# Designing for Neurodiversity: Introducing Equity to the Resort Experience

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**Introduction**

Imagine going on a family vacation and your biggest concern being "judgmental people"–for many families of autistic children, this is a reality—and one of the main barriers to travel. Moms Lucy, Charlotte, and Rachel describe these feelings:

> If the children get sensory overload, they will create a disturbance, not of their own volition. It is just the way they are dealing with the situation. But it means that you do get a lot of funny looks. You can get comments. I have seen nose to nose discussions between a parent and a member of the public, the member of the public challenging the mum saying "your child shouldn't be playing in that area." (Rachel)

> I found other people's responses difficult…when [Joe] was little other people would…think "oh, he's cute", and…then he would do something outrageous and it was "oh, my God, why can't you control him?" And so then we would feel bad, we would feel guilty and so it was a non-stop rollercoaster really of feeling bad, feeling guilty but trying to have a happy holiday time and being exhausted as well. (Lucy)

> When [Rory] was say 5 or 6, he was slightly too big to be having a toddler tantrum and I used to think that people were looking at me thinking "what's she doing, why can't she handle that big child" and I carry him a lot 'cause he's not very strong and so I think that other people think "why is she carrying that huge monster." (Charlotte)[1]

Experiences like these can be traumatizing enough that it becomes a critical barrier to travel. Other parents describe facing stigma in their travels, saying "in the past, [my son] would sometimes yell in public. People might think, 'your child is already older. Why does he still behave like this? Is it because you haven't taught him well?'" [2] Why would one want to go through the effort to go on a trip with their neurodiverse family members if it is spent in a state of marginalization, social exclusion, guilt, and stress? Having an enclave that creates the opposite experience—one of pleasure, excitement, that helps to elevate self-worth and extending social interaction.

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[1] Sedgley, Diane, Annette Pritchard, Nigel Morgan, and Paul Hanna, "Tourism and Autism: Journeys of Mixed Emotions," *Annals of Tourism Research* 66, (2017):14-25, Accessed October 5, 2024.
[2] Zhao, Zhiyue., Da Shi, Xiaoxiao Qi, Yawen Shan, and Xiyi Liu, "Family Travel Among People with Autism: Challenges and Support Needs," *International Journal of Contemporary Hospitality Management* 35, no. 11 (2023), Accessed September 17, 2024.

"Tourism is for all. Without the exclusion of the special need tourists, tourism can be accessible and beneficial to everyone."[3] Travel is important for development, research has shown that travel provides tangible sensory experiences, which helps encourage personal growth and development for everyone, not just for differently abled individuals. Jing Shi, in their Letter to the Editor about family travel and autism spectrum disorder vehemently pushes for families of autistic children to travel. They mention that "bringing Hayden out into the world instilled me with a conviction that individuals with ASD ought to not be confined within the home, as they cannot, for example, absorb social norms while deprived of opportunities to explore the outer world."[4] In interviews that Reetta Ostela conducted about Accessible Tourism and autism, parents emphasized the importance of presenting autistic children with a normal life and experiences that are available to neurotypical individuals. Interviewees reported wanting to have experiences outside of everyday life, creating memories, and doing activities as a family, with one interviewee saying "I want him to feel like he can do the things he wants to…[he] needs to know that everything can be done and can be learned if you want."[5] Experiencing travel as an autistic person pushes the scope of understanding wider and can be enriching.

Unfortunately, families with autistic members and those individuals themselves do not always feel comfortable travelling. Travel constraints—physical, psychological, cognitive, interpersonal, societal, and infrastructural—can be the reasons why someone with autism doesn't

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[3] Fazil, Fauzunnasirah., Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana Tambi, and Hamzah Jusoh, "Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisure or Work," *Akademika* 92, no. 1 (2022): 101-112, Accessed December 10, 2024.
[4] Shi, Jing, "Travel as a Mode of Responding to Autism Spectrum Disorder: One Family's Journey," *Journal of Autism and Developmental Disorders* 53, (2023): 1706-1709, Accessed October 5, 2024.
[5] Ostela, Reetta. "Accessible Tourism Experiences of Families with Autistic Children." Thesis, University of Eastern Finland, 2023. Accessed September 16, 2024.

travel.[6] Sedgley et. Al. go so far as to describe trips for autistic families as "journeys of mixed emotion."[7] Parents reported feeling guilty and feeling like they could never completely relax on these trips. For autistic adults, travel still presents barriers. Mobility is difficult. Pedestrian mobility can be nonexistent in part thanks to urban planning focused on car mobility. Busy streets with poorly marked crossings can be dangerous, environmental settings can be unpredictable. On top of this, not every destination is a walkable distance. When it comes to driving, some autistic individuals choose not to drive, rideshare services can get expensive. Not every city has public transit, and autistic young adults have reported struggles with new public transit systems, from wayfinding to sensory issues to anxiety around unpredictability to safety concerns.[8] On top of this, other constraints make common tourism activities a struggle for neurodiverse individuals.

This capstone project proposes a resort hotel designed to be supportive and adaptive to the needs of the neurodiverse and their families. This resort is not intended to single out people for their differences but rather help foster a seamless travel experience and help reduce external factors causing stress associated with travel for these families.

The aim of this capstone is both to provide universal experiences for families and the neurodiverse, but also to provide a look into policies that can be adapted across hospitality design to work more inclusive, research backed design. This resort will aim to create a standard for universal design practices relating to improving the neurodiverse experience. While this type

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[6] Zhao, Zhiyue., Da Shi, Xiaoxiao Qi, Yawen Shan, and Xiyi Liu, "Family Travel Among People with Autism: Challenges and Support Needs," *International Journal of Contemporary Hospitality Management* 35, no. 11 (2023), Accessed September 17, 2024.
[7] Sedgley, Diane, Annette Pritchard, Nigel Morgan, and Paul Hanna, "Tourism and Autism: Journeys of Mixed Emotions," *Annals of Tourism Research* 66, (2017):14-25, Accessed October 5, 2024.
[8] Kersten, Michelle L., Kristy Coxon, Hoe Lee, and Nathan J. Wilson, "Traversing the Community is Uncertain, Socially Complex and Exhausting: Autistic Youth Describe Experiences of Travelling to Participate in Their Communities," *Journal of Transport & Health* 18, (2020), Accessed December 11, 2024.

of project is applicable to most places, locating it in Maineville, Ohio will provide an opportunity for residents of eight states to be within roughly a four-hour drive from the resort, two nearby international airports, and some of the property's neighbors are a major theme park and other similar tourist attractions.

