previous formulation of listening taxonomy.

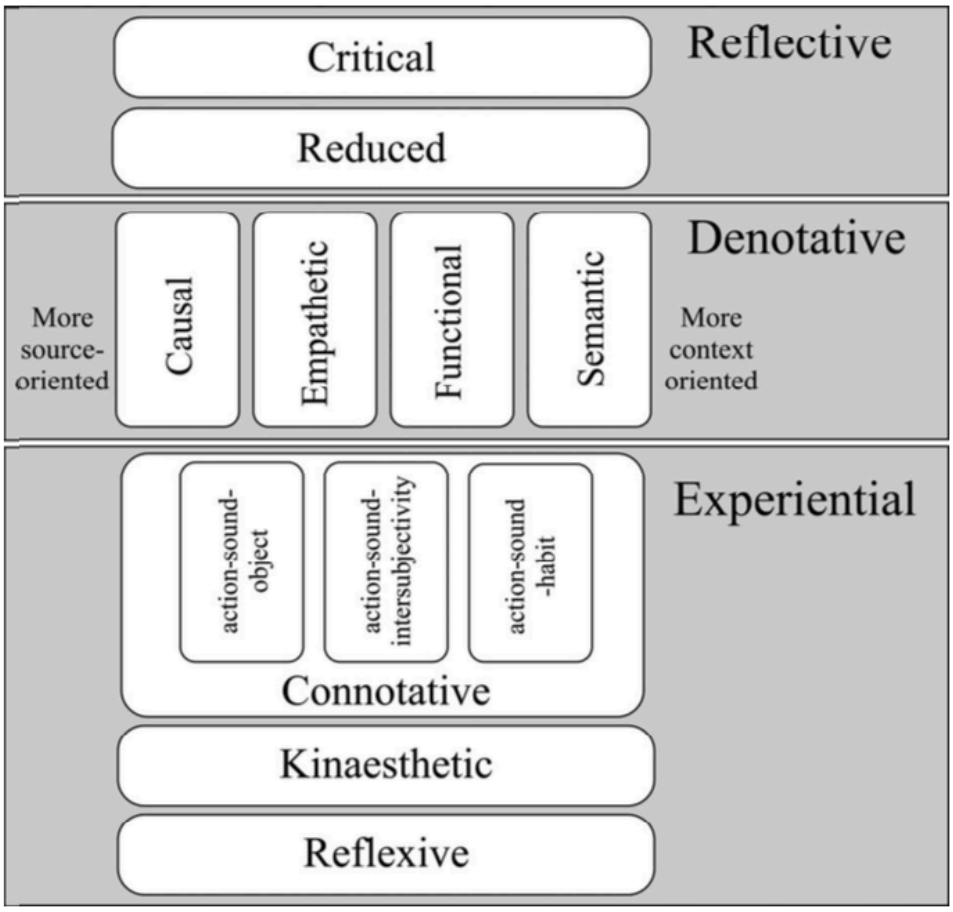

Image 3.1: Revised Taxonomy for Modes of Listening (Tuuri & Eerola, 2012)

However, while they unfold their formulations, the enactive account of cognitive understanding of "sense-making" is not precisely taken into consideration. Instead, as the significant value of their work, they combine EbM thesis and Ecological Perception with EnM thesis for explaining experiential domain of sense-making processes in listening by reading their referential background with their proposal "listening dimensions"

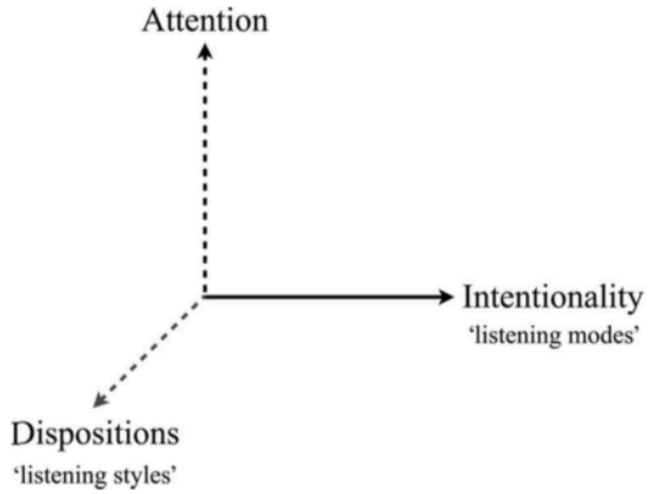

Image 3.2: Listening Dimensions (Tuuri & Eerola, 2012)

The previous and the revised version share a similar structure which consists of three modes of listening: experiential, denotative, and reflective. But, the focal point of this revision is the experiential listening mode. While experiential listening is re-identified as action-oriented meaning-making processes, the referential correlation between these three modes is also re-configured as non-hierarchical interaction in contrast to the previously determined hierarchical order. If this non-hierarchical interaction is explained analogically, these modes may be assumed to work like resonators; when one of them is activated, it could evoke the others. Although this analogy is not what the authors claimed, this resonator analogy is made for referring to the embodied resonator conception, which the authors proposed and grounded their revision on.

On the other hand, when the conceptual association between listening dimensions and the formulation of the taxonomy are looked at, it is seen that while the intentionality dimension, also called listening modes, and the three modes of the taxonomy are in

apparent relation, the other two dimensions, attentional and dispositional listening styles, may not be found easily distinguishable as well as their conceptual correlation with the EnM. As it is noted in the text, the reason for it is caused by the scope of their article that prioritizes intentionality dimensions. While the other two dimensions' correlation with the modes of the taxonomy could be found dissolved in the narratives, they are also adapted to experiential listening and related to kinaesthetic and connotative listening modes.

By following Turri & Eerola's priority on intentionality, this section aims to unfold their enactive account approach to listening, in a similar way, by focusing on the intentionality dimension. First, here will be introduced the listening dimensions in order to ease the understanding of the foundation of their listening taxonomy. Secondly, the experiential listening mode and the conceptual grounds of the other two modes will be highlighted according to their relation with the dimensions.

3.1.1 Conceptual background of meaning making in listening: intentional, attentional, and dispositional dimensions of listening

The conceptual background of the intentionality dimension could be resembled with Russian dolls as where the conceptual development is derived from the previous approaches which emerged from the one into the other. While Turri & Eerola (2012) are scaffolding the scheme of listening taxonomy as experiential, denotative, and reflective listening modes by referring to Chion's (1990) casual, semantic, and reduced listening modes proposal, Chion's work is also grounded on Schaeffer's listening formulation. Schaeffer (1966) proposes four modes of listening, Listening (Ecouter), Perceiving (Ouir), Hearing (Entendre), and Comprehending (Comprendre), which are also grouped under the two sets, oppositional characteristics of the modes, objective & subjective, and concrete & abstract (Table-1). By deriving from Turri & Eerola references, Scheaffer's approach is paraphrased here because the terminology that Scheaffer uses may be found a bit difficult to follow, and the reason for it might be the changed meanings of his French terminology in translations.

	Abstract	Concrete
Objective	4. *Comprendre*	1. *Écouter*
Subjective	3. *Entendre*	2. *Ouïr*

Image 3.3: Schaeffer's quatre écoutes, or four ways of listening (Vickers, 2013)

In Scheaffer's formulation, the subjective mode could be understood as a sensual experience of sound and the objective refers to the particular meaning which may convey personal and social layers on it. The confusion would begin when sensual experiences are distinguished from this objective listening as if it is not a meaning related to personal and social backgrounds but rather refers to something more absolute in values of senses. Similarly, the term objective is used for referring to subjectivity in contrast to its non-subjective meaning. Objective listening should be addressing referential indications of a meaning which could vary in between signs and concepts, and the subjective is to isolate sensual experiences from the references of meaning as more like sensing the properties of a sound through a body that has no semantic language of its own.

On the other hand, the concrete mode could be inferred as un-intentional listening, and it is contrasted to the abstract mode, which indicates paying particular intentions on listened sounds to alter conceptual meaning. In this matter, Listening mode refers to a meaning of sound, which is something casual, already known. Listeners do not have any intention to alter this meaning and what sound would be casually meant for unintentional listeners is explained as an understanding of a sound-causing event. Perceiving is about passively experiencing the sensuality of sound. There is no well-known meaning and intention to conceptualize the experience that is sensed. In Hearing mode, one can still not find meaning but there is an intention/attention on sensual experience, thus, this experience gains sensual richness through the quality of sounds that are paid attention to. Comprehending mode is a meaning alteration by intentionally

giving particular values on a meaning beyond what it is casually known or, within Turri&Eerola's term, it is intentionally semantic meaning attribution.

One of the interesting features of Schaeffer's (ibid.) proposal would be his force to draw an intersection between two inseparable but opposite elements of listening, sound and listener, which would be re-conceptualized as environment & body or quantitative & qualitative but, more excitingly, sensual (non-semantic experience / unspoken language) & semantic. This body and environment distinction may not only be referring to the enactive mind thesis but also projecting Schaeffer's way of thinking to develop his proposal. Because, as meaning-making processes (experiences) are not separated from a body and/or its actions by EbM and EnM theses, he also implies the same thing for listening experience by taking account of variations of intentional states of a listener and a body's sensual experiences. While he seemed to attempt to formulate how listening through sense-making processes would be distinguished, his terminology might be remaining the confusion or the ambiguous soul of listening experience as to where his mind cruises between academic determinism and artistic (experiential) openness.

By following Schaeffer's (ibid.) modes, Turri & Eerola (ibid.) focus on Chion's (ibid.) three modes. Because, although Schaeffer's approach is read as fundamentally remarking two types of intentionality as ordinary and reduced and, similarly, Chion's approach is also found as grounded on these two modes, Chion proposes an interpreted version of this ordinary mode. Ordinary listening is defined as an intentional attempt to receive some practical messages about a sound event to cope with everyday life, but Chion (and, Turri et al.) unfold the ordinary listening into two modes: the casual, about listening to source-oriented meanings of a sound that refers to the sound causing events which is required to interact with the world, and the semantic, listening to semantic meanings of sound that signs socio-cultural codes. In contrast to these two, reduced listening is defined as an intentional effort for abstraction where the conveyed meaning of a sound is disentangled from the perceived qualities of sound such as listening to urban traffic noises as a musical composition.

Within these considerations, Turri et al. (ibid.) dedicate Chion's (ibid.) reduced listening to the reflective mode of listening in the revised taxonomy and his semantic and causal modes to denotative listening. Because, simply, the reflective mode is understood as conceptual and/or abstract levels of meaning-making through listening, and the denotative is referred to more sound events related meanings which resonate between experiential and reflective listening modes. However, Chion's casual mode is also related to experiential listening because of its experiential references. Within these considerations, it could be argued that, although Tuuri et al. define their three modes of listening as a different way of understanding all sounds heard, each having an intertwined relationship, experiential listening is proposed as more likely an active engagement of listeners with the environment. Experiential listening is found as re-conceptualized within attentional dimension, listening styles, and in a particular way, in the EnM thesis.

Before coming to EnM, the other two dimensions of listening should be explained here. Attentional dimension is conceptually derived from Traux (2001) and he identifies three different levels of attentionality in listening: listening in search, listening in readiness, and background listening. Listening in search is about information detection, actively paying attention to searching for some clues, through the acoustic properties of an auditory environment. In readiness is kind of a state of being ready to be stimulated by a particular sound while the focal attention is directed towards something else. Although the qualities of this particular sound play a crucial role in being stimulated, in fact, listening in readiness is deeply situated to the significance of the attributed meaning of sound. Traux (ibid.) exemplifies it through a mother who sleeps in a noisy environment is woken up only by her baby's cry but not by other disturbing noises such as loud car horns coming from the street. Background listening could be understood as an opposition to the listener's foreground attentionality. However, Traux (ibid.) emphasizes that it should not be considered as passive attention or un-attentional level listening. Because, according to him, in each level of listening, attention is always active and he exemplifies it as when someone asks us whether we heard a particular sound in the background, we could know what it was, if it was not heard too long ago.

The occurrence of background listening could be reasoned by these three things. The one meaning-related condition depends on our attention and intention; we could choose which sound to focus on. The second thing is our ability to make this kind of shift between sounds. On the other hand, although the third issue could be related to the other two, it differs in the context of inabilities of sustaining the attention on particular sounds and sonic flow and it is caused by their sonic properties. For example (paraphrased from Cox,2009), living near a water mill, we could lose our attention on the noises of the water flows during a day if this water mill ceaselessly produces some particular noise frequency density all day without any significant change. Besides, if it is attempted to listen to the flow of one particular sea wave inside the wavy sea's sonic environment, it would be almost impossible to follow the flow. However, the sound of the on wave could be distinguished for a second among the others.

Thus, when it comes to the last dimension, listening styles (dispositions), it is understood as referring to subjectivity as listening behaviors which comprise general factors "personality, socio-cultural habitus and the abilities of an individual" and, conceptually, it is related to with the cognitive styles and resembled with thinking styles (Tuuri et.al, 2012; look also, Sternberg, 1997). Apart from the effects of personal preferences and socio-cultural backgrounds on sense-making, which are also concerned in different contexts for the other two dimensions, the concept of listening styles is particularly signified to differentiations of the ways of thinking and/or sense-making. Basically, it refers to how we structure the path that we follow for finding clues and interpreting them. For instance, while finding a way to go somewhere we know, we may help from some atmospheric values of places to remember the route or the road banners to be guided for knowing which way we have to go. However, the underline is not on the individual differences but on the way we do. Here it should be noted that the influences of socio-cultural environments on our behaviors cannot be denied. Like we all use the fork and knife for eating differently, our ways may be found similar with our family members, or there are other cultures where the people do not use fork and knife to eat their meal. It could be also assumed that it is also a matter of discipline which defines our practices.

3.1.2 Enactive listening experience embodied resonation of meaning

When the previous sections are reviewed, the role of subjectivity in listening is found as the repeatedly underlined issue for each dimension. The foundation of subjectivity is varied between casual preferences and the socio-cultural domain of a listener, and it is argued that subjectivity defines a meaning which determines a different type of intentionality in listening according to what kind of meaning would like to be received. Attentional levels of listening signify what to focus on or not, and behavioral patterns indicate the followed path for reaching meaningful experience. The other issue which is repeated through subjectivity is meaning. However, none of each dimension does attempt to explain what listening through the meaning-making process is about. By paraphrasing, Tuuri et al. were forced to take Embodied Mind (EbM) and Enactive Mind Theses into account for explaining the meaning-making process in listening.

Under the consideration of these two correlated cognitive approaches, experiential listening is meant for experience through the occurring sense-making process. The conceptual correlation between meaning and experience is not only defined by the EnM approach but also EbM and Ecological Perception approaches. Because, according to them, as its already emphasized in listening dimensions, the meaning of a sound is understood as it does not only appear internally through referential pieces of knowledge referring to the intentional and dispositional dimensions, but also it attunes the listener's body to specific conditions externality as an action and environment account by referring to attentionality. This might be the authors' main reason for proposing embodied (internal) and enacted (external) accounts to the conceptual background for experiential listening. Although drawing internal and external distinction for listening experience would be seen as problematic from EnM perspective because meaning should be identified through the experience according to EnM, this approach should be seen as a meaning oriented understanding of listening which is thought to be determining the ways of listening, where listening modes are considered as an action, if it would be appropriate to interpret it in this way.

In this matter, Tuuri et al. (2012) explain, first, EbM account for the experiential domain of meaning through their proposed embodied resonator scheme. For this scheme:

> .embodied perceptual experience is comprehended as being essentially sensorimotoric and imaginative which are inseparable and involve multi-sensory integration and kinaesthetic processes (sense of movement via ideomotor processing), based on Gallese&Lakoff (2005), Johnson (2007) and Leman(2008a) approaches;
> .thus, on the ground of sensorimotoric and imaginative aspects of perception, this formulation is extended including "social and cultural constraints (in the interaction with environment)" into an account because of its association with imaginative projection, by referring to Lakoff (1987) and Johnson (1987)' emphasis that is made for indicating sources of experiential account conceptual meaning.

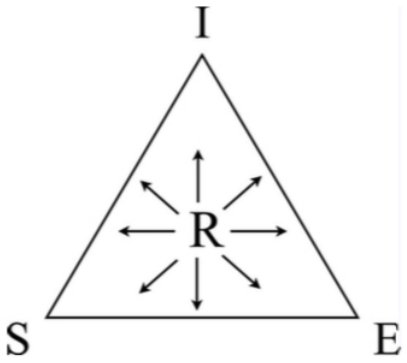

Image 3.4: Schematic overview of an embodied resonator (R), and its elements: action-relevant mental images (I), experiential patterns of sensation (S) and well-structured patterns of sensorimotor experiences (E). (Tuuri & Eerola, 2012)

By following, the embodied resonator is proposed as mental image projection and is structured on these mentioned three elements of perceptual experience (or the experiential domain of meaning): sensorimotoric, imaginative, and past experiential (socio-cultural constraints). However, the working mechanism of the resonator was implied as being multi-sensory and kinaesthetic but not explained yet. For this reason, they combine (mostly seen as opposite) two different models of ecological perception. While kinaesthetic processes are related to the direct perception of Gibson (1979; sensitivity to action-relevant values), the multi-sensory process is referred to as the lens model of Brunswik (1956; the inferential process of the environment-relevant meaning). By doing so, direct and inferential meaning-making processes work together, and

meaning emerges in resonance between action-relevant mental images (I), experiential patterns of sensation (S), and well-structured patterns of sensorimotor experiences (E). The embodied resonator is defined as a meaning evoking system where the elements could evoke each other. But there might be some difficulties in understanding what these three elements are meant for. This new trio is used as a context, specifically re-entitled versions of the previous trio (sensorimotoric, imaginative, and past experiential). The main question is how these three processes, multi-sensory, mental image, and kinesthetic, are distinguished from each other and are related to these new three elements (I, S, E). The meanings of the new trio could be paraphrased here, based on Tuuri et al.'s (2012) explanation, as:

(I) action-relevant mental images are most possibly referred to as the definition of mental imagery, not a picture-like representation of senses but a quasi-perceptual experience that "occurs in the absence of the appropriate external stimuli" (Url-1, 2021). Therefore, it works like listening to a song in mind without hearing this song in real life. Besides, "action-relevant" is meant for the directly occurring (not-inferred) meaning of an action-causing event. Thus, (I) has become an indirect sensual experience of cause-related meaning. On the other hand, (S) is related to emotions/feelings which do not evoke bodily action. It may be exemplified as a feeling of some kinds of darkness because of the past-experiential referential background of a heard sound. In the big picture, it is understood as inferred knowledge that refers to the past-experiential domain. (E) is the one that relates to bodies' action abilities as sensorimotor knowledge. Such as, instead of requiring to act on it, knowing that the conveyed message of a sound refers to particular actions of a body that is already experienced through the meaning of a sound.

According to Tuuri et al. (ibid.), this embodied resonator proposal was developed for representing internal experiences, or in other words, mental image projection in sense-making processes as a meaning evoking system). Besides, as it's seen, the body's acting abilities are not included in this scheme as an event but sensorimotor knowledge. Because, the fact is that the authors do not seem to be interested in the learning process by mostly mentioning a meaning as a past experiential knowledge package, which

varies from raw and inferential meaning. There is always a meaning in the embodied resonator system, waiting to be processed. Although they do not specifically mention learning, they possibly lean on embodied account learning, considering that bodily configurations have a significant contribution on re-constructing resonation of a sound in a body into a meaning.