This hotel would have a variety of room types, on-site dining designed to create private experiences, and spaces for activities and amenities, like play spaces and a spa. In interviews and other research, families and those with autism report feeling stressed on trips, feeling judged on trips, and not having the right resources in standard travel accommodations.[9] One of the major goals of this project is to provide spaces that ease the feeling of judgement and provide an open, welcoming space for relaxation.

[9] Sedgley, Diane, Annette Pritchard, Nigel Morgan, and Paul Hanna, "Tourism and Autism: Journeys of Mixed Emotions," *Annals of Tourism Research* 66, (2017):14-25, Accessed October 5, 2024.; Zhao, Zhiyue., Da Shi, Xiaoxiao Qi, Yawen Shan, and Xiyi Liu, "Family Travel Among People with Autism: Challenges and Support Needs," *International Journal of Contemporary Hospitality Management* 35, no. 11 (2023), Accessed September 17, 2024.; Ostela, Reetta. "Accessible Tourism Experiences of Families with Autistic Children." Thesis, University of Eastern Finland, 2023. Accessed September 16, 2024.; Shi, Jing, "Travel as a Mode of Responding to Autism Spectrum Disorder: One Family's Journey," *Journal of Autism and Developmental Disorders* 53, (2023): 1706-1709, Accessed October 5, 2024.

## Literature Review

### Neurodiversity

People experience the world around them in any number of ways—there is no single, correct way for a brain to function. Neurodiversity honors the idea that there is no one 'right' way of learning and behaving.[10] Neurodiversity references the naturally occurring neurocognitive variation within the human population.[11]

It is hard not to think of diversity as the building blocks of life, and it is advantageous: life evolves as a mechanism to maintain diversity. Evolution creates variabilities in species, ranging anywhere from phenotypic variability to genetic variability.[12] Neurodiversity celebrates many cognitive conditions including Autism Spectrum Disorder, Attention-Deficit/Hyperactivity Disorder, Dyslexia, and Schizophrenia.

### Neurodivergence

Neurodivergent is another term used to describe people with cognitive conditions like these. Neurodivergence is typically described as a group whose "cognitive profile deviates from the norm."[13] Mental capacity and neurological functioning has been a marker of intelligence and personhood—but it has been turned into a marker of who deserves to have agency.[14] The ability to reason has been the definition of being human since early philosophers and has led to hierarchies of capability. Neurodivergence requires a norm to be created and enforced. To

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[10] Baumer, Nicole MD, MEd, and Julia Frueh MD, "What Is Neurodiversity?," Harvard Health Publishing, 2021, Accessed September 15, 2024, https://www.health.harvard.edu/blog/what-is-neurodiversity-202111232645.; Wise, Sonny Jane, *We're All Neurodiverse* (London: Jessica Kingsley Publishers, 2024), 68-72.
[11] Legault, Mylene, Jean-Nicolas Bourdon, and Pierre Poirier, "From Neurodiversity to Neurodivergence: The Role of Epistemic and Cognitive Marginalization," *Synthese* 199, (2021): 112843-12868, Accessed October 5, 2024.
[12] Ibid. Accessed October 5, 2024.
[13] Ibid. Accessed October 5, 2024.
[14] Boys, Jos, "Chapter Three – Disability Studies, Neurodivergence and Architecture," in *Developments in Neuroethics and Bioethics*, ed. Anthony Clarke, Jos Boys, John Gardner (Academic Press, 2022), 39-67.

quantify something as "divergent" there needs to be a standard, often considered "typical." Classifying people as "divergent" or "atypical" encourages biases and power dynamics. Neurodiversity is a term that fosters inclusion—it celebrates diversity and encourages us to consider potential epistemic discrepancies—whereas neurodivergence is a term of exclusion.[15] It is dangerous to use such discriminatory language because "when neurodivergence is assumed a pathology this raises important ethical implications…because of the context of the historical dehumanization, institutionalization and extermination of neurodivergent people (alongside other disabled people)."[16] The act of making a distinction between neurodivergence and neurodiversity allows for the potential to take diversity seriously and adapt traditional ways of thinking, designing, and being towards a point of inclusivity.

While many medically recognized cognitive conditions fall under neurodiversity, much of the research around neurodiversity focuses on autism spectrum disorder. Autism Spectrum Disorder presents itself as social difficulties and behavioral patterns.[17] It has been recognized under many different names, including Asperger's syndrome, Autism, High-functioning Autism, Infantile Autism, and the autism spectrum—but it is currently recognized as autism spectrum disorder, or ASD. The National Institute of Mental Health (NIH) in the U.S. currently recognizes ASD as a neurological and developmental disorder that "affects how people interact with others, communicate, learn, and behave."[18] The Diagnostic and Statistical Manual of Mental Disorders (DSM-V), people with Autism Spectrum Disorder often struggle with communication and

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[15] Legault, Mylene, Jean-Nicolas Bourdon, and Pierre Poirier, "From Neurodiversity to Neurodivergence: The Role of Epistemic and Cognitive Marginalization," *Synthese* 199, (2021): 112843-12868, Accessed October 5, 2024.
[16] Boys, Jos, "Chapter Three – Disability Studies, Neurodivergence and Architecture," in *Developments in Neuroethics and Bioethics*, ed. Anthony Clarke, Jos Boys, John Gardner (Academic Press, 2022), 39-67.
[17] Golt, Joshua, and Rajesh K. Kana, *The Neuroscience of Autism* (Academic Press, 2022), Accessed September 16, 2024.
[18] "Autism Spectrum Disorder," National Institute of Health, NIH, February 2024, Accessed October 20, 2024, https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd.

interaction with others, repetitive behaviors, limited interests, and overall symptoms that affect their ability to function. Autism is a "spectrum" disorder—meaning that there is a wide range of symptoms that affect people, as well as a wide range of the severity of those symptoms.[19] ASD is diagnosed through a behavioral evaluation, often in childhood and adolescence, and can even be reliably diagnosed by age 2. For young children, pediatric care providers do a general screening for autism as part of their well visits. It is also possible to receive diagnosis as an adult, but autism is difficult to diagnose in adults because the symptoms overlap with symptoms of other mental health disorders. Treatments exist to help mitigate and minimize different symptoms of ASD. Medication can help treat repetitive behaviors, hyperactivity, anxiety, depression, etc. and behavioral, psychological, or educational interventions with providers can help improve communication skills and increase strengths.[20] It is important to note that treatment varies by person and its goal is not to "cure" patients of autism, rather improve quality of life for those with ASD.

**Inclusive Language**

When discussing autism spectrum disorder, there is a seriousness to inclusive language to avoid bias—especially around the notion of "high-functioning" and "low-functioning" when discussing those with Autism. Author of *NeuroTribes*, a book that examines the History of Autism, Steve Silberman, while being interviewed by National Public Radio (NPR), said:

> I personally avoid using terms like high-functioning and low functioning, which are—they're used almost universally. But the reason I avoid it is because I've talked to a lot of autistic people over the years. And I have autistic friends by now after working on this book for five years. And what they've told me, which I earnestly believe is true, is that

[19] "Autism Spectrum Disorder," National Institute of Health, NIH, February 2024, Accessed October 20, 2024, https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd.
[20] Ibid. Accessed October 20, 2024.

> people who are classified as high-functioning are often struggling in ways that are not obvious, whereas science has shown that people who are classified as low functioning often have talents and skills that are not obvious. So, both of those terms can be off-base in a certain way.[21]

Silberman's experiences with autistic people throughout his writing process highlighted a need for inclusive language. This need doesn't just apply to high/low functioning, but to many terms used historically to discuss autistic people. This also should apply when speaking about autism historically—there is a deep history entrenched in biases, hatred, ableism, and the demonization of those with disability. Terms are used to discuss autism historically that are considered slurs and language rife with hatred in the 21st century. Any use of these terms within academic research and citation is due to the context the research was conducted within. The history of autism delves into very serious and sensitive topics, and not all research studies were done with the best interests of the participants at heart. Silberman, when responding to discourse about his book and the divisive reputation of his main research focus—Dr. Hans Asperger—brought up an important point, writing:

> it would be unfortunate if [these] revelations are used to discredit the work of Asperger and his colleagues Georg Frankl and Anni Weiss. As filmmaker Saskia Baron points out in her review of [Silberman's book] in *The Guardian,* 'Whether Asperger was a saint or a sinner should not dominate the discourse around autism.' What matters is focusing on the availability of services and support for autistic people and their families—a population that has been drastically underestimated in history.[22]

Not all history is positive—in fact, most history is controversial, tragic, and hard to swallow for any number of groups of people. However true that may be, it is still important to study this history. It is impossible to learn from history if that history is never engaged with.

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[21] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41. Accessed October 11, 2024.
[22] Silberman, Steve, "Was Dr. Asperger A Nazi? The Question Still Haunts Autism," NPR, January 20, 2016, Accessed 14 October 2024, https://www.npr.org/sections/health-shots/2016/01/20/463603652/was-dr-asperger-a-nazi-the-question-still-haunts-autism.

**The History of Autism**

The history of autism spectrum disorder has been reported from many different perspectives at different times. Some focus on the history of autism spectrum disorder within specific countries, others internationally. There are also new discoveries within the history of Autism throughout its history. Research has been lost, and new information about individuals important to the "discovery" of ASD has come to light in recent years. It is safe to say that the history of autism as it is understood today will be forever evolving as time continues.

**Beginnings – Bleuler, Asperger, and the Nazi's**

In 1910/11, German psychiatrist Eugen Bleuler used the term autism to describe a symptom of certain, severe cases of schizophrenia. His definition of autism in this situation was a symptom that was characterized by infants avoiding reality and replacing reality with fantasies and hallucinations—describing the inaccessible "inner life" of the subjects.[23] Bleuler's use of the word autism has been attributed back to Freud, through the term 'autoerotism', which Freud used to describe a type of hallucinatory thinking that combined with self-soothing during a stage of developmental thinking for infants that preceded the infant's ability to engage with external reality.[24] Bleuler thought that this form of physiological hallucination was pathological to Schizophrenia, but that the notion of this disconnect from reality was present in all humans. At the same time, in Vienna, Austria, Erwin Lazar, a psychiatrist, established the Heilpädagogische Station, which was a therapeutic research clinic at Vienna University Children's Clinic.[25] This

[23] Evans, Bonnie, "How Autism Became Autism: The Radical Transformation of a Central Concept of Child Development in Britain," *Hist Human Sci* 26, no. 3 (2013): 3-31, Accessed October 7, 2024.; Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 553.
[24] Evans, Bonnie, "How Autism Became Autism: The Radical Transformation of a Central Concept of Child Development in Britain," *Hist Human Sci* 26, no. 3 (2013): 3-31, Accessed October 7, 2024.
[25] Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.

was a direct descendant of previous psychiatric studies. Clemens von Pirquet was the director of this clinic. Lazar's goal was supposedly to create an environment where the children attending it could learn to interact in an environment of respect.[26] In the 1930s, this clinic saw children who didn't speak and were thought to be unable to live independently. The approach to diagnoses within this clinic was based on observation of individual subjects—children would come in and be observed by the clinicians as they went about their daily life.[27]

Those doing the observation included Hans Asperger and his colleague Georg Frankl, who acted as recording technicians. Hans Asperger, a physician, joined the clinic in 1931 under Franz Hamburger, the new director after the death of Pirquet.[28] Asperger was not a specialist doctor (unlike his colleague Georg Frankl, who many recently call into question his distinct lack of promotion in this scenario), but got chosen to work at this clinic. Hamburger had a focus on a possible affective disorder in children at a biological level.[29] Hamburger had strong sympathies with the Nazi Party, and as Hamburger took over, most of the employees were replaced because they were Jewish (It is important to note that in 1945, all but one employee were dismissed for belonging to the Nazi Party).[30] Asperger was hired as a result of the Jewish employees' dismissal.