Moreover, they read the body's actions as responsive reactions evoked by embodied meanings and consider the perception as emerging in where responsive actions occur. Because what Tuuri et al. (ibid.) refer to by saying "we do" hereinbelow could be implying the same thing, responsive actions:

> (I) action-relevant mental images is most possibly referred to definition of mental imagery - not picture like representation of senses but quasi-perceptual experience that "occurs in the absence of the appropriate external stimuli" (www.). Therefore it works like listening a song in mind without hearing this song in real life. Besides, "action-relevant" is meant for directly occurred (not-inferred) meaning of action-causing event. Thus, (I) is became as an indirect sensual experience of cause-related meaning. On the other hand, (S) is related to emotions/feelings which do not evoke bodily-action, if it would be possible so. It may be exemplified as feeling some kind of darkness as result of past-experiential referential background of a hear sound. In the big picture, it is understood as inferred knowledge that refers to past-experiential domain. (E) is the one that related to bodies action abilities as sensorimotor knowledge. Such as, instead of requiring to act on it, knowing that the conveyed message of a sound refers to particular actions of a body which is already experienced, to through the meaning of sound.

According to the authors, this proposal - embodied resonator- developed for representing internal experiences (or, in other words, mental image projection in sense making processes as a meaning evoking system). Besides, as it's seen, body's action abilities are not included in this scheme as an event but sensorimotor knowledge. Because, the fact is that the authors do not seem to be interested in the learning process - by mostly mentioning a meaning as past experiential knowledge package (which varies from raw to inferential meaning) and implying that there is always a meaning in the embodied resonator system - waiting for being processed. Or, although they do not specifically mention learning, they possibly lean on embodied account learning;

considers that bodily configurations have a significant contribution on re-constructing resonation of a sound in a body to a meaning.

Moreover, here could be argued, they read body's actions as something responsive reactions which are evoked by embodied meanings and consider the perception as emerging in where responsive actions occur. Because, herein below, what they refer by saying "we do" indicates the same thing:

> "The central argument of enactive perception is that perception is not something that happens in us, but it is something we do. 'When we perceive, we perceive in an idiom of possibilities of movement' (Noe ¨2004, p. 105). And this idiom is mediated by structured patterns of sensorimotor contingency. In the context of embodied resonators, the enactive effort in perception may be seen as a kind of immanent and intentional 'excitation' for an imagined action-relevant experience (I), based on the sensorimotor profiles in our possession (E)."

Tuuri et al.'s enactive proposal is understood as, perceiving the possibilities, or processing inferential meanings is about the mediation of the body's actions that are made by embodied sensemaking processes. The embodied simulation concept becomes employed just because Tuuri et al. are required to take the EbM thesis's support for explaining their argument that perception begins in the body but is actualized through action. According to Tuuri et al. (ibid.):

> "There is evidence suggesting that, in perception and thinking, ideomotoric processing of actions indeed occurs at the neural level, as embodied simulations. Gallese and Lakoff (2005) outline three different types: (1) simulations in action-location neurons (for successfully interacting with objects in their spatial position), (2) simulations in canonical neurons (for encoding the goal of an action and the intrinsic physical features of objects into suitable motor programmes to act on them), (3) simulations in mirror neurons (for imitative understanding of actions of others).

Embodied simulations are inherently multimodal as they occur in certain functional neural clusters, which are shared for both perception and action and which respond to more than one sensory modality (Gallese & Lakoff, 2005). Such a tight sensorimotor integration also offers an explanation for the synesthetic and kinaesthetic processes of perception, which permit multimodal and motoric imagery as a response to sounds or

musical cues. As noted in the previous section, the generation of multimodal images does not even need any external stimulus. As proposed by Gallese and Lakoff (2005), embodied simulations are generally involved in imagination and thinking, as well as in perception.

To conclude the discussion on the enactive viewpoint, we hypothesize that there likely exist at least two types of enactive effort. Firstly, imitative enactions, in which the ideomotoric processes follow or conform to the sonic event itself as demonstrated in motor-mimetic affordances of movement (Godøy, 2010), and secondly, responsive enactions, in which the ideomotoric processes give rise to responsive counteractions to the sound event as demonstrated in affordances like a doorbell sound evokes. In both cases, however, an enactive effort may be seen as synonymous with the imaginative effort of the embodied resonator, resulting in ecologically relevant mental images of doing.

Based on this conceptual background, Tuuri et al. (ibid.) propose action-relevant three listening modes under the experiential mode. Both are referred to as different bodily action responses, and they work with an embodied resonator as a multimodal meaning-action evoking system. By paraphrasing Tuuri et al. 's (ibid.) explanation of these three modes, here could be said that reflexive mode is defined as quickly evoked action by sounds. Kinaesthetic refers to the gestural character of sounds and imitative enactions. While the body's responsive actions could be imitating qualitative dimensions of a sound based on the sense of movements, sensual patterns of a body could be also evoked. Connotative is associated with the action-relevant values of a sound and it is more strongly bonded with the activation of mental image schemata, embodied resonator. While action-relevant values refer to the imagination of a sound-causing event, the body's interactions with this event are considered as the body's responsive actions. Connotative is defined by three sub-listening sections. ‘Action-Sound-Object’ is about listeners' interaction with a sound-causing object where sensual properties of the object are defined and associated with the learning process. ‘Action-Sound-Intersubjectivity’ is more about sensational and sensual interaction with the sonic environment; therefore, subjectivity plays a crucial role in this. And at last, ‘Action-

Sound-Habit' is related to the subject's past experiential domain which refers to socio-cultural pieces of knowledge and habitual behaviors.

3.2 The Four Varieties Of Listening As Enactive Account Perceptual Presences of Environment: Analytic, Associative, Imaginative And Emotional

Arteaga, in his paper "Thinking the environment aurally an enactive approach to auditory-architectural research and design" (2014), approaches to enactive account cognitive understanding of listening. However, he does not exactly consider that listening is a kind of meaning-evoking process. Still, it is an experience or perceptual presence in a variety that emerged between body and environment.

While he gives great attention to the inseparability of these two entities, his main objective is dedicated to developing an enactive account to the conceptual framework for gaining access to sonic environmental experience, and to be able to reach the experience, he proposes four varieties of listening: analytical, associative, imaginative, and emotional. His approach could be found as contrasted to Tuuri et al.'s (2012) listening taxonomy where body and environment, or meaning and perception are pre-dependably separated. Accordingly, while Arteaga (ibid.) explains enactive perception through body and environment's inseparability, mentions that:

> "their interactions are thought to be constitutive of each other. Living beings and environments are in a fundamental relation of reciprocal specification. The enactive approach concretizes this general view through the concept of co-emergence. Living beings and environments co-emerge. They constitute one system, one closed network of relations (…) both are continuously specified. (…) The enactive approach is, therefore, radically relational, processual and transformational. It is radically relational, because the emergence of living beings and environments depends exclusively on the very particular connections both establish to one another. It is radically processual, because these relations change constantly in time, and furthermore, because living beings and environments are not the result of processes: they are themselves processes. And it is radically transformational, because theses processes are nothing other than a ceaseless modulation of their own course."

On this basis, he understands this co-emergence concept as a sense-making process and emphasizes what this process is implied as “the appearance of two senseful entities: a self and a correlative otherness” (Arteaga, 2014). In another word, although body and environment is the main foundation of sense-making processes, according to the concept of “phenomenal presences”, they do not become re-constructed as two non-associative entities through perceptual processes but appears to its cognitive body as perceptual presences in variety, “due to the very specific form of systemic topological, chronological, material and energetic relations between two items”(Arteaga, ibid.) by continuously ongoing re-constitution process.

Based on this, Arteaga (ibid.), by referring to Noe (2012), highlights the same basic distinctions emerging through varieties of presence. Because they are taken as fundamental for defining the ways of cognitive access to what an environment is. He focuses not on all the distinctions which are conceptualized by Noe (ibid.) but on these two distinctions: the one between objective and non-objective presences (1) and the one between objects and wholes (2). What appears between the cognitive body and its surroundings (1) is the well-contoured presence as perceptual objects, which are defined through the reduced ambiguity of differentiation between the self and the rest. In consideration of this perceptual object, he explains the second distinction in two steps. The first step is dedicated to the container where the objects appear, and the contour of this container is considered as less precisely defined in contrast to the perceptual objects, but we have an ability to determine its border, and the container appears as a perceptual object. The second step is about distinguishing "the other qualities and forms of relations of the objects” (Arteaga, ibid.). To Arteaga, the perceived objects do not only share relational appearances of where and when but also how, “in a very specific qualitative kind of simultaneity” as “coalescent presences,” "They do not appear as a simple group of objects. They all spontaneously conform to one single coherent processual presence, a subtle but pregnant presence that makes sense."(ibid.)

By referring to this conceptual ground, Arteaga aims to gain access to the sonic environment which is not perceptually accessible through auditory objects which are perceptually accessible and emerge conditionally through the performance of various

forms of listening. For that reason, he identifies in his article four varieties of listening: analytical, emotional, associative, and imaginative listening, and proposes a research methodology for gaining access to perception by taking these varieties as concrete forms of action to map varieties of auditory experiences. Basically, these varieties represent not only the presence of auditory objects but also the different ways of listening as an action.

3.3 As Conclusion: Emerging Resonation Between The Varieties As A Research Method For Listening Experience

At the end of this chapter, when Tuuri et al. (2012) and Alex's (2014) enactive listening approaches are reconsidered, its seen that they took two different paths for grounding the EnM thesis and Turri's work becomes the one that asides itself from the dedication of EnM thesis becomes of adopting EbM and Ecological Perception into its conceptual development. Nevertheless, they share some things in common which could be referentially unfolding each other's concerns.

As mentioned before, Tuuri et.al (ibid.) adapt the EnM thesis into their taxonomy scheme of listening by taking the body's acting abilities as responsive actions and they are evoked by the meaning which is gained through internal processes. The action abilities become separated from sense-making processes by them. However, the EnM thesis does not exactly deny the contribution of internal, embodied processes, body in action, and environment are inseparable in cognitive processes because they are the process itself and enactive perception is the ongoing enacted experience. Tuuri et.al and Arteaga's approaches are found conflicted. Nevertheless, Tuuri et.al could have some points to interpret sense-making processes through Ecological Perception and EbM thesis. Because Tuuri et.al give great concern on different levels of meaning from raw/direct/casual, basically experiential/practical, to inferential and they relate this experiential level to Noe proposal "practical knowledge", such as knowing the simple form of a cube which can be related/ resembled with many things and is required to cope with the environment.

On the other hand, Arteaga's (2014) four varieties also refer to different kinds of meanings but he does not distinguish them as meaning-related responsive actions or their purposes whether they are gained through the experience. Instead, the varieties are taken as intentional actions and represent the variations of perceptual presences. Although this is their other conflicted point, the intersection between these two approaches could be found in the concept of embodied simulations. If hearing a sound evokes other senses, actions, and mental images through the past experiential domain, Arteaga's four varieties could also be concerned as made of a resonation where the one can vary itself by evoking the others, but not in an embodied account. Besides, this evoking system between the varieties could be thought also as the creation of attention and intention which may cause responsive actions or is resulted from the body's actions. It would be possible to see that these two approaches could share common ground.

In sum, based on Arteaga's approach, enactive perception is found as a reachable experience if the varieties are taken into account as an inquiry method for spatial and listening experiences. Therefore, in the next chapter, the four varieties are intended to be taken as a tool of critique for inquiring architectural thoughts and practices, and spatial experiences of listening, and in the fifth chapter, they are taken as the research method of the case study to investigate spatial experiences of background noise.

4. BACKGROUND NOISES OF SPATIAL EXPERIENCE: RECONSIDERING THE NODES AND THE VARIATIES

In the second chapter, while enactive mind thesis was introduced within 4E cognition by considering the contribution of the environment in cognitive processes, the three nodes of enactive concerns on spatial experience were proposed as the intended conclusion from the obtained learnings in order to draw a kind of perspective for approaching to the experiential issues of architecture. Moreover, aside from listening as the main subject in the previous chapter, body, action, and environment-based sense-making processes and perception were discussed. While the four varieties of listening were defined as the perceptual presences of the environment, they were also found as intentional kinds of actions. Within these conclusions, this chapter aims to unfold an enactive account of spatial experience into an investigation and, for this reason, three nodes and their variations are utilized as a tool of critique of this spatial inquiry.

The first section brings the question of the well-known and mundane paradox between human behavior and environment, or architecture, which underlies the question of how the environment could be affective in determining our actions and minds, into the enactive account inquiry of spatial experience. Because, while the enactive mind is argued as co-emerging between body and environment, it could be easily noticed the paradox that we act in the environment and make our mind through these actions but also environment matters while defining our actions. Suppose it is assumed that there might be some kinds of reductionist tendencies in academia and practices which aim to determine the precise affections of the environment on living experiences. In that case, this thesis has to draw its position in contrast to these tendencies and allow for the emerging noises from questioning this paradox in the context of enactive perception and everyday life practices. On the other hand, the second section, it is aimed to narrow down this broad question of enactive account of spatial experience into the listening experience. The contribution of sonic environments to our everyday actions and the

organization of social order and built environment will be introduced. And, in the last chapter, the implicitly exemplified background noise and noise conceptions through the first two chapters will be discussed by distinguishing their differences and associating them with the nodes of enactive concerns.

4.1 Enactive Paradox Of Action And Environment In Spatial Experience

Regarding the introduction part of this chapter, the mentioned paradox will be questioned through enactive account spatial experience, and this experience will be unfolded under the considerations of the three nodes and the four varieties.

Firstly, the conceptual approach of the thesis to spatial experience will be explained. It refers to the perceptual experience of the environment concerning how the environment is part of our minds, actions, and practices of everyday life. However, this perceptual experience is intended to be investigated through an enactive account of the cognitive approach to perception. If the conceptual basis of enactive perception is remembered, perceptual appearances co-emerged between body and environment. This environment is defined as where we live, and bodily engage through our actions and sensory organs, but it is not conceptualized as what we perceive as an environment. Therefore, this non-perceptual environment (henceforth, NpEn) concept could be proposed here as it includes the built and natural physical environments and any kinds of social and sensual environments. Nevertheless, this NpEn concept should not be found in human-free contexts; instead, it is indicated explicitly to human-related any kind of environmental structures where we live in, what we interact with, and what we build and design. In this context, NpEn might be familiarized with the broad question of the meaning of architecture, but there is no intention for making a conceptual comparison between them more than leaving the doors open for the readers to make this discussion.

On the other hand, there is another environmental conception of enacted mind thesis, which was already introduced as perceptual presences of environment. Moreover, this perceptual environment is where the mentioned paradox appears. The mundane version of this paradox is defined as it resonates between the two opposite sides of the coin that

question whether the physical environment could have strong psychological affection on human behavior or the perception, are just the environment-free subjective experiences. Although the enactive version of this paradox could be found on the grey zone of this resonation because of the co-emerging indication of enactive perception between body and environment, the enactive paradox is, in fact, appears when the acting abilities of a body are questioned. There are body-specific biological limits that define any possible actions of what the body can perform. On the other hand, there are some everyday life actions of a body that define smaller clusters for action possibilities than the body's capability, and mostly, they represent socio-cultural contracts, constructions, or norms. While NpEn would define our everyday actions, these actions reorganize these environments, and the mind is co-emerged in between them. Nevertheless, the question of enactive paradox would be about whether NpEn could limit our actions and minds. The enactive paradox resonates between the everyday life actions of a body and the given non-perceptual environmental structures.

Within these considerations, the three nodes of enactive concerns on spatial experience are proposed as having a strong bond with the enactive paradox. The node of environmental factors is dedicated to the question of NpE's contributions to everyday actions. The traces of action are referred to as perceptual presences of the environment. The four varieties of intentional actions are unfolded in these nodes, and failing on exceptions is dedicated to the affordances of the environment.

4.1.1 The environmental factors

In the context of enactive paradox, the contribution of NpEn on defining body's action
In the context of the enactive paradox, the contribution of NpEn on defining the body's action possibilities is questioned in this section. For that reason, the concept of environmental factors is proposed as a given of environmental structure for defining a particular amount of action opportunities to accomplish a task. Although these given opportunities are meant to limit a body's action possibilities, they should not be seen as enforcement, obligation, or a restriction, rather, they are only indications for the context-specific conditions of the given assignments where the cognitive body has to

deal with it by cooperating with the environment. The environmental factors propose ways of action, and when the subject aims to perform any of these options, the subject becomes acting and thinking in a similar way.

Environmental factors could be exemplified by comparing two different conditions. The first one is about being in the middle of a jungle and aiming to find a way to go out. It could be assumed that, in the jungle, there are plenty of navigation signs for the subject to find the right path, but the subject has to know where to find and how to read these signs properly. If the subject acknowledges how to utilize this environmental structure, they become thinking through these structures; otherwise, they have to follow their own structures. On the other hand, the second one is about walking to the bus station from our home by taking the shortest route for going to a workplace. Each route that the subject could take to arrive at the bus station would be considered as given by the built environment. Although these two different environmental structures could be found as functioning in a similar way for their subjects, the second example differs from the first one as representing the exact meaning of the environmental factors conception. Because, while the natural environment has no purpose of serving as navigation guidance to its subjects, the built environment could be thought of as a well-thought design object that aims to organize socio-economic and cultural settlements and mobilization in different scales and purposes.

Nevertheless, the built environment cannot be considered solely as an environmental factor. Some intentions are needed to define the limits of actions in particular conditions. Thus, for the second example, it could be mentioned that some subject and context-specific situations require the utilization of environmental structures. For example, while being late to wake up for any reason, wishing not to be late to work, living in a house close to the bus station, and a short distance to a workplace as personal choices would be shown as subject-specific situations. Anything like the reasons and causes of the rent price of the house and what determines the working hours, the socio-economic, cultural, and political structures behind everyday activities could be indicated in context-specific situations.

Through this example, the aimed emphasis is that these given environmental structures would not be only a parameter for discussing the contribution of environmental factors on defining the limits of the subject's actions if subjective contexts are not taken as a decisive matter. However, the paradox here lies under the subject's preferences. Because, if a cognitive body cannot be separated from the environment according to enactive mind thesis, the mind of the body or the body's preferences to pay attention and its intentions should be built before or building at the moment through the environmental structures and subject's actions based on the past experiential domain. This indicates the role of environmental structures in building a particular way of thinking as the other issue of the environmental factors conception.

Environmental structures' contribution to building a way of thinking as enactive account learning could be unfolded and exemplified by distinguishing repeatedly practiced actions from a single time performed actions. For example, if we consider ourselves a photographer, the light is our material, so we have to think through this material. However, to do that, we require to learn how different types of light work on different kinds of textures and forms. We could start to make light tests on one particular object, and if this object is a cube, we have to examine the angles of the cube by turning it around each time the light changes. As a result of this repetition of the same actions in different conditions, we know how things are changed, but, more importantly, the known vocabularies of the possible changes become extended and varied. Besides, being a photographer and keeping practicing this examination on different textures and forms of objects, we act and think less to find the right light and angle for similar kinds of objects according to the imagined picture we like to capture. We become more experienced and know the possible changes; they become imprinted in the body's experience.

Light testing, as being one particular examination method, is considered a structured way of acting. The practice of this examination is learning, structured thinking, or henceforth it would be called embodied practices. Embodied practices are dedicated to the ways of acting without critical thinking, such as how and why to do, or acting by knowing that critical thinking has no significant use for the ongoing practices. It could

be also thought of as an intentional act to define the fore and background of attention and a kind of premise to practice this action regularly and similarly and in a similar place and space. For example, it would look like going to work at the same time and day by taking the same route. And, about the repetition of similar actions, everyday life rhythms could also be given an example. Besides the repetition of similar actions, the repetitive properties of physical environments where embodied practices are performed could also be shown as another parameter for emerging embodied practices. Repetitive orders of architectural elements (doors, windows, etc.), functions, materials, textures (and colors, and lights) gain importance to discuss the enactive account of spatial experiences.