In the span of a decade, Asperger and his staff examined more than 200 children, as well as some teens and adults who exhibited a similar cluster of behaviors.[31] Some of these behaviors

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[26] Silberman, Steve, *NeuroTribes* (New York: Penguin Random House LLC, 2015), 85-87.
[27] Ibid, 85-87.
[28] Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.; Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36: 41. Accessed October 11, 2024.
[29] Adam Feinstein, *A History of Autism: Conversations with the Pioneers* (Chichester, West Sussex: Wiley-Blackwell, 2010), 15.
[30] Adam Feinstein, *A History of Autism: Conversations with the Pioneers* (Chichester, West Sussex: Wiley-Blackwell, 2010), 15.; Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.
[31] Silberman, Steve, *NeuroTribes* (New York: Penguin Random House LLC, 2015), 93.

included social awkwardness, repetitive movements, etc. As Silberman put it, "these children were bundles of paradoxes: precocious and childish, sophisticated and naïve, clumsy but formal, standoffish but lonely, attuned to the music of language but insensitive to the rhythm of reciprocal interaction."[32] This work led the clinic to draw parallels between the behavior they were seeing, Bleuler's autistic thinking, and Schizophrenia. These observations would be published by Asperger—what defines his findings is that Asperger believed autism was a lifelong condition, present from birth, and has a wide span of clinical presentations.

In 1938, the Nazi's invaded Austria. This would bring drastic changes to Heilpädagogische Station. Franz Hamburger was the clinic director at the time, and he was known to have strong sympathies with the Nazi party Most of the clinic employees were replaced because they were Jewish. The clinic remained independent from the obvious control of the Nazi Party, however—in 1945, all but one employee were dismissed for belonging to the Nazi Party.[33] People working at the clinic fled, other committed suicide.[34] In his interview with NPR, Silberman describes the effects the invasion had upon the clinic:

> Children in Asperger's clinic immediately became targets of the Nazi eugenic programs…in fact, one of Asperger's former colleagues was actually the leader of a secret extermination program against disabled children that became the dry run for the Holocaust. So the Nazis actually developed methods of mass killing by practicing on disabled children and children with hereditary conditions like autism—even though it didn't have a name yet—epilepsy, schizophrenia.[35]

There was a young doctor in the clinic, Erwin Jekelius, who would later become the director of a rehab center, the Spiegelgrund, that became the center for collecting and euthanizing disabled

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[32] Silberman, Steve, *NeuroTribes* (New York: Penguin Random House LLC, 2015), 94.
[33] Adam Feinstein, *A History of Autism: Conversations with the Pioneers* (Chichester, West Sussex: Wiley-Blackwell, 2010), 16.; Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.
[34] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, Accessed October 11, 2024.
[35] Ibid. Accessed October 11, 2024.

children. More than 200,000 disabled were murdered during these Nazi euthanasia programs.[36] Jekelius was even the fiancé of Hitler's younger sister.[37] During the war, Asperger's clinic was bombed—the University of Vienna was a Nazi target because it was an intellectual center for Jews.[38] The German government was even "pumping out streams of propaganda that framed disabled people in general—both children and adults—as burdens on society."[39] Disabled individuals were demonized for "corrupting" the human gene pool.

The Nazi invasion of Austria also brings to light where scholars most often find themselves at heads while conducting research on the history of Autism. Silberman, Wing, Asperger's daughter, and many scholars argue that Asperger worked to protect the children in his clinic throughout the war. They believe that he was unaffiliated with the Nazi party, so much so that the Gestapo (Nazi police tasked with eradicating Jews and capturing defectors, sympathizers etc.) even attempted to arrest Asperger twice.[40] Asperger gave a public talk in 1938 to an audience of Nazis—this talk is often pointed to as an example of his defense of the children within the clinic. During this talk he preached that "not everything that steps out of line or is unusual is inferior."[41] He is often described as calling his patients his "little professors" and describes the boys in his clinic during this talk as having strong intelligence.[42] He borrows from

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[36] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, Accessed October 11, 2024.; Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.
[37] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 340.
[38] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, Accessed October 11, 2024.
[39] Ibid. Accessed October 11, 2024.
[40] Silberman, Steve, *NeuroTribes* (New York: Penguin Random House LLC, 2015), 138.
[41] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, Accessed October 11, 2024.
[42] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 336, 554; Silberman, Steve, *NeuroTribes* (New York: Penguin Random House LLC, 2015), 105.

Bleuler's use of autistic to describe patients as having "autistic psychopathy".[43] This characterization of Asperger argues that he was in danger because of the Nazi regime and knew his clinic was in danger. With this talk, he was supposedly marketing the benefits of his clinic. Historians have analyzed this as Asperger doing what he needed to do to keep his clinic running and proceed with his research.

A more recent characterization of Asperger, however, paints him in a much different way. Autism historian Herwig Czech argues that Asperger's career was made possible because of his concessions to the Nazi ideology and collaboration with the Nazi's race hygiene operations. In his youth, Asperger spent his formative years as a member of Bund Neuland, a Catholic youth organization that was focused on outdoor activities. Bund Neuland had roots in the predominately völkisch-nationalist Wandervogel and the German Youth Movement.[44] Most chapters had no Jewish members because of formal anti-Jewish regulations, and it was known to be anti-Marxist-leftist, liberal, or modern and the organization published a number of articles that supported anti-Jewish persecutions. Within this group, Asperger belonged to a right-wing faction of the group that was called the Fahrende Scholaren (Wandering Scholars). The Fahrende Scholaren was in support of völkisch-nationalism.[45] Czech does note in his investigation that while Asperger self-reported several memberships in organizations affiliated with the Nazi Party, he refrained from joining the NSDAP (Nazi Party) itself. After the Anschluss in 1938, Czech argues that Asperger's reputation as being opposed to the regime is fabricated and held together by assumptions by other historians and scholars. One of these assumptions was made in 1993,

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[43] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 554.
[44] Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.
[45] Ibid. Accessed October 12, 2024.

Lorna Wing argued that because Asperger was a devout Catholic, Asperger could not have been a Nazi. There is also an established "fact" that the gestapo came to arrest Asperger for refusing to hand over patients to the Nazi's—a fact that the only source backing it is claims by Asperger himself.[46] During his 1938 talk, Asperger used language that was startingly pro-Nazi, calling his patients "autistic psychopaths."[47] He focused on the boys that possessed "social worth", and paraded around the boys who were considered to be "high-functioning."[48] In addition, Asperger is documented to personally refer a number of children to Jekelius's Spiegelgrund, the Nazi euthanasia facility for disabled people.[49] Patients at the Spiegelgrund that were chosen for death were poisoned by phenobarbital, which caused the lungs to malfunction. The cause of death was then listed as pneumonia. Asperger has been found to have recommended at least 26 boys and 9 girls who he considered to be not "educable" to be sent to the Spiegelgrund, "dispatched for Jekelius Action."[50] This investigation by Czech breaks apart the argument that Asperger was stuck in the middle of the Nazi regime, trying to protect his patients. After the war ended, Germans and Austrians acquired certificates called Persilschein, or "persil certificate", which declared that they had been threatened by Nazis, and that instead they were good people.[51] Asperger's past could have been whitewashed or embellished to pass this vetting process and receive a Persilschein after the end of the war.

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[46] Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.
[47] Donovan, John and Caren Zucker, "The Doctor and the Nazis," Tablet, January 19, 2016, Accessed 14 October 2024, https://www.tabletmag.com/sections/community/articles/the-doctor-and-the-nazis.
[48] Ibid. Accessed 14 October 2024.
[49] Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.; Donovan, John and Caren Zucker, "The Doctor and the Nazis," Tablet, January 19, 2016, Accessed 14 October 2024, https://www.tabletmag.com/sections/community/articles/the-doctor-and-the-nazis.
[50] Donovan, John and Caren Zucker, "The Doctor and the Nazis," Tablet, January 19, 2016, Accessed 14 October 2024, https://www.tabletmag.com/sections/community/articles/the-doctor-and-the-nazis.
[51] Ibid. Accessed 14 October 2024.

In the wake of the war, Asperger published his thesis, a comprehensive study about autistic psychosis. He described patterns of behavior in his patients that displayed lack of empathy, poor social skills, intense special interests, and awkward movement. This characterization linked autism with hallucinations and fantasy in infants—a belief that carried through the 1950s, not just in Germany, but beyond.

**Leo Kanner, Kanner's Syndrome, and Refrigerator Parents**

At the same time, some of Asperger's colleagues, including Georg Frankl, fled to the US, with the help of child psychiatrist Dr. Leo Kanner. Kanner got Frankl a position at his clinic at Johns Hopkins.[52] Kanner himself was the head of the department of child psychiatry at Johns Hopkins—one of the first departments in the field in the U.S., and is often also credited with the "discovery" of autism.[53] Kanner himself was one of the top child psychiatrists in the United States throughout the 1930s. Dr. Leo Kanner, originally a U.S. immigrant, was part of a group of young MDs who learnt specialty practices by teaching themselves—Kanner specifically taught himself psychology. He disagreed with many of the standard practices in the field, and upon establishment of his own clinic, he became the field's "most prominent figure."[54] Stories of Kanner releasing mental patients from straightjackets, saving young girls from sexual abuse, and practicing progressive views—for 1938—on race, by not segregating his medical facilities. He is still not a perfect figure, for many of these beliefs he held, he held privately—afraid of ruffling

[52] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41. Accessed October 11, 2024.
[53] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41. Accessed October 11, 2024.; Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 25.; Evans, Bonnie, "How Autism Became Autism: The Radical Transformation of a Central Concept of Child Development in Britain," *Hist Human Sci* 26, no. 3 (2013): 3-31, Accessed October 7, 2024.
[54] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 28.

feathers within the ranks of society. Dr. Kanner is also credited for the "discovery" of autism. From 1938, when he first interacted with Donald Triplett, his "patient one", Kanner researched behaviors he considered "autistic disturbances"—titling his research "Autistic Disturbances of Affective Contact."[55] Kanner released a research study into these behaviors, and he began tracking different children he believed to exhibit similar behaviors and therefore have a similar condition to Triplett. Kanner would later change his verbiage to describe the condition as infantile autism, which meant that the autism was present in early childhood.

Kanner acknowledged that he didn't discover autism—it was present before he "discovered" it—he even borrowed the symptoms from other conditions, including schizophrenia. In the 1940s, schizophrenia was a label for a mental illness that was hallmarked by hallucinations, breaks with reality, and disordered thinking.[56] Kanner published a 1943 study describing eleven clinical cases of which he gave a diagnosis of autism.[57] Autism had been discussed as early as Bleuler, and Kanner's definition of autism was pulled from Bleuler's versions of schizophrenia and autism. Bleuler's definition of autistic thinking was observed in adults, but Kanner's "new" condition was schizophrenia/autism signs within infants and young children. Between his test subjects, the commonality Kanner noticed was that they all had a "extreme preference for aloneness and the extreme need for sameness."[58] Kanner's definition of autism framed autism incredibly narrowly—in part because it was based on just a few patients. What became known as Kanner's syndrome was an incredibly rare diagnosis, it was very strictly

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[55] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 39.
[56] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 40.; Jablensky, Assen, "The Diagnostic Concept of Schizophrenia: its History, Evolution, and Future Prospects," *Dialogues in Clinical Neuroscience* 12, no. 3 (2010): 271-287, Accessed December 10, 2024.
[57] Parisi, Antonio, "Autism, 75 Years of History: From Psychoanalysis to Neurobiology," *AIMS Molecular Science* 6, no. 1 (2019): 20-26, Accessed October 7, 2024.
[58] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 41.

defined as a type of psychosis displayed in early childhood.[59] Kanner's model was so narrow that he proudly bragged about turning away families and children who came to get a diagnosis—and it was narrow on purpose—to be able to define his syndrome as a new, unique syndrome; it had to have a distinction from other previously existing diagnoses. By the 1960s, Kanner's syndrome/infantile autism had gained enough recognition that hundreds of children who shared the same behaviors. The number of diagnoses had increased, but no one had scientifically explored autism's nature, because Kanner's syndrome was considered too rare still. So those looking for an explanation for the cause of infantile autism and an explanation as to why some kids had it and others didn't came to an unscientific conclusion— "autism was caused by mother's not loving their children enough."[60] Bad parenting was considered the cause—villainizing mothers for so-called "deficient" mothering.[61] Mothers (and all parents) were guilted for being ambitious, for getting college degrees.[62] Mother of patients would meet in groups and try to figure out their own wrongdoings that may have caused their children to develop Kanner's Syndrome. The term "refrigerator mother" became used—even by *Time Magazine*—as a slur to blame these mothers for their children's autism.[63] This narrative of icy parenting would define autism diagnoses for the next two decades.