In sum, it should be underlined that repetitions of actions and the properties of environmental structures are not considered a threat to cognitive bodies' minds just because the experience emerges in limited possibilities. Although this repetition concept indicates some similar features of actions and environmental structures, it is clear that any repetition could be identical, and differentiation is a critical notion of the repetition concept.

4.1.2 The traces of actions

Based on environmental factors, the second node of the enactive mind, traces of action conception, is aimed to be unfolded by questioning what we spatially experience. It is indicated for an enactive account of "knowing how," and the term of trace refers to emerging changes between body and environment as a result of the body's actions and/or occurred actions in the environment. Two types of actions are underlined here, the intended emphasis on the perceptual presences of the actions in the environment and their recognition through our actions. If we could know things because of our actions, it means that we know what bodily movements cause some kinds of changes. The physical and specially built environment represents the change caused by actions that could be known by the limited abilities of our bodies. We deduce what kinds of actions things are made of. As previously exemplified, knowing the differences between the

handmade and fabrication clay vases through seeing the marks of their making processes on the surfaces.

The question of what we could know suggests reaching an overall conclusion on the traces of action conception. These traces and their conception define an enactive account of vocabularies, which surround us like a cloud of enactive knowledge. Although this could be the domain of enactive experience and represents any possible knowledge we can know, it could be thought of as an environment. It does not appear to us as perceptual presences of the environment by itself as a whole. Instead, enactive experience resembles capturing some particular knowledge from this cloud and what is captured varies under the effect of subject and context situations. The enactive account of spatial experience is argued here as an intentional act. It is also about interpretations, sense-making processes, the traces of actions in the environment. The four varieties could be unfolded as intentional actions, and the environmental factors could be re-considered as action-defining situations.

Beginning with the four varieties, the analytic intention is a reasoned investigation where the subject questions the cause and effect relationship on the properties of the environment. If the environment is a visual one, from the long or short-term impacts of actions such as the traces of the pruned branches of a fruit tree, through form-finding traces such as subtracting and intersecting action traces on irregular forms. Without disregarding analytic intention, the associative intention could focus on relational references of the traces as a comparative approach. For example, coming across a terrain where vast amounts of seedlings are planted can be recognized as an attempt for culturing a forest. The purpose of planting this forest would be associated with the spatial contexts, such as being inside the city or nearby an industrial area out of the city. Likewise, in the city of Brugge, leaving the old city border and seeing the historical untouched and encountering new facilities around this center, can be interpreted as there might be a serious preservation intention in the decision making actions by the city hall. These preservation actions would be more recognizable for the one who comes from a city where the historical buildings are not preserved.

As it could be understood from the title, the imaginative intention would be more about imaginative sensual experiences. It should not be understood as a picture-like mental representation. Instead, as previously mentioned in the concept of embodied simulation, it is an evocation of the other senses, sense-related actions by the ongoing experiences. For example, using organic/natural materials in interior spaces such as massive wood floors or stone walls would evoke some warm feelings or tactile sensations. It could be thought that some spatial characteristics may have more power over its visitors inside this atmosphere, imaginative references, like feeling rich in palaces or calm in churches. However, the generalization of spatial experience through sensual properties of an environment would not be accrued. Because, before the spatial experiences of places looking alike, comes the cloud of enactive knowledge, through the traces of actions and paying attention to the past experiential domain of the one. But the subject's relationship with this casualty is a question and his/her intention on noticing these features and the materials. Past experiential domain and the subject's actions would define what to feel.

In considering these three variations of intentional actions, the emotional intention could be understood as quite similar to the imaginative intention. The mentioned features of the imaginative should also be taken into the emotional intention. However, although it is quite hard to draw a cognitive distinction between the emotional and imaginative experiences, it could be argued that the imaginative intention would be dedicated to re-evocation of memory and analogical reasoning through the designed imagination, and the emotions would be the one that is more related with atmospheric features of spaces.

In conclusion, these four variations of intentional action are shown for subjective preferences of a person on what kind of meanings, enactive knowledge they are interested in. However, this spatial extension of the variations remains to exemplify the cloud conception. The environmental factors in action-defining situations should be paraphrased at last. Besides the unfolded concerns of environmental factors, recalling the embodied practices would be more beneficial to explain the experiences of the traces. If perceptual presences of the environment emerge by capturing some particular knowledge from the cloud and context-specific situations, embodied practices would be

taken as the ground of the body's acting tendency, which we know how to act without thinking critically. For example, the architects who are used to working on construction site management may keep paying analytical attention to the details of other buildings outside of the construction site when they encounter after the work. This way of thinking would be their embodied practice of what they used to do at work. The perceptual presences of these details would not be apparent to the others, although the traces of actions of the object confront their acting abilities and should be recognizable for all.

4.1.3 The fails on expectations

As the last node of enactive account spatial experience, the fails on expectation concept is dedicated to the affordances of the environmental structures with no regard to the previous nodes. While this node is intended to be contrasted to the experience of knowing how by putting embodied practices into question, the traces of actions and/or the cloud of enactive knowledge conceptions are taken as the ground of this discussion. About the affordances of environmental structures, as previously mentioned, the four varieties of intentional actions are already the actions that could shift the meanings inside from the cloud of enactive knowledge and therefore they allow to reveal the affordances of environmental structures. The key notion of this affordance revealing actions is intentionality. Because when the intention and action are changed, the meaning of what is captured from the cloud is changed. As it is also mentioned in the environmental factors, the given limited options by the environmental structures are, in fact, the affordances because there are intentional actions to perform what is offered by the environment in order to accomplish the task. Nevertheless, between intentional actions and affordances, there might be more complex relationships than changing by acting.

It is argued that there might be two types of failures of actions, the failed expectations that reveal the affordances. First is the intentional actions that fail the given meanings on environmental structures, the second is the unintentional failures that occur when the expectations of embodied practices are not fulfilled by the environmental structures.

The first case can be exemplified as while requiring a table and chair in a public space for eating a plate of food if there is no chair and table around, facilitating something from the environmental structure which could function similar to a chair and a table would fail the given meanings on this structure and reveal the unexpected potential of the environment. On the other hand, the second case could be exemplified as a staircase that is specifically designed to change the walking posture.

4.2 Spatial Experience Of Listening

The unfolded nodes of enactive concern on spatial experiences and four varieties of intentional actions in the previous section are also reconsidered similarly in this section, but this time, these spatial concerns will be concentrated into the listening experience. On the three nodes of an account of listening, it can be argued that, when the trace of action conception is related to sound causing events, the spatial experiences of these events could be investigated through the four varieties of listening. While the environmental factors could be dedicated to spatial conditions and positions of the occurred sound events, the failing on expectation would be referred to miss/re-interpretation of listened sounds, revealing the affordances of environmental structures.

Through this given introduction about the general approach to the spatial experience of listening, the apparent concerns of the thesis could be indicated on two things: the first one is about what we could know in listening and conceptually referred to the cloud of enactive pieces of knowledge. The second is about the contributions of the environment on the occurrence of the cloud and the spatial experience of listening. The non-perceptual environments, from physical to social, are concerned as the ground of the listening experience. The physical environment shapes the propagation of sounds and defines their unique acoustic characteristics, which allow us to recognize spatial characteristics of listened sounds. Acoustic experiences refer to the acoustic properties of the place where the sound-causing event and listener are located and their relational positions in this acoustic space. The occurrences of sound-causing events and sonic environments are deeply related to context-specific situations of places. While this contextual situation is varied and diversified from geographical positions, through

human-caused ecological changes to socio-economic, cultural, and political backgrounds of spatial settlements and everyday life rhythms, the listeners' subject-specific situations for being in a particular place and their activities in this place could also be taken into this context-specific situations.

Nevertheless, it should not be understood that a sonic environment is a place where we just live, act and make sounds as our spatial organizations and daily activities have nothing to do with this sonic environment. Instead, there are quite interactive spatial relationships between the sonic environment and living. Therefore, a sonic environment is an environmental factor in itself, contributing to our action-defining processes and proposing some limited options to act. For example, when we require silence, we may change the rooms or close the open windows and doors, and we may even move house or leave the city to the suburbs or villages. Alternatively, we may also need a noisy environment to start the day, study or work, and even have privacy. We change the bedroom and the living room places or go to a coffee shop or a bazaar to have noisy crowds. Besides, the diversity of the places where we can make some noises could be considered quite limited because the possible places to make noise are controlled and determined by social and cultural contracts and public policies. Moreover, aside from doors and windows, there are other technological instruments for noise control, and they are not only designed and used for cutting the disturbances of noises and adjusting the sonic properties of places.

Apart from this broad research interest of sound studies, the primary concern of this section and the environmental factors conception is the ways of sonic environments' contribution to our embodied practices. However, it is not implied here that we are passive receivers as if we define our action according to what we receive from the sonic environment, and it has unquestionable and same impacts on each of us. Rather, based on enactive mind thesis perspectives, what we experience in and through sonic environments are deeply subjective and context-related situations related to our past experiences and actions at the moment. We might be walking every morning of working days through a noisy street, and we might be annoyed by this noisy environment, but how we deal with it or how it works on us could be different for each of us. We might

change the routes to more silent alleyways or keep taking the same route by ignoring the noises. The environmental factors will be taken as a case study, particularly in the next chapter.

Sound-causing events are the actions that leave their traces as sound in a sonic environment. While a trace of one particular sound-action is heard just for a moment, and this duration is limited by the human body's abilities, hearing thresholds, these traces are loaded by action, space, and time-related information. We have an ability to recognize, to know this interrelated information through our actions. Diversity in our action abilities is performed for knowing this information. At first, the intentional listening actions could be shown as one particular type of action by referring to the four varieties of listening. Analytical listening is considered here to focus on properties of sound such as rhythm, loudness, duration, density, and acoustic characteristics. However, focusing on these properties is not enough to know them. In fact, they all indicate action-sound causing event-related information, and we know them if and only when we can act like them, and we already acted on them. A rhythmic measure of sound-causing events could be known when we imitate these rhythmic actions. The loudness could be known as an applied force on sound-caused objects by the sound-causing action, and this action is performed by applying force on some sound-causing objects/materials. This body referenced actions of sound events could also be found on the other properties of sound if this action-based inquiry is applied to them too.

The intended emphasis in this example is another type of action that is different from the varieties of listening, the actions that we do to make sound by only using our body or an object, and the actions that we do for mimicking sound causing events. By keeping this type of action in a pocket but without falling into exemplifying similar actions in analytic listening, one can focus on spatial experience in analytic listening. Four types of listening differ perceptual experiences, but they all can be dedicated to one specific purpose for discovering the differentiating experiences. When spatiality of the sonic environment is intended to be discovered by analytic listening, it could be noticed that the directions/mobility and amplitudes of heard sounds could refer to the sound-related spatial position of the body of the listener, and acoustic properties of

sound could refer to the physicality of this space, like open or closed, or the depth or wideness. We know the physicality of the space by only recognizing the occurred changes of sound causing actions on the auditory display.

When it is looked at associative listening, the sound causing actions giving spatial references, one can understand the functional purposes of the space. The sounds in regular rhythmic order with no tone changes could refer to the listener as some kind of machine-like a refrigerator or helicopter. These attributed meanings could be associated with the places where these sound objects are placed, such as a kitchen or open-air public space. With imaginative listening, the attributed meanings on sound causing events could evoke past experiential patterns of senses about a place where the heard sound was experienced before. For example, while hearing the refrigerator's working machine sounds, the experience can take us to our grandparents' kitchen. It could also evoke a sense of smell in the kitchen. And, at last, emotional listening could be thought of as the feelings of this smell or the evoked feelings about the sensed space's atmospheric properties, which would be caused by acoustic properties of the sound event or associated meanings and sensual images of listened sounds.

Through this spatial extension of the four varieties of listening, it could be concluded that the actions we can perform to know a sound and its spatial contexts project enactive knowledge and surround us like a cloud. However, they only appear to us as perceptual presences when we act on them by performing the varieties of listening actions in the subject and context-specific situations. These subject and context-specific situations are influenced by the failings of the expected conceptions. These situations define our actions performed at the listening moment and differ from listening actions. For example, while we are working at the office, we may suddenly hear a car crashing on the street coming from the open window, but no matter how stimulating are noises, we may not be interested in paying attention to this car accident and take the noises to the background of our attention because of the paid intention to the ongoing work that we like to practice more. This example can not be shown as a failure on our expectations but as a failure at the expected reaction. Based on these two different failing experiences, the spatial experience of listening could be re-examined. Failing on

exception would be considered as it may mostly happen when we do not see the source of a sound. The intention is to know this unseen sound, we may misinterpret the spatial references of the sound, and although our expectation does not suit the reality, we may not sense as we failed to know what exactly the heard sound is about. However, this misinterpreted meaning of a sound would be deeply related to what we expect to happen in this particular place. The expected but misinterpreted meaning of the sound could not affect our spatial experience, but the unexpected meaning could change the expected features of the spatial experience. The causes of all these expected and unexpected features of experience could be related to embodied actions. For example, for the one who has never experienced a place that has an echoic acoustic character, entering a Turkish bath and hearing the echoes of his voice, she/he fails on his/her expectation. This novel experience would be true for babies or children who lack a variety of spatial experiences. The differences between visually impaired people and the people who have any disabilities should be taken into consideration also. In general, visually impaired people's acoustic awareness is thought to be higher than the non-disabled people because they are used to paying more attention to acoustic clues for knowing where they are without seeing the physical environment. However, this awareness is also different between them because the critical issue here is acoustic clue-seeking actions. There can be some people, in the visually impaired communities, who are not comfortable visiting somewhere unusual in their routines and some of them can be more comfortable because they can be spatially more experienced.

In sum, here, it could be concluded that there are sounds that we hear, and they refer to space-action-related pieces of information, and there are acoustic spaces that characterize the heard sounds, and that is how we are aware of the spatial characteristics of a sound.

4.3 As Conclusion, Background Noise As A Stage For Spatial Experience

Based on the previous sections, the question of what we listen to is discussed as the conclusion part of this chapter. Although the enactive relation between body/action, mind, and environment was speculated through architecture and listening in particular

ways and how or what we could know through our actions was questioned, but in the end, perceptual appearances of environment did not become re-conceptualized for revealing its potential on the problematization of spatial experiences of everyday life. The concept of background noise is chosen as the key notion of this thesis which can concentrate the conceptual discussions into the case study. Before coming to the problematization of background noises in the case of urban experiences, which will be unfolded in the next chapter, its conceptual association with enactive perception will be explained in this section.

Defining background noise, different from the notion of noise, is mostly found referring to the experience of listening, which indicates the fore and background of our attentional and intentional state of mind. However, as it is mentioned in the second chapter in the attentional dimension of listening, which is proposed by Turri & Eerola (2010) based on Traux's (2001) definitions and exemplified through Cox's (2009) quotations on Leibniz (1989), the occurrence of background listening is a complex experience more than having the ability to shift the auditory attention between sounds.

Aside from this listening indication of background noises that eventually refers to the subjectivity of perception, Cox's (2009) approach could be found a bit different. While he draws the distinction between signal and noise, he attributes this subjective differentiation of meanings of a sound to the concept of noise. According to Cox (2009), there is no structural difference between them, but the distinction is defined as "relative rather than absolute." As Moles (1966, p.78) concludes that "a noise is a signal that the sender does not want to transmit." On the other hand, while he cities "noise is the background hubbub of life, the ceaseless sonic flux" from Serres (1982), he concludes his background noise conception by underlining that "noise is not an empirical phenomenon (…) rather, it is a transcendental phenomenon, the condition of possibility…". It means that background noise is the ceaseless sonic flux of any possible conditions, and the noise is more about the condition-specific possible experience. Background noises are any possible meaning of a sound that can be known, and the noise is subject and context-specific particular meaning of a sound. Within these considerations, Cox (2009) mentions Leibniz's (1704) "seashore" and "water mill"

examples and theory of ‘minute perceptions,’ which defines the perceptual relation between the background noise and the noise conceptions. As mentioned previously on background listening in the third chapter, noises of a sea which we hear by walking through the seashore and the waterfall noises of a watermill where we live nearby create a particular kind of sonic environment that ceaselessly fluxes without having sudden changes. Although we lose our attention on listening to these noises, their existence, whether we forget to hear them, resembles the conception of background noise.

When we attempt to listen to the flow of one particular sea wave noise, distinguishing it among the others would not be possible because of our inability to do it, but we may just capture it just for a second. The capturing moment is defined by what Leibniz (1704; cited from Cox, 2009) conceptualizes as a minute perception and implicitly dedicated to the concept of noise. It would be possible to infer these two noise conceptions through Leibniz’ proposal as background noise as a cloud of information where we capture some particular meaning from and these meanings appears to us as noise through our subject and context-specific experiences because these specifications of experiences variate the obtained meanings to its unique moment.

The background noise concept could be easily related to traces of action concept in the context of enactive perception. As mentioned in the previous sections of this chapter, while the conception of traces of actions is indicated to (en)action based vocabularies which represent all the possible actions and their occurrence processes and results that the body can do and know, it is also referred to attentionality and intentionality of perceptual experience where some of these vocabularies are selected among others while making senses. Background noises could be defined as the cloud of (en)action-based vocabularies or, here could be called henceforth as the cloud of enactive knowledge, and the noise conception is the varieties of presence.

5. CASE STUDY EXPERIMENT: QUESTIONING SPATIAL EXPERIENCE OF LISTENING THROUGH BACKGROUND NOISES OF EVERYDAY LIFE

In the previous chapter, the three nodes of enactive concerns on spatial experience (environmental factors, traces of actions, and fails on expectations) and Arteaga's proposal- the four varieties of listening (analytical, associative, imaginative, emotional) are utilized as a tool for questioning the enactive account of spatial experience in different aspects. At the end of the chapter, while the background noise is re-conceptualized as a cloud of enactive knowledge and differentiated from the concept of noise as various perceptual presences, it is also chosen as this thesis's fundamental notion for problematizing everyday life's spatial experiences in noisy urban environments. Because when the noise conception is referred to subjective differences of meanings captured from the cloud and the enactive perception is understood as time-ticking emergences of perceptual presences, the question about the spatial experience of a noisy urban environment becomes such an interesting research matter as the reason of its undeniable indication on experiential plurality that emerges in every second on the field.

In considering this, here could be argued that contrary to popular and negative beliefs of noises, urban noises that we cross in through or live just nearby should be participating in our everyday life practices unexpectedly but quite uniquely as meaningful as the other things. Moreover, if this experiential richness of background noises is intended to be examined as an enactive account of spatial experience in listening to a noisy urban environment, any possible research proposal for conducting this experiment have to focus on reaching to perceptual presences of listener subjects and to understand what these presences are about, and to apply a particular kind survey analysis as a research method.

Although giving a significant concern on subjects' experiences and applying a survey analysis for reaching these experiences is not a novel approach in design processes and research studies, one of the problematic issues is about how the determined cognitive approach for experiential researches is adopted into and politicized through the research proposal and the survey analysis. For this matter, this study pays great attention to the contribution of the chosen cognitive approach to the survey design process and the obtained information from the survey application.