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[59] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41. Accessed October 11, 2024.; Evans, Bonnie, "How Autism Became Autism: The Radical Transformation of a Central Concept of Child Development in Britain," *Hist Human Sci* 26, no. 3 (2013): 3-31, Accessed October 7, 2024.
[60] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 74.
[61] Parisi, Antonio, "Autism, 75 Years of History: From Psychoanalysis to Neurobiology," *AIMS Molecular Science* 6, no. 1 (2019): 20-26, Accessed October 7, 2024.
[62] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41. Accessed October 11, 2024.
[63] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 41.

Kanner wasn't the first person to back this narrative, but he was one of the most influential voices to support it. In a 1949 paper, Kanner accused the parents of being detached, almost mechanical, in the care of their children. This blame on parents was a shift from Kanner's original diagnosis in 1943—that autism was evident from the very beginning of life, and so it shouldn't be attributed to parental relations.[64] It was never explained why Kanner decided to switch to the "refrigerator parent" belief, but what is true is that before he did, he was the only one diagnosing people with Autism until his description of "refrigerator mothers" took off in the media. One of his assistants described Kanner's autism "becoming more fashionable" as the media took off running.[65] As the decade ended, this was the understanding that would shape autism research for years to come.

**Research and Advocacy**

From the late 1950s to the 1960s, researchers continued to conduct research and experiments with the aim of both quantifying what an autism diagnosis entailed and trying to treat autism. Much of the research of the decade was aimed at creating a baseline understanding of the cause of autism, the behaviors associated with autism, and the prevalence of autism. Experiments with LSD (Lysergic acid diethylamide, a powerful psychedelic drug) were done on patients to facilitate speech, psychiatrists like Mildred Creak attempted to establish criteria that clustered "autistic traits", and psychologists like O. Ivar Lovaas used electric shocks as part of his research into Applied Behavior Analysis (ABA).[66] Lovaas in particular popularized ABA principles and research throughout the 1960s and 1970s. He would isolate patients from their

[64] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 90.
[65] Ibid, 91.
[66] Ibid, 554-555.

families and utilize aversive measures to train and control behavior in autistic individuals.[67] It is around this same time that exposés start to reveal the poor quality of treatment for those with mental and intellectual differences within institutions, research studies, and schools.

At the same time, autism advocacy groups were beginning to form—The National Autistic Society forms in Britain in 1962, the National Society for Autistic Children forms in the United States in 1965, and programs such as Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) were created.[68] TEACCH became one of the most widespread educational programs for children with autism and focused on creating an environment for the needs of individual students. As the 1960s turned into the 1970s, education measures, like the 1975 Federal Education for All Handicapped Children Act (later renamed to the Individuals with Disabilities Education Act) were passed to start guaranteeing education for all.

In 1970, Lorna Wing, a cognitive psychiatrist who herself had a daughter with autism, published a book aimed at parents caring for children with autism.[69] She would later go on to publish data arguing that autism should be considered a "spectrum."[70] In 1981, Wing published a paper titled "Asperger's Syndrome: A Clinical Account", which was one of the first introductions of Asperger's work to the English-speaking, western world.[71] Wing herself had found a reference to Asperger's prior papers as she was searching for research that may reveal answers to questions

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[67] Suppo, Jennifer L., "The History of Behavioral Treatments in Autism: From the Punitive to the Positive," *Journal of the American Academy of Special Education Professionals,* Spr-Sum (2017), Accessed October 7, 2024.
[68] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 555-556.
[69] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41. Accessed October 11, 2024.
[70] Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 556-557.
[71] Ibid, 558.

she had, it had gone previously uncited by Kanner. Her paper's popularized the term "Asperger's Syndrome" as a form of autism diagnosis.[72]

**The Autism Epidemic**

At the tail-end of the 1980s, there was what has been described as an epidemic of Autism. When Lorna Wing rediscovered Asperger's work and developed it within her own psychological studies, her findings gave results that allowed her to broaden the scope of diagnosis within the DSM (the Diagnostic and Statistical Manual that the psychiatric profession uses to officially list the diagnoses and what their symptoms are) of autism from Kanner's original criteria to Asperger's criteria.[73] Kanner's criteria was very specific—he had a very narrow model of what qualified someone to be considered to have autism, most of which included very intense childhood psychosis. Asperger's criteria included many more behavioral traits that pushed the scope of the diagnosis to include many more patients.[74] Almost immediately, the number of diagnoses rose—an outcome that Wing was aiming for, because it increased the number of families that would now have access to services that an official diagnosis was necessary to gain access.[75] When this happened though,

> no one really explained to parents exactly what had happened—that the diagnosis had been completely rewritten—that, you know, autism by the end of the 1980s and the early 1990s was not your grandfather's autism, you could say. It was much more broadly defined because no one ever explained to the lay public what had happened with the diagnosis. When the numbers started going up, parents very understandably became very

[72] Czech, Herwig, "Hans Asperger, National Socialism, and "race hygiene" in Nazi Era Vienna," *Molecular Autism* 9, no. 29 (2018), Accessed October 12, 2024.
[73] Silberman, Steve, *NeuroTribes* (New York: Penguin Random House LLC, 2015), 388-393.
[74] Evans, Bonnie, "How Autism Became Autism: The Radical Transformation of a Central Concept of Child Development in Britain," *Hist Human Sci* 26, no. 3 (2013): 3-31, Accessed October 7, 2024.; Silberman, Steve, *NeuroTribes* (New York: Penguin Random House LLC, 2015), 396.; Donovan, John and Caren Zucker, *In A Different Key: The Story of Autism* (New York: Penguin Random House LLC, 2016), 558.
[75] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, Accessed October 11, 2024.

> alarmed. And the media was sort of blindsided by the sudden spike in diagnoses. And you know, no one thought to interview Lorna Wing about, you know, the diagnostic criteria, because at that point, autism was still considered very rare. But we would soon discover that in fact, it was very common, as Asperger knew.[76]

At the same time, in popular culture, a film called *Rain Man*, directed by Barry Levinson, was released. It became the highest-grossing film of 1988 and was nominated for eight Academy Awards, winning four.[77] The film was the first autistic adult most people had ever seen representation of—Dustin Hoffman's character Raymond Babbitt. Families with autistic people in them now had representation they could reference to explain autism. The general public now had a grasp on what an autism diagnosis meant.

This big convergence was occurring in the world of autism—diagnoses were increasing, support movements were formed, and people were finally starting to understand what autism was and what it meant for their families. At this convergence, a (now former) gastroenterologist, Andrew Wakefield published a paper in *The Lancet*, a weekly peer-review general medical journal, titled 'Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children."[78] This paper falsely argued that there was a causative relationship between the measles, mumps, and rubella (MMR) vaccine and colitis, and another link between colitis and autism.[79] This study has since been retracted—it was found to be flawed

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[76] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, Accessed October 11, 2024.
[77] "Experience over Nine Decades of the Oscars from 1927 to 2024: The 61st Academy Awards | 1989," Oscars, Academy of Motion Picture Arts and Sciences, 2024, Accessed October 24, 2024, https://www.oscars.org/oscars/ceremonies/1989.
[78] Wakefield, A J., et. Al., "Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children," *The Lancet* 351, (1998) Accessed October 24, 2024.
[79] Wakefield, A J., et. Al., "Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children," *The Lancet* 351, (1998) Accessed October 24, 2024.; "Vaccines and Autism," Children's Hospital of Philadelphia, Accessed October 24, 2024, https://www.chop.edu/vaccine-education-center/vaccine-safety/vaccines-and-other-conditions/autism.; Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, Accessed October 11, 2024.

for a few different reasons. At the time of the study, 90% of children in England were receiving the MMR vaccine. The MMR vaccine is administered at a similar age to when autism symptoms become diagnosable in children. Incidents of autism in children should have been studied in both vaccinated and unvaccinated children to be able to reach a conclusion like the one the study reached. In addition, Wakefield's study claimed that autism was a consequence of intestinal inflammation, however they only observed these symptoms in patients who had already been diagnosed with autism, rather than before they were diagnosed.[80] Retracting this study meant that it is not part of the scientific record—it was deemed to be based on misrepresented data. IN the year 2000, Wakefield published a second paper claiming that there is a correlation between the presence of measles virus in children with autism and autism itself. This study is also critically flawed.[81] The publication of these papers is considered "perhaps, the most damaging medical hoax of the 20th Century."[82] British Tabloids and American media latched onto these studies and contributed to vaccine fearmongering.[83] In England, vaccination rates dropped and there was a resurgence of measles in the UK. In the US, these studies caused lingering questions about vaccine safety.[84] In the wake of all of this, it is easy to question why parents believed the tabloids after other scientific studies disproved Wakefield's studies, but there are a few pinpointed reasons that help with understanding the spreading fear. As previously mentioned, Autism doesn't become obviously diagnosable until a child is roughly two or three—right around when many children are receiving many of their crucial vaccinations. The internet was relatively new—and

[80] "Vaccines and Autism," Children's Hospital of Philadelphia, Accessed October 24, 2024, https://www.chop.edu/vaccine-education-center/vaccine-safety/vaccines-and-other-conditions/autism.
[81] Ibid. Accessed October 24, 2024.
[82] Flaherty, Dennis K, "The Vaccine-Autism Connection: A Public Health Crisis Caused by Unethical Medical Practices and Fraudulent Science," *Annals of Pharmacotherapy* 45, no. 10 (2011), Accessed October 24, 2024.
[83] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41. Accessed October 11, 2024.
[84] Flaherty, Dennis K, "The Vaccine-Autism Connection: A Public Health Crisis Caused by Unethical Medical Practices and Fraudulent Science," *Annals of Pharmacotherapy* 45, no. 10 (2011), Accessed October 24, 2024.

the autism community had formed online groups that the theory that vaccines cause autism began rapidly spreading as parents of autistic children could now communicate online. Anti-vaxxers are often assumed to be uninformed, but at the time, the people who believed this study were often those who were highly informed—but no one had taken the time to inform them that the diagnoses criteria had changed, and that Wakefield's study had been redacted.[85] Despite evidence of the safety of the MMR vaccine, vaccine-autism theories were perpetuated by media for higher circulation and ratings.[86] With the information people had at the time, it is understandable that this fear could spread rapidly.

Alongside Wakefield's studies being retracted, Wakefield also was investigated for misconduct. The British General Medical Council found Wakefield guilty of "failure to disclose conflicts of interest."[87] Wakefield stood to make money from a patent for a new vaccine aimed at the elimination of measles—he was involved in a company that would organize the production and sales of this vaccine. Wakefield also was guilty of medical and ethical misconduct for failure to get his studies approved by a bioethics committee, and he had even altered facts about the medical history of patients within his study.[88] It is clear to us today that the "link" between autism and vaccines has been thoroughly discredited, but, unfortunately, in the 1990s, it had a serious effect on how autism was viewed publicly.