To examine these mentioned concerns of the case study: the designated research proposal aims to question the contribution of background noises on spatial experience, specifies this inquiry on audio-recording listening experience of a noisy urban environment, and defines the parameters of taking the audio-recordings, auditory and spatial conditions of the research field and embodied practices of the chosen listener group. The survey analysis is designed as an interpreted version of Arteaga's proposal for the four varieties of listening. Within this drawn framework, the affections of the listeners' everyday life practices in noisy urban environments on their spatial experiences gained by listening to a similar noisy sonic environment become questioned. However, the given interest on this question is simply shifted to the heaviness of their past experiential influences because it is varied by subject and context-specific situations. For this matter, the proposed research method aims to reveal and observe any possible experiential differentiation between a listener subject group. However, it is not interested in politicizing the research results and criticizing off-subject and urban-related issues. Instead, the primary intentions are to understand the working mechanism of the research method and the variety of the obtained information and to question its applicability for the new cases based on these understandings.

About the specification of the case study examination, the determined sonic environment for listening tests is recorded by walking on the selected route at Ulucami (Ulu-Mosque) Square in the city of Bursa. Moreover, the reason for following this particular route is to provide an opportunity for listening to the emerging background noises on the field while crossing different spatial properties. On the other hand, this

listening test aims to be applied by the subject group of eight participants who live and are architecture graduates in Istanbul. Based on these, the examination process consists of environmental and experiential analyses for comparative readings of survey analysis results and the spatial examinations of the audio recording of the route.

By conducting this case study examination, the previously unfolded conceptual background of the enactive account of spatial experience, exclusively focusing on listening to background noises, extends obtained learning from real-time experiences. Besides, the test results are expected to help achieve the inherent goal of refraining from reductionist and determinist thoughts for the spatial experience.

5.1 Framework Of Research Methodology

Considering the main intentions of the case study are briefly described so far, the details of the applied research method and the designed test process will be defined in this section. The research parameters and criteria will be explained in detail.

The determined subject group examined eight participants' listening experiences to obtain more detailed information by working on a small focus group. The selection criteria to become a Subject, such as being an architect and living and being previously studied in Istanbul, are valued for examining their shared embodied practices. Because, when they are asked to think about or imagine a space and describe its properties based on listening to a noisy urban environment, they are expected to show some common behaviors. During imagining and describing their spatial experiences, any possible emerging differentiation between their experiences could help to observe in which sense their embodied reflexes change. By making them listen to the audio-recording of somewhere that does not belong to their previous embodied practices, the test aims to fail them on their expectations. The applied audio-walking recording method simulates everyday walking practices in noisy urban areas to build particular expectations on the listeners’ minds. The purpose of following this specific walking route in the research area is to cross different spaces with different spatial properties in sync with the

occurring background noises on the field and examine listeners' spatial awareness by changing the acoustic properties through these spaces.

Based on this test's subjective and environmental parameters, the environmental research framework could be introduced at first, and the details of its application process and the obtained results will be unfolded in the next environmental research section. This research is dedicated to discovering spatial properties and the auditory environment of the route. While the route is audio-recorded in a different time and day than the architectural section of the route was drawn, the collected recordings are translated into an audio-visual sound analysis graphic. The obtained graphics are superposed on this section drawing. It serves as a base to read the sonic changes between these recordings through graphical markings according to their spatial occurrences on the section. At the end of this comparison process, one of the recordings among the collection is selected to be examined at the experiential testing processes.

In the experiential research process, the obtained results from the applied survey analysis to the subject group are read comparatively for revealing their listening experience of this selected audio-recording. A series of comparison tables is prepared based on their survey analysis and the audiovisual analysis's graphic of the listened recording to conduct this comparative reading process. Because this experiential research section is dedicated only to this comparative reading process, the prepared tables for the survey results will be introduced at the beginning of the section.

As mentioned previously, the proposed survey analysis (Appendix-A1) for the listening test is designed as an interpreted version of Arteaga's proposal for the four varieties of listening. In the survey analysis, while the defined Analytic, Relational, Imaginative, and Emotional Listening varieties by Arteaga are taken as the main questionnaire sections, each of them is unfolded into subsections according to their spatial references as an interpretation. And, the prepared two paged survey test is built on these sections under the timeline of the chosen audio recording for the listening test to allow the applicants to fill the sections by following the time sequences.

The Analytic Listening (AL) section of the survey consists of three subsections defined as Spatial Typology, Sound Density, and Direction. For each section, the limited optional choices are determined to be marked by the applicants. In brief, the given options are open, semi-open, and closed space typologies for the Spatial Typology section; low, medium, and high-density levels for the Sound Density section; mobility directions, right, left, up, down, moving, and stop-moving, for the Direction section. Through these notational or non-descriptive sections, Subjects are asked to identify their spatial listening experiences by focusing on occurring changes in the acoustic environment. While these Spatial typologies, Sound Density, and Direction sections could project spatial properties of walking through changed places when the emerging changes are listened to, they are also the properties that one can define relatively through bodily awareness. For example, although the open space typology is such an abstract concept and its definition could vary, in theory, the volume and sizes of the experienced openness could gain more definite character in practice for its experiential body, maybe based on the height of this body. Although these sections represent the abstract properties of space, gathering them under the Analytical Listening section makes the listeners pay analytical attention to body referential spatial properties.

In contrast to the Analytical Listening section, the other three sections are determined as description required sections. For the Associative Listening (AsL) section, these two- “Voices”(v) and “Function”(f)- subsections are assigned. Subjects are asked to name what they heard specifically as attention-grabbing voices and define these voices' spatial function references through these sections. They focus on sound-causing events related to spatial references. And, in the Imaginative Listening (ImL) section, it is asked them: if they can address these spatial functions of the heard voices to actual places based on personal past experiences, on the Past Experience (p) subsection; or, describe how they imagine these places look like, on the Imagining (i) subsection. At last, in the Emotional Listening (EmL) section, they are asked to describe these previously indicated places’ atmospheric and emotional features by concerning what feelings these places cause on them, separately at the Atmosphere (a) and Emotion (e) subsections. Moreover, through these last two sections, subjects are paid more attention to the heard sounds through evoked sensual displays of the experienced spaces.

After specifying the details of the survey analysis structure, here could be outlined the given instruction to subjects for applying the survey. The only mandatory rule of the survey is to fill the Analytical Listening section first, and they are recommended to follow the other sections by the given order. Subjects are informed to focus on the main changes they sense and the attention-grabbing sounds they hear on the listened sonic environment and notate their durations on the time timeline, no matter how they like to proceed with the answering order. They are also asked to follow the notated durations on the previous section while answering the following sections' questionnaires and be free to listen to the recording repeatedly during the marking process. As a result of giving this instruction, they are simply asked to specify their spatial experiences based on what they pay attention to. Because, to be able to discuss the contribution of the background noises on their spatial experience, their back and foreground attentions have to be distinguished explicitly.

5.2 Environmental Research: Examination of The Selected Path

The sonic environment of the chosen route of the research field is examined by taking a series of audio recordings and comparing their audio-visual translation graphics. Although the main reason for conducting this environmental research is to find the appropriate audio recording to be listened to by the subjects for applying the survey test, the implicit reason is to observe how the emerging changes (on the sonic environment caused by the time differentiations) affect the appearances of the places of the route on the audio-visual graphic.

The encircled area on the map (Image 5.1) is defined as the research field around the main road, Atatürk Street, and Ulu Mosque square. As a brief introduction about the history of this place, the city of Bursa was established as the first capital city of the Ottoman Empire around the year 1300, and this square is one of the main historical centers of the city Bursa. While the Ulu Mosque takes an essential place in the history of mosque architecture, the Hans around this square has served as the center of the silk trade in the city. This square has a typical Ottoman model public structure where religious and commercial practices and their buildings are intersected and centralized

around the public square. The square still carries its historical functions in the city, although the city center is moved from here and expanded by the applied urban development strategies through the last century.

Image 5.1: the research field on the map, Ulu Mosque Square, Bursa / Turkey

Nevertheless, this main road still has an important position for urban transportation. This road has a particular kind of strip line structure in which approximately seven-floor high office buildings mainly fill the two sides of the road. Ulu Mosque square becomes the breaking point for an opening, like a pocket-shaped space on the one side of this linear structure. This encircled research field on the map consists of three different elevations in which the main road stands for the ground level and goes down through the square and to the back streets of the buildings that face the square (Image 5.2)

Considering the physical condition of the field, on the characteristics of buildings along the main road, the ground floors of the buildings have a colonnaded structure that opens a secondary sidewalk under the buildings going parallel to the primary pedestrian way. While these ground floors are filled with shopping stores and a couple of fast-food buffets, the higher floors are used for offices and ateliers. The tram and bus stations are located on this side of the road. The primary pedestrian traffic on the ground floor of the

field is found on this building side of the road next to the existing facilities. Although the other side of the road has its pedestrian traffic and open space cafeteria, it works mainly as a transition place. While these two sides of the road are not connected on the ground level, and the building side reaches the Ulu Mosque square on one floor down through the underpass, the other side of the route is sitting on the border of the ground-level elevation and connected to the square through open space staircases. The underpass also functions as an underground shopping street and mobilizes the pedestrian traffic between the square and the main road. The Ulu Mosque square operates as a meeting point by also facing the courtyard entrances of the Mosque on the same level and as a starting point for the side streets reaching the bazaar entrance on one floor down.

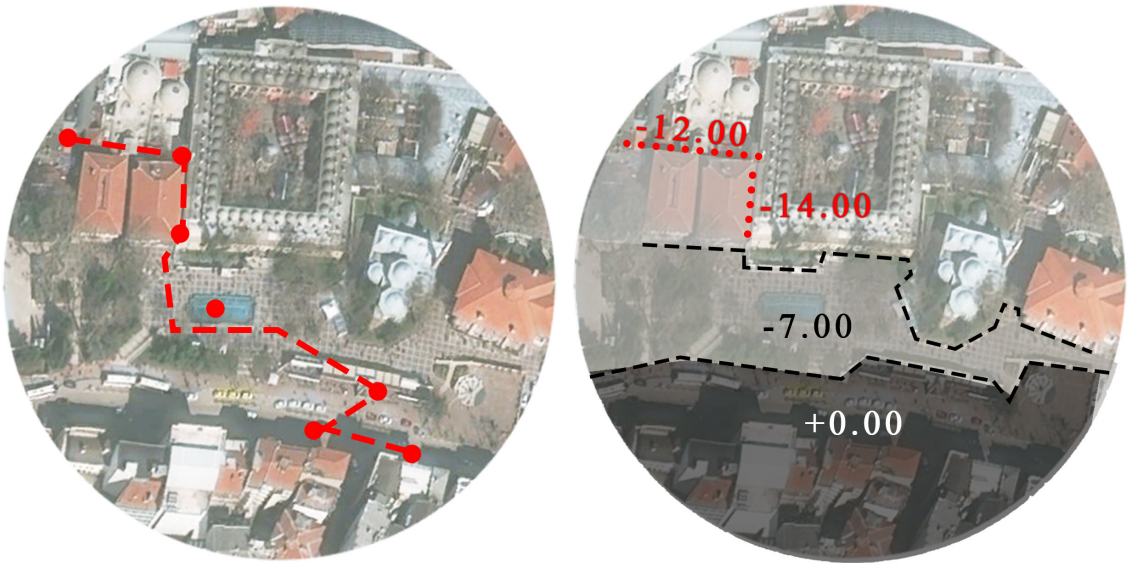

Image 5.2: walking route and elevations of the research field

Physical conditions of the research area allow the soundwaves on the field to propagate through this wide-open space longitudinally; and depending on the propagation strengths of the waves and their hearable thresholds, voices are heard in every location over this field no matter how they sound to us, clear or foggy, becoming background noise.

The acoustic characteristic of the field is taken as an advantage for examining background noise listening experience by questioning acoustic awareness through spatial differentiation. If the map and the architectural section of the route are studied (Image 3), the route starts from the "S" point on the building part of the main road (Atatürk streets) and follows the path that goes to the underpass that is located between the "A" and "B" points. From the "A" point, the route goes down the 7-meter high staircase to the S1 point. After passing by the small shops inside the underground passage and before arriving towards the underpass exit at the "B" point where the courtyard also starts, it reaches a little higher level with a few steps (S2). Between the "B" and "C" points, the public square/courtyard is located.

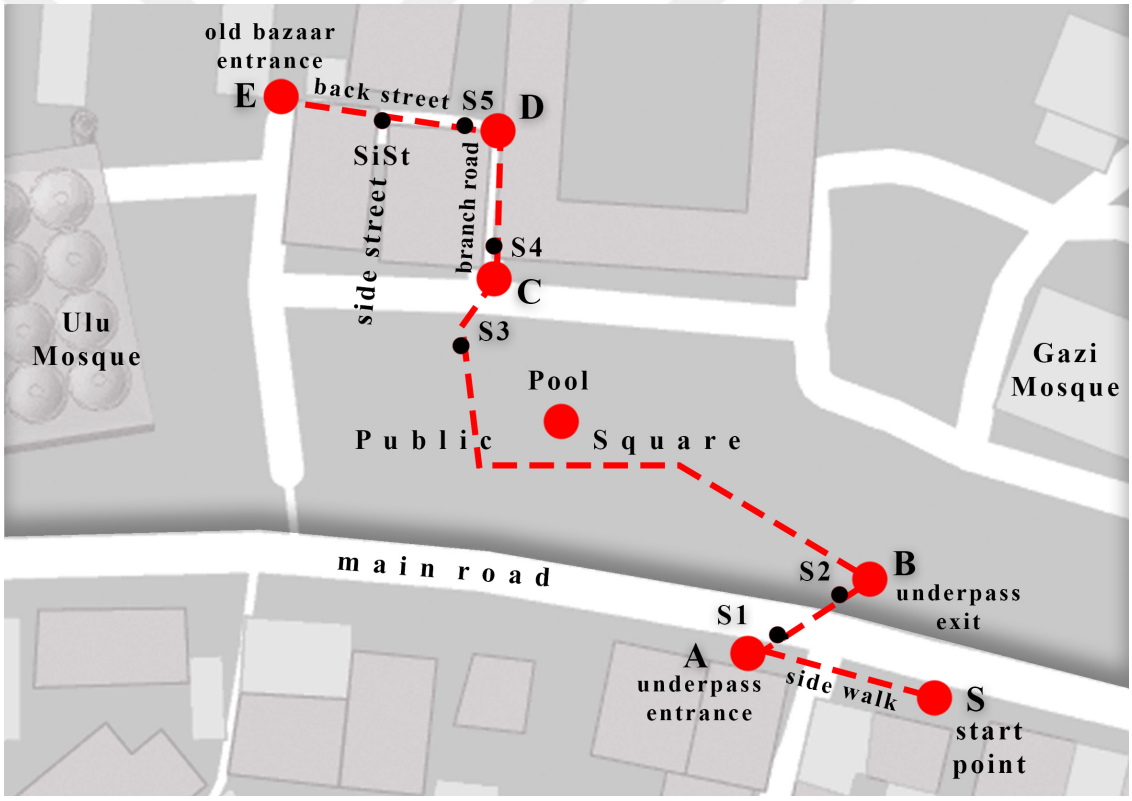

Image 5.3: detailed map of the walking route

After the "B" point, the route crosses near the decorative public pool (P) on the square and follows the path to arrive at the "C" point by going down to a little lower level of the courtyard ground with a few steps at the S3 point. At the "C" point, the route goes down around 7 m by taking semi-open stairs between the two sidewalls at the S4 point and arrives at “Branch Road,” surrounded by high sidewalls again. Following this

narrow road, the route turns to the left by the corner of the building at the "D" point, and it reaches the “Back Street” with a few steps up to the S5 point. Then, without changing its direction, it crosses near “Side Street”(Ss). The route finishes when it arrives at the entrance of the old bazaar. Walking through different spatial characteristics of the route causes some acoustic variation on the continuously heard background noises existing ambiently through the route, crossing various places, also allowing one to come across some site-specific sound events that could characterize particular functions of these places.

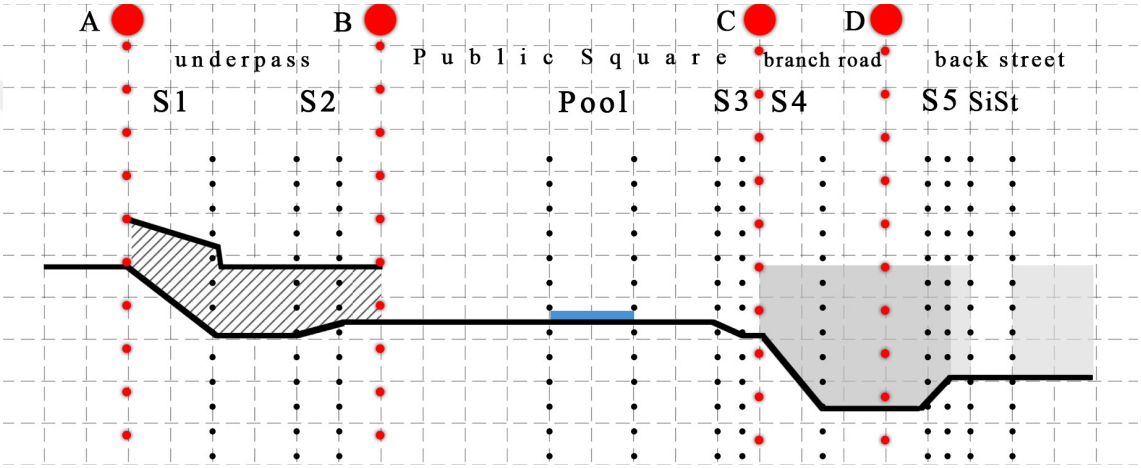

Image 5.4: section drawing of the walking route

Under these considerations, to conduct the environmental research examination: the required data set is collected by taking audio recordings from the route in different time schedules during the weekdays. The obtained collection as digital audio-recording data is translated to audiovisual graphics. However, before unfolding the audio recording process, the applied audiovisual, graphic translation method should be explained for better deciphering the process.

The collected recordings are visualized as spectrogram sound analysis (henceforth, SSA) graphics using E-Analysis (version 1.1.8; Url-2) software on the macOS High Sierra operating system. This software shows the wide range frequency of the recorded sonic environment, and it becomes helpful to distinguish background and foreground sound densities. Using this E-analysis software, two different sound analysis methods are applied, and two different graphics are obtained for a specific reason. The first graph

is created using the "rainbow" visualization mode. In this graph, the different frequency ranges of sounds are colored according to the amplitude level of the sounds from high to low: red, yellow, green, blue, and purple. This amplitude-based color distinction of frequencies represents relative sounds to an audio recording machine. Accordingly, while red color frequencies could be seen as the closest sound and the purples are the most distant, density ranges of the colored frequencies could also inform the diversity of sound-causing events at the moment. For example, if someone claps their hands near us for a second, it will be represented by the red color for the high-frequency range but with low density because it is just one particular sound. However, when a noisy urban sonic environment is audio-recorded, the heard distant sound-causing events should be represented by high density and low-frequency ranges and colored by purple because of the diversity of sound-causing events in the distance. While purple-colored frequencies are considered background noise, the reason for applying this rainbow mode is to visualize the spatiality of the recorded sounds. The second graphic is made for visualizing the density level of the sounds. Red colors show overall loudness, and light blue colors show the average amplitude level. As a result, these two graphics are thought to be helpful to observe the emerging changes in the recorded sonic environments of the route.

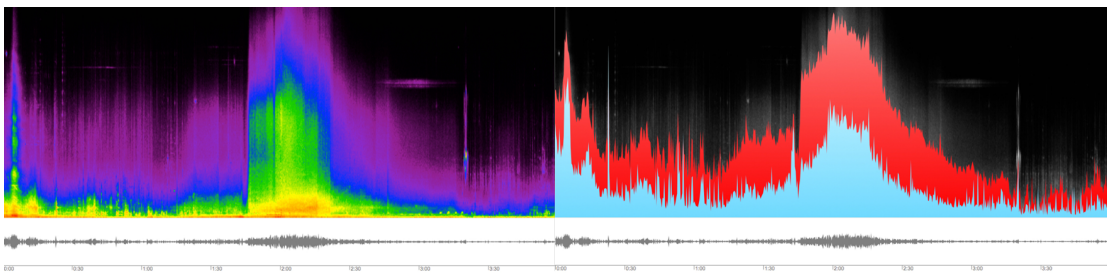

Image 5.5: SSA graphic examples; Rainbow(left), Density Level(right)

Apart from this audio visualization method, the audio recording process is made in two sessions. The first session was a random discovery for observing the properties and emerging changes of the sonic environment of the route, practicing to take audio-recordings by walking, and understanding the results of taking different actions for recording on audiovisual display. After this un-constructed and un-documented session, the second session is made concerning some particular variants. While taking these

seven different audio recordings at 9:30, 9:35, 9:45, 10:00, 14:25, 14:35, 17:25 hours, it aims to capture not the busiest hours of the route but the moderately crowded time of the day (Appendix A2). Because the audio recording intended to be listened to by the subject group serves to represent an ordinary/mundane everyday life experience that should not be too stimulating by extraordinary sounds and neither too quiet. Therefore, it was focused on 9, 10, 14, 17 hours. On the other hand, the repeated recordings at the same hours, such as the taken recordings at 9:30-35-45, are made to examine the appearances of the water game's noises coming from the pool springs on the Ulu Mosque square, on the SSA graphics according to the rising and falling duration of the water springs.

When the SSA graphics of these recordings are gathered on the same table, it is seen that the pool spring noises have a distinguishable appearance on the SSA graphic. This appearance does not only become identical with its spatial location but also the openness of the auditory field of Ulu Mosque square is distinguishable by a rising and falling graphic through its spread on the timeline. Observed graphics at 10.00 and 17.25 hours in the absence of the sprinkling noises say nothing about this square. For this matter, these two audio recordings at 10.00 and 17.25 hours are eliminated from the listening test. Besides, three distinguishable features are found: the rises of closer sounds' density levels at the beginning and the end, the sudden cut on the sprinkling noises, and the continuity of background noise density graphics. When the recordings are compared based on these three features, the SSA graphic of 14.25 hours differs from the others in some particular respects. At first, The spreading noises of the pool through the timeline look useful for the listening test because of its spatiality. But, it is too dominant on the field and for testing the experience, and the sudden cut on the sprinkling noises is more valued to break the listeners' expectations. For this matter, the 9:30, 9:35, 9:45 hour recordings are eliminated.

At last, when 14:25 and 14:35 hours are compared: finding the emerging changes more distinguished at the beginning and the end of the recording, observing a distant difference between back and foreground sounds, and seeing high densely sustained background noises on the 14:25 recording are made this recording selected. Because the

steadiness on the closer sounds' SSA graphics makes it hard to recognize the places of the route on the SSA graphic, these places are expected to be recognized by the listener. In sum, as seen so far, finding distinguishable appearances of sounds on the SSA graphic is deeply related to spatial properties.

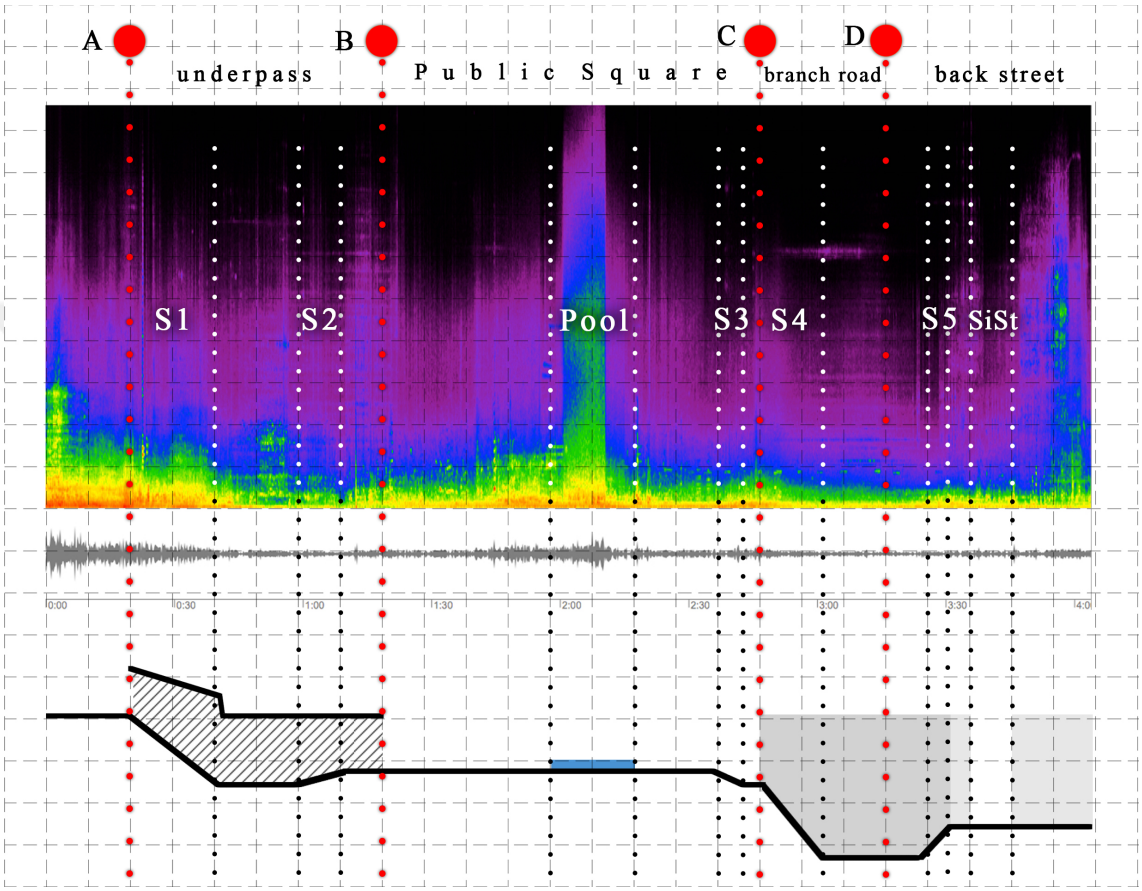

Image 5.6: intersection of 14.25's SSA graphic and the section drawing

5.3 Examination of Listening Experience

After completing the environmental research, the selected audio-recording was proposed to the subject group to be listened to for applying the survey test. In considering the obtained results both from the survey tests and the environmental research, the listening experiences of Subjects are aimed to be articulated in this section.

However, to make this articulation, the results were required to be brought into a legible format. For this results reading purpose, two tables for survey results and five tables for

analytical listening sections were designed to conduct comparative reading analyses from different angles (Appendix A3, A4, A5, A6, A7, A8, A9). At the survey table-1&2, the given answers for the Spatial typology subsection and the Associative, Imaginative, and Emotional sections are grouped for each of them, and they are listed by the following subject numbers in a row. The simple reason for making these tables are to compare subject-specific reasoning behaviors by relating their spatial descriptions (in the description required sections) with their spatial typology indications. Similarly, the analytic listening table-1 (AL-1) is dedicated to grouping all three subsections of the AL section for each subject. And, in the other four AL tables also focus on these subsections, but the attention is given to comparing the subjects section-specifically as a group. Based on this, the proposed AL tables-2&3 simply demonstrate the same thing but in different graphic representations, and the reason for proposing these two alternatives is to take their unique advantages to follow and identify the emerging differences between the subjects. On the other hand, while the SSA graphic of the audio recording is adopted to the AL tables-4&5 and the graphic representations of the subsections are alternated, the table-4 is only dedicated to the Sound Density subjection, and the table-5 is to the all.

At the end of this result tabling process, the intended articulation for reading the listeners' spatial experiences is made by following the timetable in four steps. However, before beginning the parts, here should be noted some specific cases for this section should be noted. The prepared tables are not embedded into the articulation narrative and addressed as sequential, sectional, and subjective references, but they are included in the appendix section of the thesis. Because the survey results are articulated here by making overall conclusions from the tables. On the other hand, there is a conceptual proposal argued during the steps. The suggested concept of transitional space is given for the specific time durations on the spatial typology subsection where the subjects do not show the same preferences in common. The reasons for this are to distinguish the places according to where the subjects show particular consensus and not, and to reason the found consistencies in the transitional places with the subjects' decision-making processes and the particular sonic conditions of these places. Apart from there, during the process of reading survey results, the eighth subject is found as the black sheep of

the subject group because where the other seven make similar moves on their typology table, the responses of eighth break the observed correlations between the others in the same points. This situation is valued and excites the results. However, during reading-analyzing the answers' timetable here, the eighth one will be partly distinguished from the others to make a more precise comparison between Subjects and highlight differences between the eighth and the others. For that reason: the first seven subjects are grouped and named SG (7), and by including the eighth one, all are named SG (8). The main focus is aimed to be given on SG (7), while the eighth participated in the situation-based examination only. Then, after all, in considering these mentioned three cases for this section, here could begin to indicate the made articulation for the survey results.

As the first step, the time section between 0:00-0:40:

On the spatial typology (Ty) sections, SG (8) does not show any consensus at the first 10 sec. If Subjects 1 and 3's spatial position at 0:10-20 are not taken into account, SG (8) assumes as being in the open space between 0:10-0:40 but the time duration between 0:30-0:40 is the exact point where no one indicates as being out in the open space. In the density (De) section, SG (8) shows consensus on high-level density for the first ten seconds and for the time range between 0:10-0:40 on "not-low level density" as well. In the direction (Di) section, although they all seem to sense mobility between 0:00-0:40, Subjects 4 and 7 are found as the only ones who indicate immobility in different time sequences.

If it is questioned what causes them to make these notations, the Associative, Imaginative, and Emotional parts of their survey answers have to be looked at. In the Associative Listening section (henceforth, AsL), at the first ten sec., all of SG (8) expressed hearing music and associated it with a kind of inner space such as a music hall or bar (and including a car, if it could be counted as inner space). Besides, their decision-making processes for being inside or outside of this music playing place are thought to be affected by the heard streetscape voices. Because, for example, while some of them felt like going out from a music hall, the others sensed as being on the

street and standing on the front of the building where music comes from or nearby the road where a car passes by playing loud music.

On the other hand, while they all seem to make a meaning-related spatial conclusion through the heard voices, their senses of mobility and feeling the changes on the density level might also be effective to bring all of them to an open space between the 30th and 40th seconds.

Although within the time range between the sequence 20-40 sec of the recording, the stairs (S1) exist, none mention going down by the stairs. This is a surprising outcome because the S1's acoustic features should cause some changes in the listened auditory environment, especially when the recording is taken by moving through the S1. Besides, getting distant from the source of the music and car voices until the end of the stairs might also be noticeable as the "doppler effect", signifying the changing distances between the recording device and sound object. In addition, Subjects-1, 4, 5, and 7 sense that sound density level decreases from the beginning to the 40th sec, and the others begin to indicate this fall after 40th sec. These notated falls could be seen as having identical features with the drawn decrease on the spectrogram graphic of the recording.

According to these considerations, here could be argued that, although the listeners did not define their S1 duration experiences based on these acoustic features, the mentioned spatial, directional, and auditory changes by them differently, and their arrival on an open space at the end of S1 shows that these features are sensed at the background of their attention.

Most of them addressed the well-known places in Istanbul where the music and street are intersected from their past experiences. However, their emotions are seemed to shape their scenarios. Mostly music voices are found very disturbing and annoying and, accordingly, the scenes became night or day, and it also depended on their feeling about the crowds of the streets. While some found themselves in a hot, disturbing sunny day

near the bazaar street where cars go by with loud music, some felt at night passing nearby a disco-hall, etc.

In conclusion, the attributed meanings on the notated sounds seem deeply affective, determining listeners' spatial experience. Besides, the heard music voices at the beginning of the recording are quite stimulative and more attentional than the other heard voices because of their loudness. Subjects' spatial experiences based on this music are built by the recognition of other voices; and, these attentional behaviors for the background are also sustained by the listeners through the first 40 seconds whether they do not indicate their background attention or not.

The second step, between 0:40-1:20:

At the second step, when the duration between 0:40-1:20 are taken an account, it could be seen that: while SG (8)'s consensus on being in "Open Space" at 40th sec. is broken just after there and this dissensus is sustained between 40-1:00 by SG (8), SG (7) meets at the same idea where they all sensed as being in "Non-Open Space" between 1:00-1:20. Accordingly, the time duration between 40-1:00 may be considered as a transitional space for SG (7) where they arrive at "non-open space" at 1:00 by coming from "an open" space at 40th sec.

On the other hand, when looking at the De section; for SG (7; except Subject 1), experiencing a fall on the sound density level from "High" to "Non-High" between 0:00-1:00, and then, sustaining their "Non-High" experience until 1:20 are similar with the SSA graphic. Besides, their consensus on "Non-High" for 1:00-1:20 is corresponded by their "Non-Open Space" experience at the same duration. Sensing a fall in the density as the SSA graph suggests an experiential accuracy of the subject's acoustic awareness, but we can not say that this is true for all. Nevertheless, when looking at SG (8)'s answers for the other listening sections, it could be generalized that at the time duration between 0:40-1:20, SG (7) experience is like being in an underpass-like acoustic environment. Although this experience is signified as their consensual point on "non-open space" for only the 1:00-1:20 time durations on the Ty section, some of them begin to paraphrase this experience at the other listening sections just after the 40th

second. To be able to understand their decision-making processes better and support this given argumentation about their experience.

On the Di sections, it is observed that: different than SG(8)'s answers for the first 40 seconds, SG(7; except Subject-3) senses some rotational changes (such as going up and down, turning left and right) this time, and the time sequences of these notations correspond to the notated durations for the spatial changes on the Ty section's time table, but not always directly and closely (table-x). While the Ty and Di sections are expected to be correlated with each other, the De section is also found as quite related to this correlation. However, the sequential differences between them still exist. Instead of assuming to obtain precisely responded answers between the sections, this study considers that subjects could change their decisions and hesitate to make quick remarks until being sure about their experience. This sequential differentiation or discontinuities are valued as they allow us to observe how they define each other's actions and read the listeners' decision-making processes.

Accordingly, by aiming to read this emerging correlation between Ty, Di, and De sections through the other sections, when looking at the AsL section, it is seen that SG (7) hears the voices of (electronic) toys between 0:40-1:20. Some of them also express that they hear steps of pedestrians, stairs (without mentioning steps), human voices, and sounds like a door closing. Besides, in the ImL section, while some of them address real places for these voices based on their past experiences by defining sound-causing events, and the others portray them differently but relatedly as an underpass, a passage, and an alley where the streets vendors or shops are found according to them, or just by mentioning walking through bazaar-like crowds.

Based on the SG (7)'s answers, all participants noticed the toy voices within what they also heard as a hubbub of the pedestrian crowd. It could be argued that these heard voices by the lead of toy voices remind the subject group a kind of public salespersons from small shops on the streets or street vendors. These toy salespersons refer to a particular acoustic environment defined according to their "non-open space" assumptions. Besides, for who addresses actual places, this acoustic environment is

related to the underpasses located on the two sides of the Galata Bridge at the Karakoy district of Istanbul. When looking at the past experiential patterns of these subjects, their spatial choices become understandable. Because, as much as this region is one of the main transportation centers of Istanbul, it is also historically and architecturally an attraction point, especially for the architecture students who studied in Istanbul, and it must be in these subjects' embodied practices.

Aside from reading Subjects' spatial experiences based on meaning-related references of the heard sounds, SG(7)'s acoustic awareness should also affect their "non-open space" experiences. For this matter, looking at their De sections, it is seen that each of SG(7-1; means, except Subject-1 within)'s answers draw high to low graphics from the beginning of the recording and until 1:20. These graphics could have very similar features with the falling graphic of the solid blue and red colors on the SSA graphics. Accordingly, the SG sensed changes in the amplitude and loudness graphic of the sonic environment due to entering the underpass SG(7-1). On the other hand, when looking at Subject 1, it would be possible to conclude that Subject 1 may pay more attention to the background noises, or the other way around, background noise may become more attractive for Subject 1. While this subject acts oppositely to the others, draws a rising graphic between 30th-50th sec, and keeps sustaining its experience on the high-density level till 2:00. The background noises become visible on the SSA graphic around the same duration as the subject's notations distinguishing themselves from the amplitude and loudness graphics.

By following these findings on the SG(7)'s De notations, their senses on the changes of sound density level could be read through the EmL section. Based on the given answers for this section, here could be concluded that they all might sense enclosure feelings by expressing their emotions or depicting atmospheric features of their "non-open spaces" experiences, which are related to their De remarks.

For example, while Subject-3 only mentions cloudy and oppressive weather in the EmL section and notates a decrease in the density level, this subject might be reasoning about "semi-open space" and how "being on the street" markings should look like. While

Subject 2, 4, 6, and 7 define their closed and semi-open spatial experiences as an underpass and address it to the actual places, they also relate their emotions for these places by using different but familiar expressions, such as sensing of a crowd, suffocating, and low lighted atmospheric features, and uneasy, sad, dull emotions. Additionally, this type of experience is found similarly in the Subject 5 expressions. Although this subject only defines its experience as an underpass, SG (7-1)'s falling graphics on their De section becomes related to their unique "non-open space" experiences, which could imply enclosure feeling attributed to a particular kind of underpass structure.

The third step, between 1:20-2:50:

The third step starts at the B point and ends at the C point. In this time interval, it is observed that : The SG (7)' consensus on being in "non-space" just before the B point becomes broken at the B, then, they meet again on the same conclusion for being on "an open space" at 1:20 and sustain this experience until the C point. Because of these findings, it is assumed that the time range between the B point and 1:50 possibly functions as a transitional space where the SG (7) shows inconsistent movement till 1:50.

When looking at the SG (7)'s attributed meanings on the heard voices for the B and C time range, it becomes understandable where their sense of "open-space" comes from. Because all participants of SG (8) indicate that they hear the sound of "election car" at 1:50 sec, the seen consensus of them on "being in an open space" would be directly related to open public space references of the election car voices.

Additionally, while they come to 1:50, some of them also mention some public life-related sounds such as cars (traffic), kids (running or shouting), whistles (of a police officer). Therefore, it could be assumed that these voices should directly or indirectly contribute to their "open space" conclusion. Besides, even they do not mention hearing water games noises of the pool at the beginning of the B point, they consensually recognize the source of these noises (before arriving at the pool) as public, open space-

related sound objects but define them differently: such as water springs, street cleaning cars or wind.

Aside from the contribution of these voices on their public spatial experiences, observed sequential differences between their open space markings on the timetable are assumed to be characterizing their decision-making processes. Because, while Subjects 5 and 7 are the only ones who could move directly to an open-space after the B point, the others in SG (7) just wait to make this move, although they hear these voices mentioned above. Along the same line, questioning why SG (7; 5 and 7) would wait for this action, no answers can be found that they emphasize or imply. For example, Subjects 1 and 6 just sustain their closed space indication as an underpass after the B point. Similarly, Subjects 2, 3, and 4 also sustain their semi-open space experience after the B point, but contradictorily, they define this spatial typology as a street or a public square.

Nevertheless, SG (7; 1 and 3)'s De charts and their comparison with SSG are promising to give some clue for explaining the fact behind Subjects' time-consuming transition from "non-open" to "open" spaces, which would be related to subjects' decision making processes. The observed rising graphic on the De charts of SG (7; 1 and 3) matches simultaneously the same rising graphic of SSG. Accordingly, this similarity between the graphics could explain these subjects' acoustic awareness based on the causes of these two environmental factors in action, the mobility of audio recording devices, and the noises of water games from the pool. While the recording device is getting closer to the pool on the Ulu Mosque Square after coming out to an open-air at the B point by leaving from the roof of the underpass, the water games of the pool are intensified and reach its peak point at 1:50. The intensification of the loudness on the listened recording should trigger these subjects' sense of mobility, making them feel like they are waiting to arrive at the noise-causing sound objects. However, this conclusion is not true for Subjects 1, 3, 5, and 7. Subjects 5 and 7 notate this acceleration on their De section, although they do not wait for making a move directly after B point. Besides, Subjects 1 and 3 draw a falling graphic on their De section compared to the others.

Aside from Subjects 1 and 5, the others in SG (7) address actual places for their open space arrivals. Accordingly, while Subjects 2, 3, and 4 change multiple places between B and C points, these changes are notated after moving out from non-open spaces and while crossing by the pool. Besides, these two points are also found determinative similarly for Subject 1, although it does not address the changes. However, while Subject 6 only makes a spatial change after the B point, Subject 7 also does this one time change after the poolside. Therefore, the poolside is very important as the nodal point where most Subjects change their places.

Moreover, this conclusion is also supported by the other findings. For example, as seen in the Em section, most of the Subjects' emotions change before and after the pool. While the felt stress before the pool is mostly related to the crowds of streets and public squares in the daytime, the SG (8; Subject 6) senses non-high level sound densities after the pool sides, and these felt stresses are turned into easy or boring feelings. Besides, Subjects 4, 5, and 8 notice the directional changes before the pool, which are also related to their emotional and spatial changes.

While they move out from the pool and get closer to the C point, all participants of the SG (8; Subject 6) sense a “non-high” density level in a similar way with the SSA graphic. However, at first, this makes some of them (Subjects 2, 4, and 7) feel easy, but the silence turns into uneasy or bored feelings. This bothered calmness is also expressed by Subject 6 as an abandoned place. However, instead of sensing “non-high” density, Subject 6 feels high densities from the poolside to the end of the audio recording. Besides, Subjects 1, 5, and 6 are the only ones who misinterpret the pool voices. While Subject 1 experiences the water game noises as wind blowing trees, the others assume that it comes from street cleaning cars. After the water noises ended, the emerging fall on the density level made Subjects feel differently based on the attributed meanings on the water game noises. For example, while Subject 1 feels calm by experiencing a wind blowing in an open space with trees, Subject 6 feels uneasy because the noises remind him of the street cleaning cars which belong explicitly to the subject's Prince Island experience in the past. Similarly, and also surprisingly, Subject 3 is the one who recognizes the actual place of the pool but never mentions feeling any acceleration on

the density level. The reason for it depends on Subject 3's past experience. As learned after the survey, this subject visited this research field more than once and enjoyed its time around the pool. The sounds from the pool may not bother this subject as accelerated noises when they are once matched with the good memories. Subject 4 is observed to be the most sensitive one about the directions because of the multiple notations used on its Di chart between the B and Pool points.

The fourth step, from the C point to the end:

This last step begins at the C point and continues until the end of the audio recording. For this time interval, when looking at the Ty section, it is seen that there can not be found a consensual point which all participants of the SG (8) agree on common. However, the sought agreement is found only among some participants within the subject group.

For example, while Subjects 1, 2, 3, and 5 notate as being in "open space" for the 2:50-3:30 time range, the others indicated as being in "non-open space" for 3:10-3:30, and the Subject 6 is only one who expressed as being in a "closed space" for the 2:50-3:30 time range. On the other hand, the SG (8; Subject 6) meet at the same opinion about hearing low-density levels between 3:00-3:30 and begin to notate some particular rise on the sound density after 3:30. Aside from the "stopped moving" notations on the Di section of Subjects 2, 6, and 7, the SG (7; Subject 4) are found as commonly sensing "mobility" through this last section. Moreover, when looking at the other sections for the between points C and D, it is seen that Subjects 3 and 6 indicate anything about what they hear and feel. No one within SG (7) does not address their spatial experience. Only Subjects 2 and 7 mention some locational changes but the others in SG (7) seem to keep using their location markings they had before the C points throughout this time interval.

Before interpreting their spatial experiences, what happens in the C-S5 section could be reminded based on these findings. In brief, the recording device goes down at the C point more than 7m high by the stairs of S4, and the C-S5 section functions as a tunnel with an open roof because its two sides are closed by the high walls. C-S5 section

shows an entirely different acoustic character in contrast to the Ulu Mosque square. The emerging changes in the auditory environment while crossing this section are expected to be noticed by Subjects and confuse their spatial experiences. However, looking at the SSA graphic, the only thing that is found for characterizing this section is the reduced graphics of the loudness and amplitude, which do not cause noticeable changes for the background noise appearance. Because, what changes in the listened auditory environment between the C and D point, is the pedestrians' voices. While the absence of these voices gives a lack of opportunity for examining the acoustic properties of this section, it leaves alone the background noises of the field. However, the SG (7; 4 and 6) are found sensing the reducing loudness after the C points whether they relate this change with any spatial properties and depict their experience. Subjects 1, 2, and 5 are the only ones who mention the reduced voices and locational changes without notating any typological differences. Although Subject 1 is the one who marks the sign of "going down" on the Di section like Subject 4. Subject 7 senses "movement stop" at the C point, just like Subject 6. Accordingly, it could be concluded that getting away from pedestrian voices around and after the C point should be sensed as a reduction in the density level by the SG (7; Subject 6), and more apparent background noises could make Subjects question their spatial location. Some of them did not answer at all, such as Subject 3.

When looking at the rest of the route after the D point, the emerging picture is such: the heard pedestrian and mechanical voices and the sensed rise on the density level by SG (7) are related to different kinds of machines used in workshops. Their spatial references are commonly depicted as car-free pedestrian zones. The additionally mentioned bird voices seem to be affecting their spatial experiences. SG (7-3)'s experiences are notated as some kinds of spatial enclosure on the Ty section at different time intervals. Because Subjects 4, 6, and 7 are the only ones who sense spatial enclosure between the C and D points, more apparent background noises are interpreted to support their enclosure feelings. While Subject 6 feels in a closed space without explaining it, Subject 4 is in a semi-open by reasoning it is a welder man atelier in a workshop street, and Subject 7 interprets birds flying over the park as a semi-open space.

On the other hand, Subject 6 is the only one who feels a high-density level continuously by beginning before the pool and till the end. According to Subject 6's answers, it is seen that this high-density level experience confronts different uneasy feelings such as nervousness, abandonment, uncertainty, which depict the atmospheric features of Subject 6's spatial experiences. However, if the attributed feeling of disturbance on voices begins at the rising loudness before the pool, this feeling should be turning into some kind of comfortable feeling at some point because of the observed changes on the loudness graphic of the SSA graphic. Therefore, here could be concluded that Subject 6 could be focusing on the background noises which are found disturbing.

The specific case of Subject-8:

Aside from the given focus on the SG (7), at last, the specific case of Subject 8 has to be taken into account as well. When the subject's Ty section is considered, after the markings being in a closed space for the first ten seconds, the subject senses an open space until 2:30 by making an exception only for the 2:10-2:20 section as indicating being in a closed space. It finishes the rest of the route by being in a semi-open space. Besides, this subject draws a similar graphic with the SG (7) on the De section if the found differentiations are undermined partially. Moreover, this subject shares similar feelings with the others on the Di section until 2:30. Then there and till the end, the subject continuously notates for "not being moving." This last part is considered one of the unusual parts of Subject 8's results. Because, when the other listening sections are checked for this immobile experience, the subject is found quite mobile in contrast. The second unusual part of the survey is the subject's emotion-driven spatial experiences. Because, while the subject finds itself at the first 40 seconds in the city of Istanbul around Taksim Square nearby a music hall as like some of the other subjects, and refers to its university years, this subject just changes this past experiential domain to the times that are spent with mother mostly in the city of Mersin in which is the subject's home town. In brief, between the S1 and B points, Subject 8 experiences visiting a crowded bazaar street with the mother and feels happy and peaceful. Around the pool, still with the mother and feeling the same. It travels around Athens by train between the C and D points and still feels good. Around the SiSt, remembers the hospital times when its mother was in intensive care and feels sad. However, while the subject details

the emotional listening section in these ways, the subject does not indicate experienced voices in the associative listening section. In sum, without a detailed analysis, it is understood that Subject 8 seems to pay more attention to the atmospheric senses of the auditory environment. Although the heard voices are seemed to shape the spatial features of these atmospheres, the attributed feelings on the background noises are found as quite determinative on its spatial experiences.

5.4 Conclusion: Learning From Subjective Differences

At the end of the case study test, the obtained learnings are re-evaluated in this section. This test shows that embodied practices and decision-making processes appear through the listeners' listening styles.

When looking at Subjects' survey results to compare the given intentions for detailing the listening sections, it is readily seen that they show different tendencies for answering each of these sections. It means that some of the survey sections are more favorable for better depicting their experiences. When the driven motivations behind their tendencies are questioned, the way the survey structure deconstructs Subjects' listening practices could be shown as one of the main reasons aside from the listeners' state of mind at the survey-taking moments. Because, while the proposed four main listening sections for structuring the survey analysis are used for asking its applicants to practice their listening experience four different ways, and they are expected to shift their attention between the four varieties of listening, the emerging cognitive load as a result of practicing these four listening attention could cause some particular difficulties during the survey. One of the main reasons for this difficulty would be their professional backgrounds. Because, as being an architect, their embodied practices could not confront applying this attentional shift, especially when their architectural discipline is contrasted with, for example, music and sound art practitioners' disciplinary background.

For this matter, it should be accounted that the listeners neither can nor would like to shift their attention from the one to the other sections by giving the same amount of

intention for each section. Besides, making this kind of shift is not what is expected from the listeners nor the survey structure is designed for this purpose. Instead, what is exactly expected here is that each subject should be able to show their unique listening tendencies, demonstrating differentiation between them, and reveal different tendencies by the proposed survey analysis. When these concerns are questioned through the obtained results from the survey, this study is seen as precisely achieving its expectations because of the found differentiation between the subjects' listening tendencies.

Before interpreting each subject's listening tendencies, the test-taking process should be reminded because the given instruction to Subjects for taking the survey might be affecting their listening experiences in some particular ways. The only mandatory rule of the survey is to fill the analytical listening section first, and they are recommended to follow the other sections by the given order. They are informed to focus on the main changes and the attention-grabbing sounds they sense on the listened sound environment and notate their durations on the time timeline, no matter how they like to proceed. They are also asked to follow the notated durations on the previous section while answering the following sections' questionnaires and be free to listen to the recording repeatedly during the marking process.

Considering the given survey application instruction to Subjects, here it could be argued that: found inconsistencies between the given answers for the listening sections (which are already interpreted in the experiential listening section as a projection of the subject's decision-making process) are most possibly caused by listening to the audio recordings repeatedly and beginning the survey with the AL section. As a matter of fact, this result corresponds to what was intended to be achieved while designing the survey structure. Because, while Subjects meet with the audio recording for the first time in the AL section and are busy with identifying the sensed changes based on spatial typology, sound density level, and direction, they are distracted from jumping to conclusions for addressing their spatial experiences by the task to think these given abstract properties of the sensed spaces. Besides, by allowing them to listen to the recording repeatedly, they are expected to gain an embodied practice for this kind of abstract listening and to

pursue this listening attitude through the next listening sections. The reason for expecting them to keep paying attention to the abstract features as long as possible is to make them spatial inferences through listening to the wholeness of the sonic environment, which is conceptually named here as background noise, before reducing their experience into the direct meanings of the heard sounds.

As a matter of fact, when the given concern for sustaining the abstract listening is re-questioned through the proposed survey structure, here might be mistaken by taking the emotional listening section in the end. Because, as seen in the survey results, Subjects express their feelings and describe their senses about the atmospheric features based on the previously depicted and addressed spatial functions of the heard voices and their imaginative references. Alternatively, this section could also be applied as the first section before the AL sections, then after the AsL and ImL sections could be followed in a row. However, how their experience would change with this alternative order is a matter of question. Because we are never sure when their spatial experiences gain an unchanged absoluteness, although repeating their listening practice and naming their sonic experiences should be effective in their acquired spatial experience.

By taking aside any possible causes of this given alternative proposal for the survey structure, the concluded results for Subjects' listening tendencies from the applied survey should be mentioned to question the contribution of their background noise attention on defining their spatial experience. For this matter, if it began with the overall conclusion, here must be underlined that: what each of Subjects sense as changes are found, quite identically but uniquely, corresponding what actually changes on the SSA graphic and the spatial properties of the route, no matter how and where they indicate their experiences. Alternatively, in another way of saying, because they all experience the spatial changes on the route by following the changes in the density levels of the sonic environment, background noises, if the term is conceptually referred the wholeness of the sonic environment, could be found quite affective on spatial experience when its examined through the changes of spatial properties. Nevertheless, its contribution to the experience shows subject and context-specific differentiations.

For revealing these unique behaviors, in brief, the required concerns could be determined as the referential correlations between these two abstracts (AL and EmL) and reduced (AsL and ImL) listening sections, and the indicated locational continuity. Based on these concerns, with-no requiring to group the subjects according to their common behavior, here could follow subject's number in a row:

Subject-1: because of defining the spatial changes and characteristics based on sound causing events, using mostly spatial functions for depicting places, indicating fewer emotions, and paying attention to the distinguished background noises between the S1 point and the Pool; its listening behavior could be described as action related meanings based and less determinative. Although it's hard to observe the affection of background noises on the subject's spatial experience, the given attention could cause the experience to be grounded at the abstract level. Identifying spatial experiences through the attributed meanings on sound causing events is the subject-1's attitude and all other subjects.

Subject-2: mostly addresses the experiences to the actual places; finds them around the closer neighborhoods in the same city by only making one time far distant change after the pool, hears directional changes, describes the occurred actions, the atmospheric features, and its feelings -but usually experience crowd-related uneasy feelings- and follows the falls and rises on the loudness of the closer sounds. Besides the common action-related spatial identification behavior, the continuously given atmospheric and emotional indications related to crowds demonstrate that this subject pays great attention to the background scenes and experiences them through its emotions.

Subject-3: by giving a bit less indication for the heard sounds, focusing on addressing the actual places -discontinuously on different locations- and identifying their spatial properties concerning their atmospheric and emotional sensations, sensing mid-low density after S2; this subject is using an emotion-based listening experience on its spatial journey. Because subjects' emotions are related to the addressed locations and the sensed weather conditions and loudness of the auditory environment, Subject-3 seems to pay great attention to background noises as sensual properties of space.

Subject-4: by giving great attention to the directional, typological, and density level changes, indicating the heard sounds, and addressing the places within the sensed atmospheric and emotional features, but without opening the distances between the locations taking care of the spatial continuity, this subject could be listening more analytically than the other subjects. However, the relations between the depicted emotions and atmospheric features could demonstrate that this subject is also quite interesting in the background scenes of the addressed places through the heard voices.

Subject-5: without notating too many typological changes and addressing the experience to actual places although indicating sensing of spatial changes more than the notated ones; and, by giving great attention to indicating the heard voices, describing the spatial properties through the sensed ongoing actions in the places and mobility, mentioning less atmospheric features and more feelings, staying mainly on the mid-low density level; this subject would be experiencing the spatial changes based on the spatial functions of the heard sounds and the background noises may show appearances on identifying these functions and the subject's less determinative behavior.

Subject-6: by sensing mostly loudness and only feeling the mid-low density in its underpass experience, notating most commonly heard voices, only addressing three different actual places, locating the sensed spatial mobilities in these places, describing the experiences within the atmospheric and emotional features, and feeling uneasy for the sensed loudness, this subject slowly gets used to pay attention to the background noises. However, although the heard voices are still determinative for addressing the places, the felt disturbances for the noises are also found to have a strong affection for characterizing these places' sensual properties.

Subject-7: by following and addressing the spatial changes through nearby neighbors, but only referring to three different locations, describing the spatial properties of these places and the spatial differentiation with mostly indicating the sensed atmospheric and emotional features based on the notated voices, and hearing the density level changes of the closer sounds, this subject describes its spatial experiences through its emotions based on the heard voices. However, the subject's less descriptive behavior and

demonstration of less discontinuity between the places may be caused by the given intent on listening to the flows of occurred changes in both the fore and background of the sound environment.

At last, as is explicitly mentioned in the previous section, Subject-8 is found as having an emotion-derived listening tendency. Because while this subject depicts its experiences by referring to the past-experiential memories, it also assigns quite strong emotions to them. Besides, although the amount of notated voices is less and seemed to be effective for defining and addressing the spatial characteristics, the depicted background scenes of the places based on these voices show the sensual contribution of background noises on the subject's experience.

Under the lights of these given concerns on the subjects' listening process and interpretations for revealing subjective differentiations on background noise listening behavior, in sum, here could be argued that background noises are not exactly appeared as the listeners' non-attentional states of minds but the background scenes / atmospheric sensations of the heard voices' spatial references. For this matter, this background noise listening examination reveals the listeners' spatial vocabularies, which are specific to the everyday life experience of a noisy urban environment and identical with their emotions and past experiential patterns.

6.CONCLUSION

After introducing an enactive account cognitive approach through 4E cognition in the second chapter, the given conclusion was dedicated to the inherent correlation between enactive mind thesis and spatial experience of architecture. Besides, this relation was articulated under the denominated conceptual proposal - three nodes of enactive concern on spatial experience. By taking aside these enactive account spatial concerns, the third chapter focused on listening experience in considering two different but related enactive account listening approaches. Moreover, by doing so, while listening experience was unfolded into the meanings and perceptual experiences of a sound through the emerging relation between body, action, and environment, the specific features of enactive perception were concluded based on Arteaga's "the four varieties of listening" proposal. In the fourth chapter, the given conclusions on the second and third chapters were brought into consideration for questioning speculative sides of enactive account spatial experience. Furthermore, it was specified to the listening experience and background noise conception through the end. In the fifth chapter, the spatial experience of background noise listening experience was problematized in the context of everyday life practices in a noisy urban field as a case study. Besides, the proposed research method for reaching the experience is discussed within the obtained results from the experiments conducted.

In considering this given outline of the thesis, if there is one thing that the thesis aims to avoid, it would be writing a manuscript about how to employ an enactive mind thesis into architecture. However, understanding any possible correlation between enactive theory and architecture is very compelling and is the implicit intention of this research. Instead, by leaving aside any problematic architectural concepts and focusing on spatial experience only acquired by listening and approached by enactive cognition, the thesis unfolds the speculative sides of this experience into a discussion in the fourth chapter. It examines the background listening experience of a noisy urban environment by

questioning the proposed research method for reaching this experience. The reason for giving value to this narrative structure, approaching architecture through an enactive account in a distant way, is to avoid experiential determinism. Because narrating a bit of a messy/noisy environment prevents concrete arguments by questioning the extended sides of spatial experience, it reminds the readers about the uncertainties about acquiring spatial experience. Nevertheless, the proposed thesis structure intends to stand for proof that there is still a way for researching and questioning the uncertainty of the experience.

On the other hand, there is a possibility that the way the thesis interprets enactive mind cognition intersecting it with architecture can be found superficial or problematic by cognitive scholars. Nevertheless, this thesis attempts to use the enactive mind thesis's basic concepts, such as acting, learning, and knowing, in the spatial experiences of everyday life, studying the noisy urban environment, to discuss the correlation between the given conceptual argumentations and case study results.

As is underlined at the end of the previous chapter, each of the subjects' unique listening behaviors is very determinative for employing background noises on their spatial experience. This result undeniably verifies the previously underlined matters for enactive perception between subject and context-specific situations. Because, as seen quite distinguishably on Subject 8's answers and in the others, even if Subjects' embodied professional backgrounds are the same, the ways they think and act are varied. However, this argument does not mean they must show the same listening behavior under a simple condition because they share a similar background, like being an architect and living in Istanbul. On the contrary, the examination results demonstrate that expecting the subjects to meet on the same ground is false. To clarify the implied argumentation with an example: Taking shared values for granted as a design input by denying the uniqueness of each user when proposing design solutions for specific user groups who share common practices would not satisfy the expected needs for the design solutions. Nevertheless, while suggesting avoiding oversimplification in experiential domains and creating spaces allowing experiential ambiguities to emerge, the intention is not to prevent one from thinking about the user's shared practices. This study

provides a rich vocabulary of experience describing concepts that encapsulate the subjects' spatial reasoning motives. Found spatial vocabulary is specific to everyday practices and identical to emotional and past experiential patterns. The surprising outcome is that some shared features on the obtained vocabulary suggest exciting issues to be discussed and questioned during a design process.

For example, considering the variation of the attributed meanings and the addressed location for the water game noises on the pool, experiences of urban facilities could be enriched. Only one Subject identifies pool sounds as water sprinkles, but most sense a crowd around it and feel uneasy. What other options would be to experience similar decorative pools in the city? What kinds of atmospheric and emotional features could they offer? How could the sensual environments of the public pool facilities be alternated? Other subjects interpreted the actions of the pool noises also differently, such as street cleaning cars and wind blowing trees. How could this sonic action be simulated similarly to an urban facility imitating water noises but caused by entirely different events?

In conclusion, a limited experiential diversity, demonstrated by the collected spatial vocabularies from the survey test, also limits discussions on experiential domains of our habitats. The richness of subjects' past experiential patterns also defines the richness of acting possibilities in everyday life. This issue could gain more importance when the action possibilities are questioned for spatial thinkers such as architects based on known experiences. Nevertheless, expecting to live in an experientially enriched environment is a problematic issue already discussed in the fourth chapter as an enactive paradox of action and environment in spatial experience. If this paradox could be reminded in brief, it was simply argued that: one's body limited acting abilities and, thus, its mind can not be restricted by any of environmental factors with-no reason but only the socio-economic and political practices that the person lives in.

To sum up, by underlining the importance of differentiation of listening tendencies and limits of spatial vocabularies, it is intended to demonstrate what this proposed research method and examined case study are capable of, and they could be applied in any other

specific cases. Questioning spatial experiences of the selected subject group in listening to a noisy urban environment test serves to fine-tune the parameters required to examine both the conceptual background of the thesis and the proposed research method. For this matter, the potential application of this research method on some particular subject groups and research fields could be possible. Moreover, the obtained results from the applied examination for questioning the contribution of background noises on these subject groups' spatial experiences could unfold the use of spatial vocabularies by inviting the subjects into a discussion based on their embodied practices and listening tendencies.

While enactive mind thesis is a cognitive approach that conceptualizes, simplistically to say, how we think, it proposes a language for thinking. For this matter, the given conceptual background of the thesis and the case study examination construct a language of enactive account. More specifically, the four varieties of listening, taken as a foundation of the proposed research method, identify the usage of this enactive language while making sense through listening. However, this thesis is not looking for the natural thinking language of the subjects. Instead, it provides participants with an enactive language to apply and practice pragmatically. As a result, the depicted spatial vocabularies in the survey analyses should not be seen as a natural outcome of the case study examination. An enactive way of thinking is what this thesis asks from its subjects. The thesis argues that the vocabulary of an enactive account of auditory spatial experiences is identical to the experiential vocabularies of architecture. The basics of enactive mind thesis, action, body, and environment concepts, are also the foundation of architectural language without a doubt. For this matter, the study gives its sincere respect to the enactive mind thesis and suggests employing this thesis more diversely in architectural discourses.

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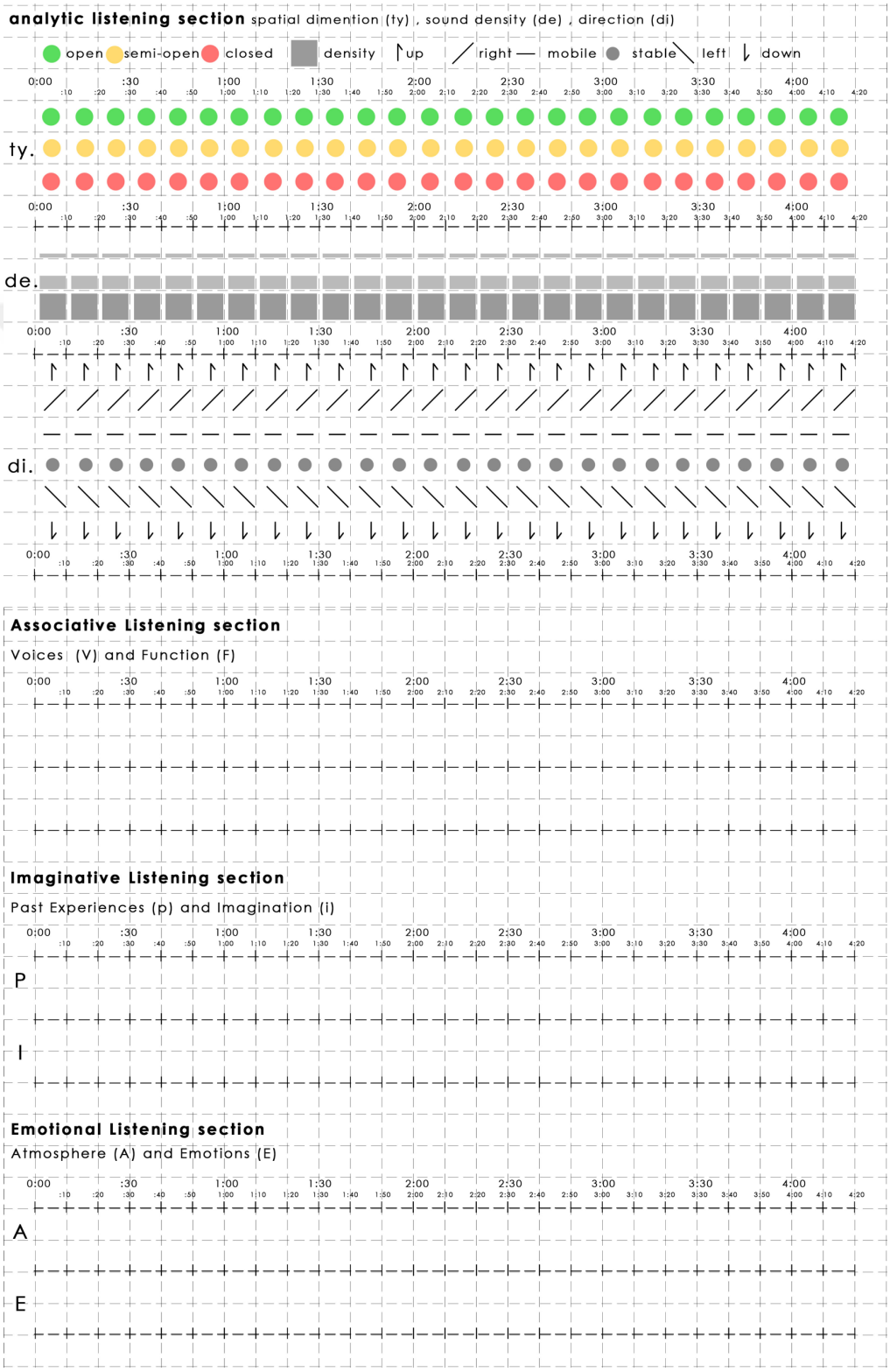
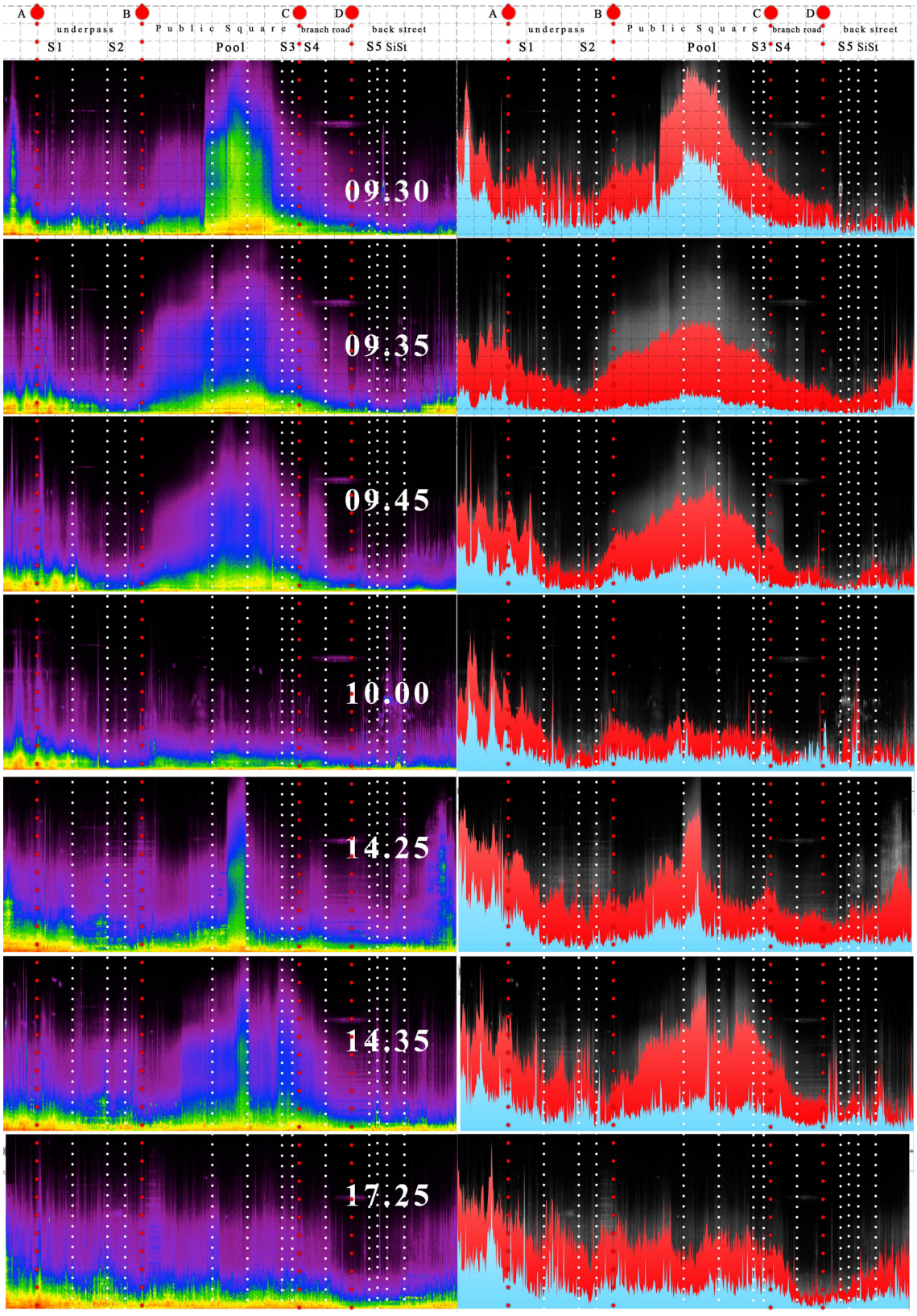
APPENDIX A

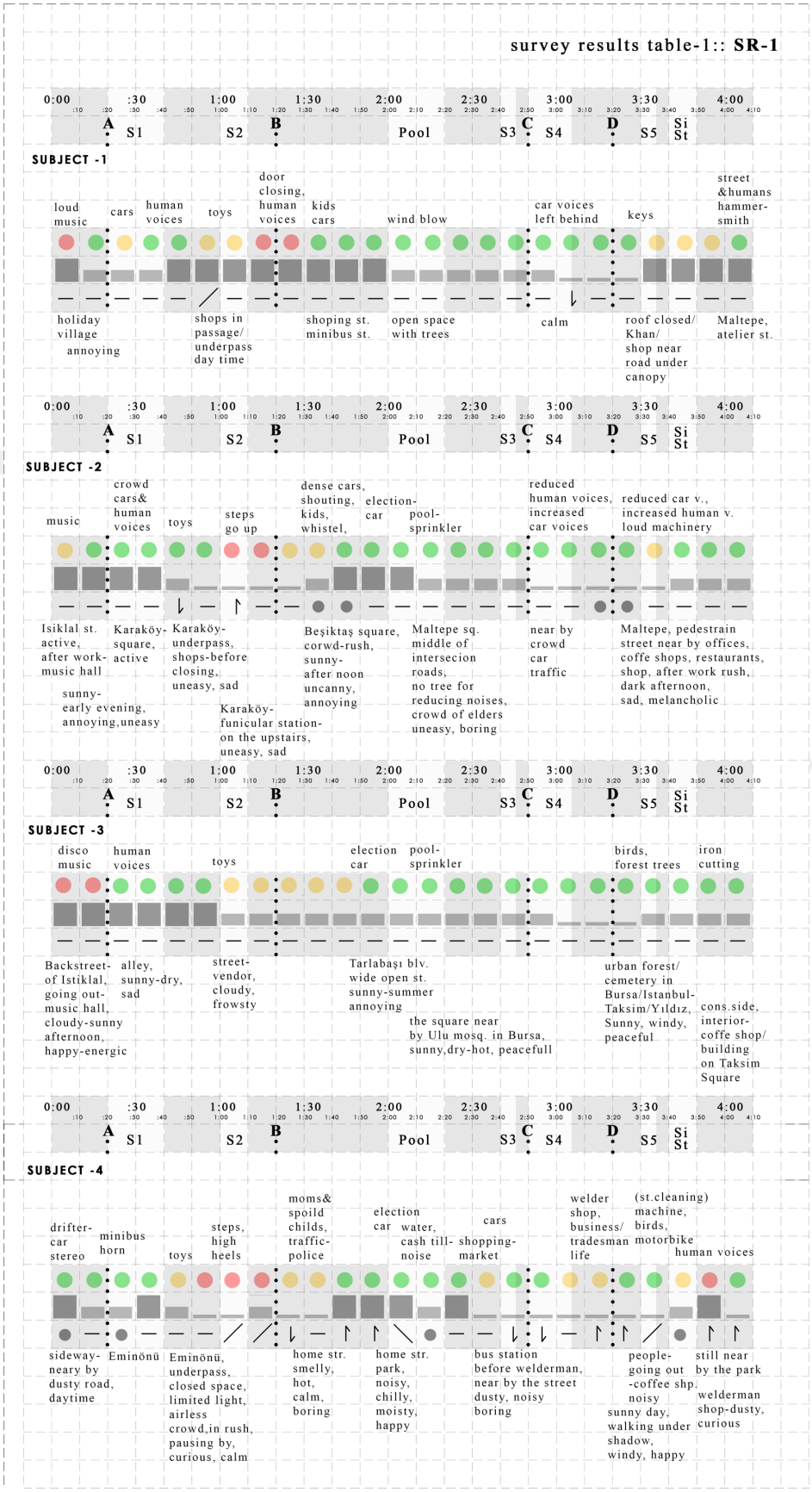
A1- Survey Test Application



A2- Comparison Table of The Collected Audio-Recordings



A3- Comparison Table of The Survey Results



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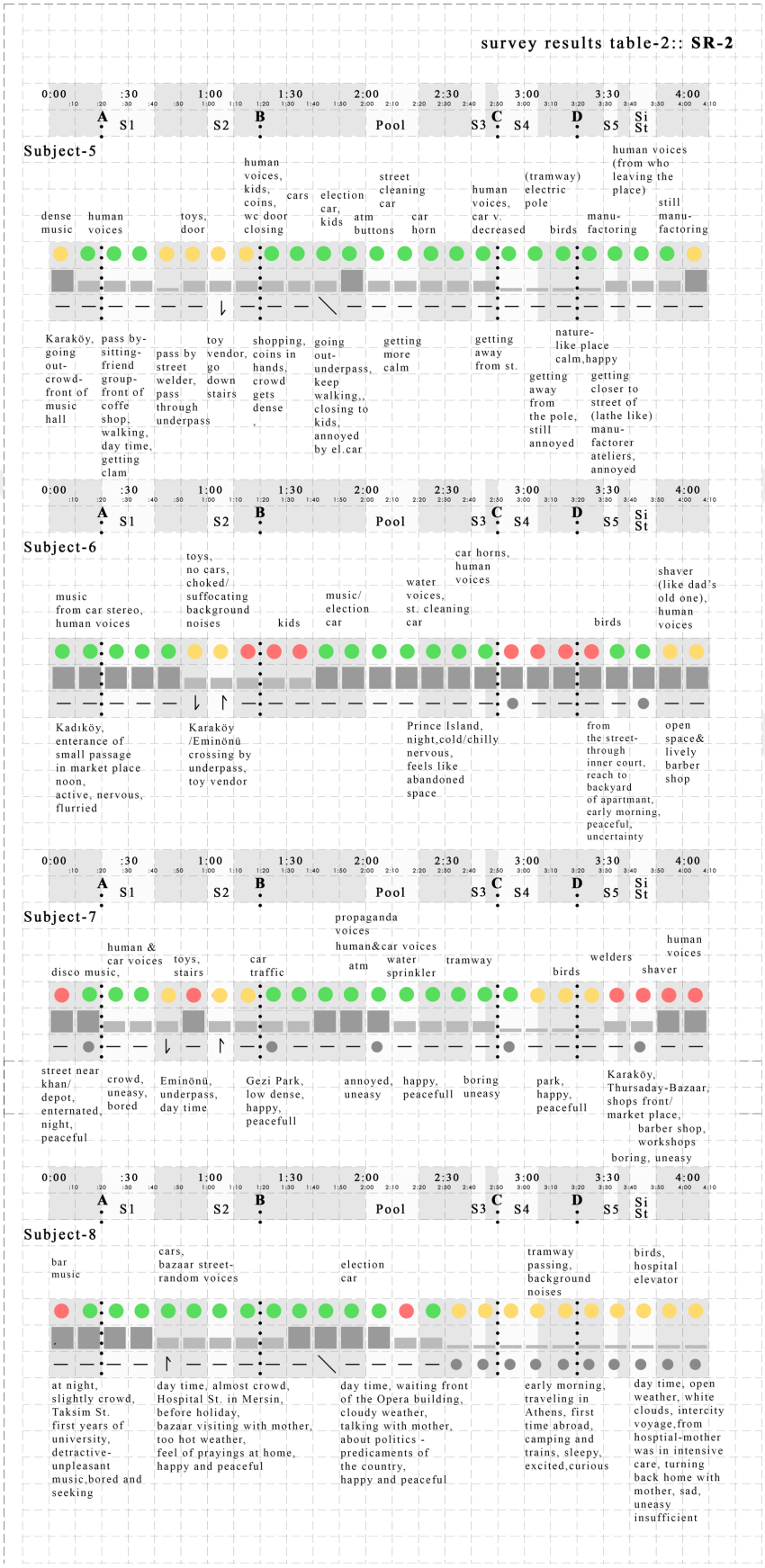

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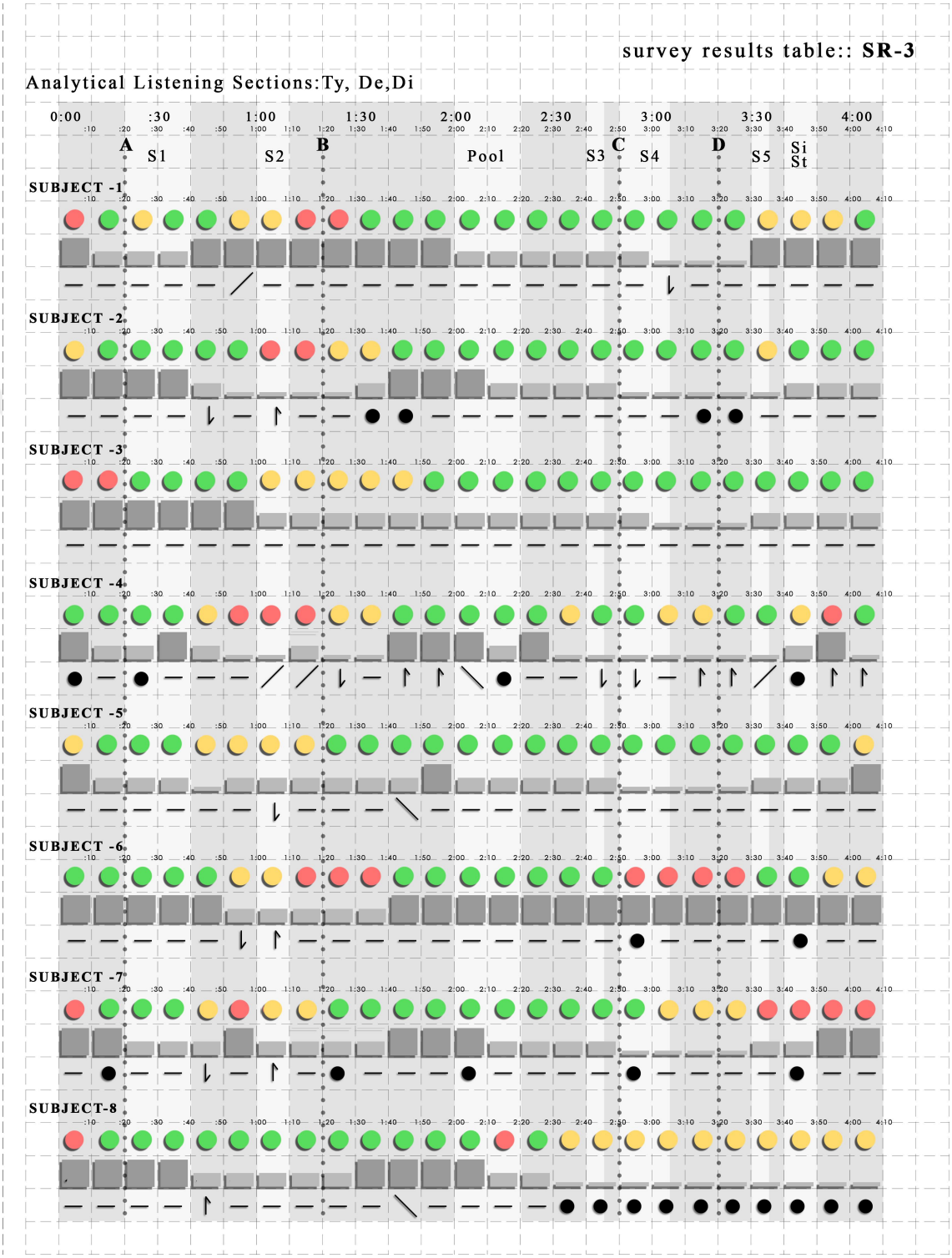

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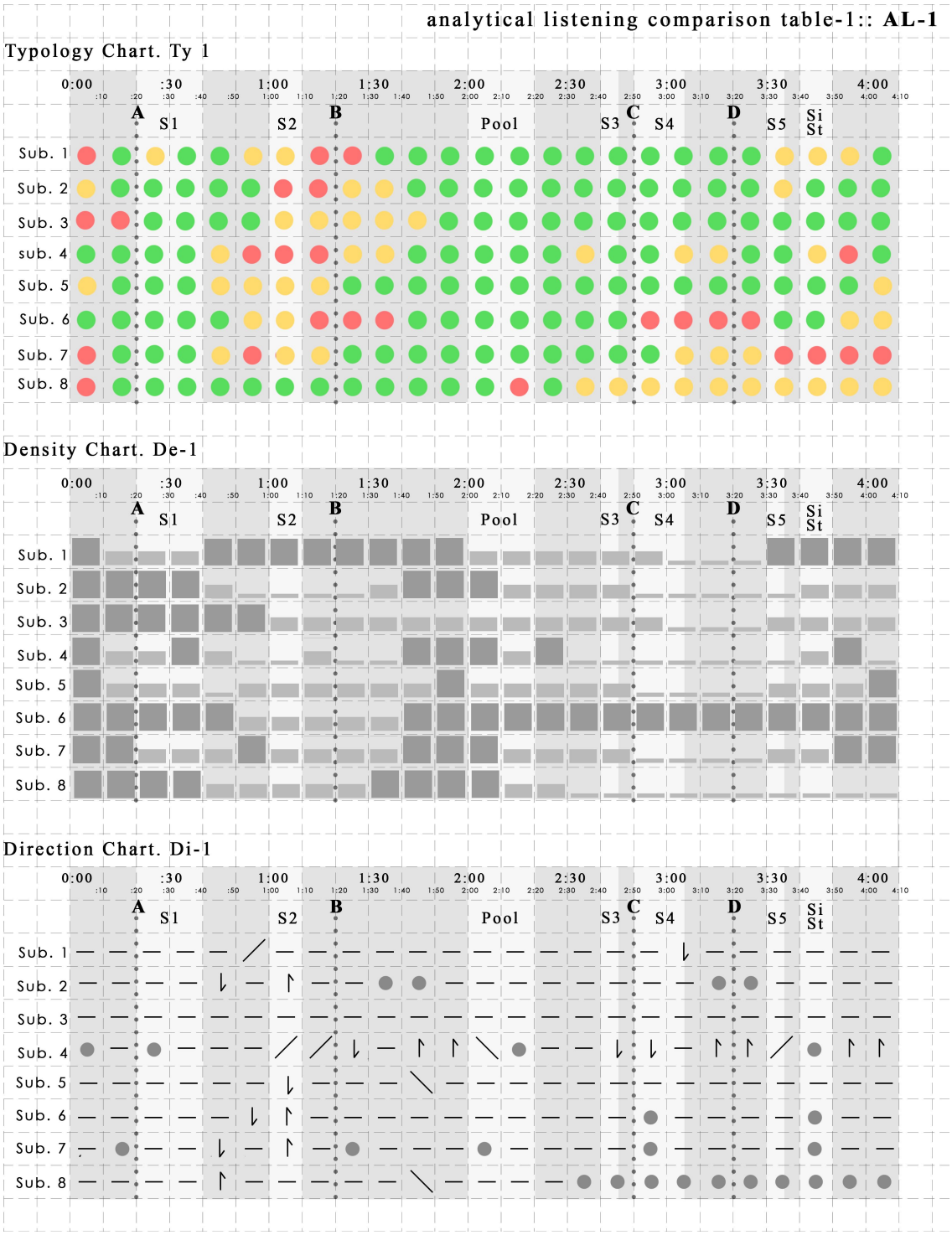

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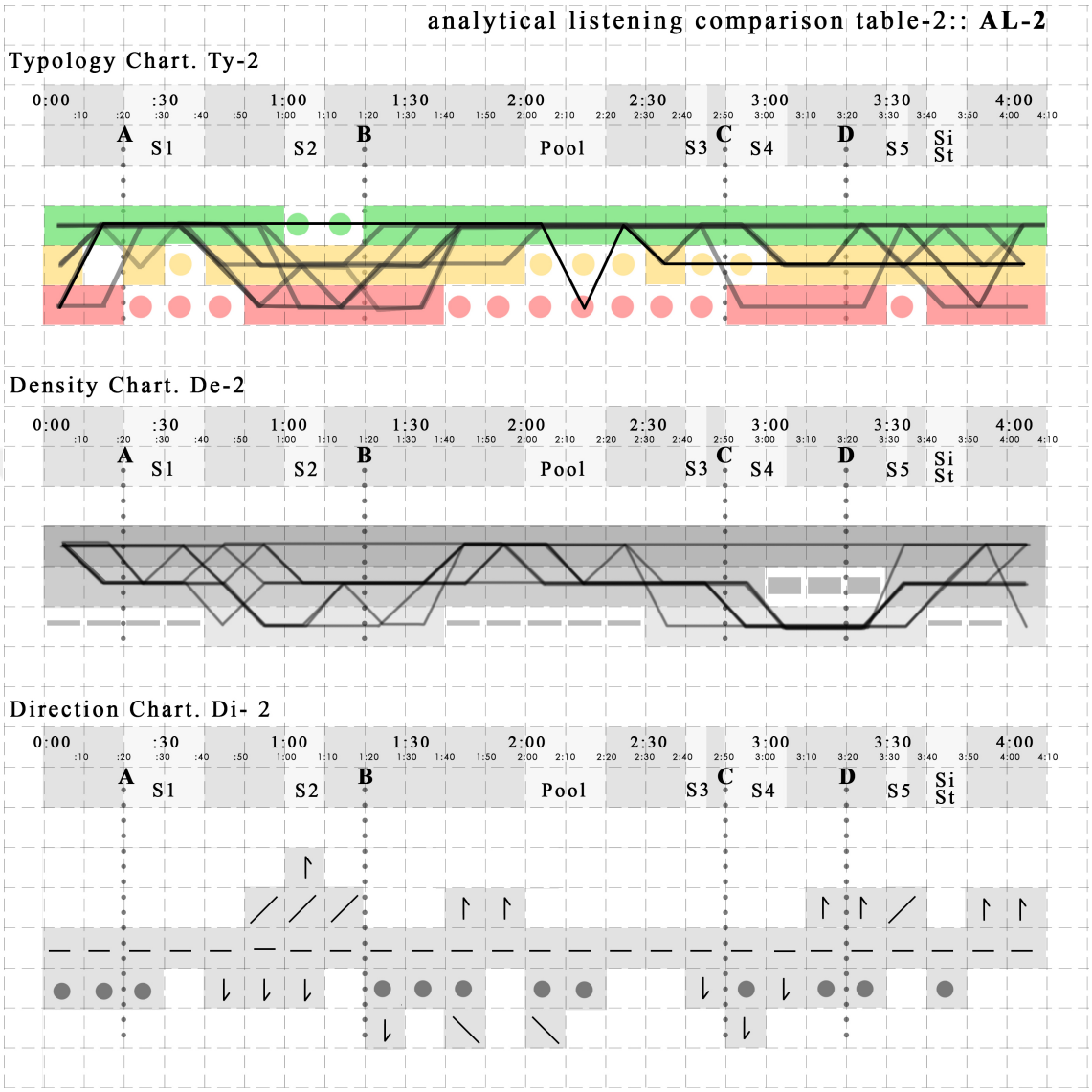

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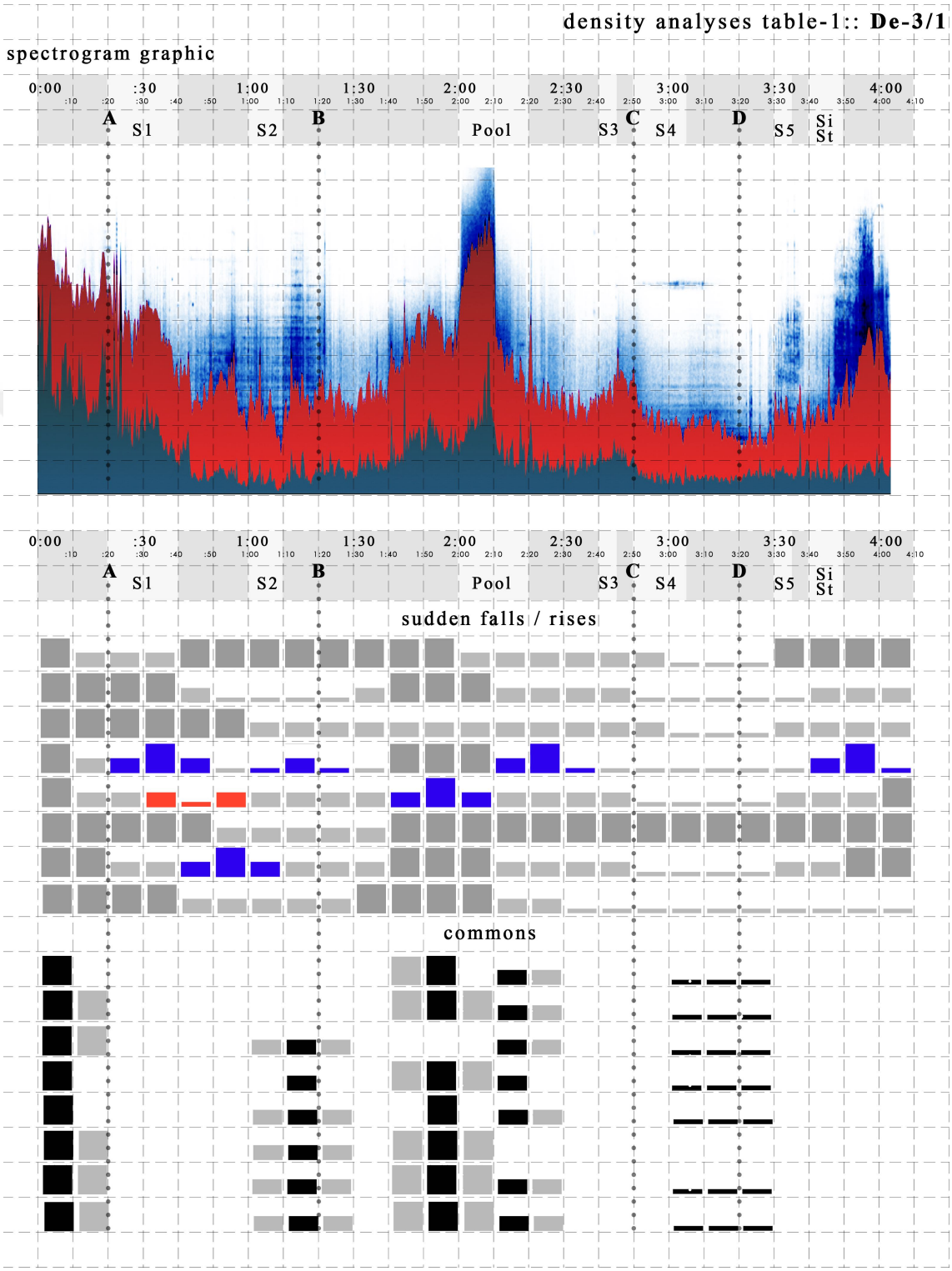
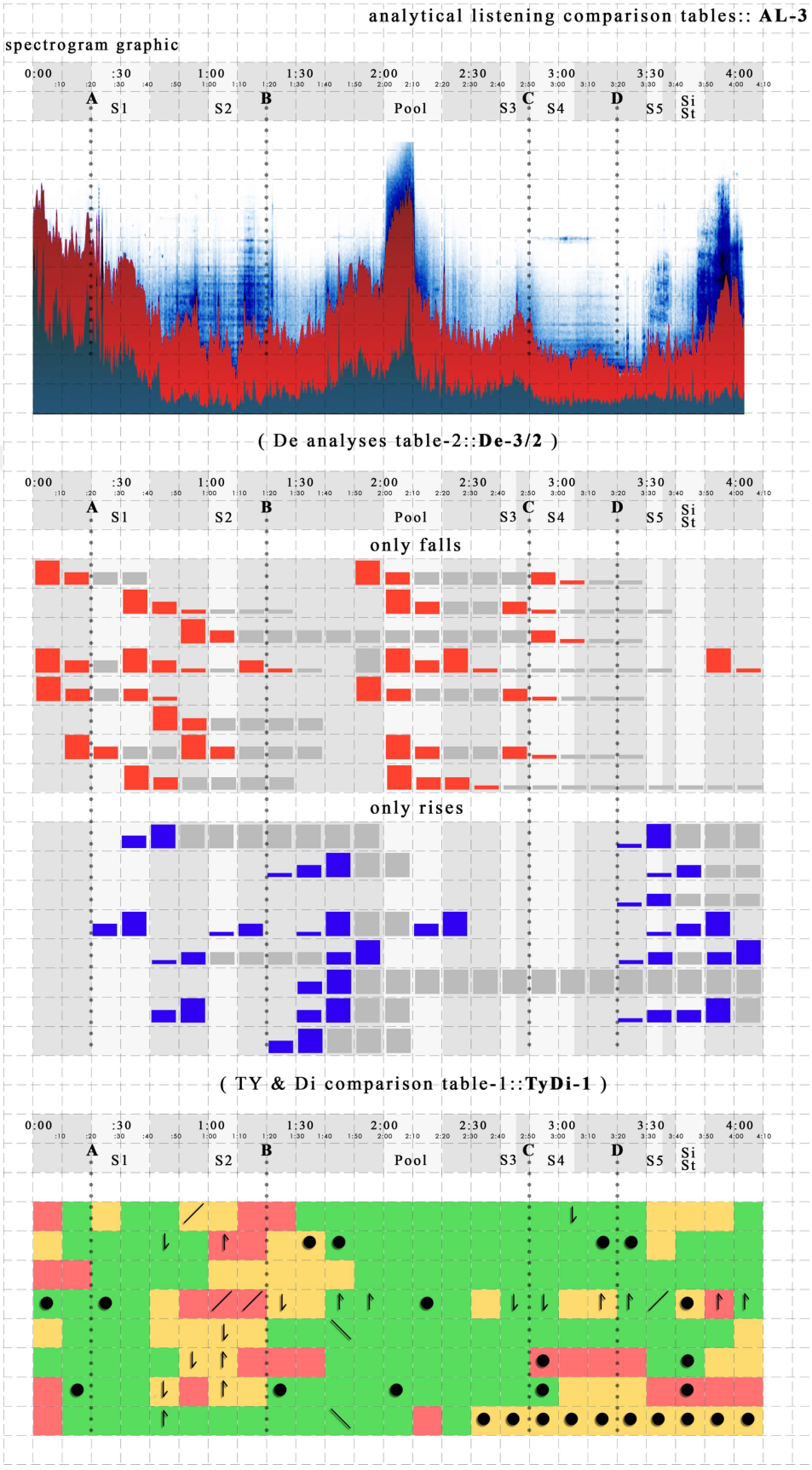


A9- Comparison Table of The Survey Results



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Proceedings, 2018: 22th SIGraDI International Conference, Sao Paulo, Brazil; *Sharing Background Noise: Enactive Approach in Reading Auditory Space*