As this "autism epidemic" took off, the autism awareness movement had also just started to gain traction. The goals of this movement range from education about living with autism, working within communities to demand and develop services for autism, to funding research for

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[85] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41,
[86] Flaherty, Dennis K, "The Vaccine-Autism Connection: A Public Health Crisis Caused by Unethical Medical Practices and Fraudulent Science," *Annals of Pharmacotherapy* 45, no. 10 (2011), Accessed October 24, 2024.
[87] Ibid. Accessed October 24, 2024.
[88] Ibid. Accessed October 24, 2024.

autism.[89] Even though the media at the time was focused on the "epidemic" scandal, this movement was still working away trying to build a better world for autistic children and their families. Ruth Christ Sullivan helped found the Autism Parent's Movement. The daughter of feminists and civil rights activists, Sullivan helped launch this movement to lighten the stigma of an autism diagnosis. The work Sullivan and other activists did help provide changes in laws, including providing autistic kids with access to education.[90]

It is now understood that autism has a strong genetic and neurodevelopmental component.[91] Science supports autism being intrinsically linked to development, and it is callous to throw around accusations of autism being an "epidemic". Gernsbacher, Dawson, and Goldsmith put it best in their 2005 journal article:

> Epidemics solicit causes; false epidemics solicit false causes. Google *autism* and *epidemic* to witness the range of suspected causes of the mythical autism epidemic. Epidemics also connote danger. What message do we send autistic children and adults when we call their increasing number an epidemic? A pandemic? A scourge? Realizing that the increasing prevalence rates are most likely due to noncatastrophic mechanisms, such as purposely broader diagnostic criteria and greater public awareness, should not, however, diminish societal responsibility to support the increasing numbers of individuals being diagnosed with autism. Neither should enthusiasm for scientific inquiry into the variety and extent of human behavioral, neuroanatomical, and genotypic diversity in our population be dampened.[92]

Out of the epidemic accusations, however, grew advocacy initiatives. Programs were established to create a community—both a functional community and one established through common interest. Within the communities, programs were established to provide space for connection.

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[89] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, Accessed October 11, 2024.
[90] Ibid. Accessed October 11, 2024.
[91] Matson, Johnny L., and Alison M. Kozlowski, "The Increasing Prevalence of Autism Spectrum Disorders," *Research in Autism Spectrum Disorders* 5, no. 1 (2011), Accessed October 24, 2024.
[92] Gernsbacher, Morton Ann, Michelle Dawson, and H. Hill Goldsmith, "Three Reasons Not to Believe in an Autism Epidemic," *Current Directions in Psychological Science* 14, no. 2 (2005), Accessed October 25, 2024.

Autreat and Autscape were two of the most prominent community building programs for autistic individuals. Autreat was the largest autistic-run organization to have consistent gatherings for autistic people.[93] Autreat and Autscape held these gatherings that featured modifications like low-stimulation rooms, available sensory objects for stimming, balance between activities and rest, and providing outdoor space to better accommodate autistic individuals.[94] Visual cues were provided to indicate desired interaction levels and set social rules let all individuals feel comfortable. Community members even noted that "Autreat is a place where we are among our own, with all our differences" and there was a "aura of acceptance about [Autreat]."[95] Programs like these were effective because the establish "the idea that autistic people within a group of other autistic people can feel normal because they create their own norms. They don't have to conform to the lighting or to the sounds or the demands of the quote 'normal world'."[96] Autistic people were free to be authentically themselves in an accepting and welcoming community.

**Autism Today**

As of 2017, an estimated 5,347,988 adults in the United States are living with autism spectrum disorder.[97] In 2018, autism spectrum disorder was the fastest growing developmental

[93] Owren, Thomas. "Autreat and Autscape: Informing and Challenging the Neurotypical Will and Ability to Include." 2013. Accessed December 10, 2024.
[94] Ibid. Accessed December 10, 2024.
[95] Ibid. Accessed December 10, 2024.
[96] Gross, Terry, Dave Davies, and Steve Silberman. "'NeuroTribes' Examines The History—And Myths—Of The Autism Spectrum." September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41. Accessed October 11, 2024.
[97] "Key Findings: Estimated Number of Adults Living with Autism Spectrum Disorder in the United States, 2017," U.S. Centers for Disease Control and Prevention, Accessed October 25, 2024, https://www.cdc.gov/autism/publications/adults-living-with-autism-spectrum-disorder.html?CDC_AAref_Valhttps://www.cdc.gov/ncbddd/autism/features/adults-living-with-autism-spectrum-disorder.html.

disorder, which amounts to one child in fifty-nine.[98] Recently, one of the highest debated topics surrounding autism is the prevalence of diagnoses. According to a journal article by Johnny Matson, "There is no doubt that the number of people diagnosed with the disorder has been rising at a very rapid rate."[99] Parent groups still try to argue against the scientific community—the MMR vaccine debate has not gone anywhere. Potential factors that have merit, however, don't include vaccines. One of the most common factors cited is the changing diagnostic criteria—criteria for an autism diagnosis have been updated periodically since the changes initiated by Lorna Wing. There have been many publications of the DSM (Diagnostic and Statistical Manual of Mental Disorders) since that third edition, which was published in 1980.[100] Another factor being considered is awareness—ASD has had more representation in popular media in recent years, and people are becoming more and more aware as time passes about ASD.[101] In fact, studies have been done investigating correlations between autistic characters in popular media and young adults self-diagnosing themselves. An initial study conducted in 2023 showed that there is a small role in exposure to autistic characters having an influence on self-diagnosis rates.[102] Research and monitoring continues to be conducted by groups like the Center

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[98] Dinakaran, Janani M.D., Jayendra Arya MBBS MD, Niharika Prasad, and Sakshi Jain MBBS, MD, "Parental Understanding of and Support for Neurodivergent Conditions," *Journal of Cardiovascular Disease Research* 14, no. 07 (2023), Accessed September 15, 2024.

[99] Matson, Johnny L., and Alison M. Kozlowski, "The Increasing Prevalence of Autism Spectrum Disorders," *Research in Autism Spectrum Disorders* 5, no. 1 (2011), Accessed October 24, 2024.

[100] Matson, Johnny L., and Alison M. Kozlowski, "The Increasing Prevalence of Autism Spectrum Disorders," *Research in Autism Spectrum Disorders* 5, no. 1 (2011), Accessed October 24, 2024.; Gernsbacher, Morton Ann, Michelle Dawson, and H. Hill Goldsmith, "Three Reasons Not to Believe in an Autism Epidemic," *Current Directions in Psychological Science* 14, no. 2 (2005), Accessed October 25, 2024.

[101] Matson, Johnny L., and Alison M. Kozlowski, "The Increasing Prevalence of Autism Spectrum Disorders," *Research in Autism Spectrum Disorders* 5, no. 1 (2011), Accessed October 24, 2024.

[102] Mittmann, Gloria, Beate Schrank, and Verena Steiner-Hofbauer, "TV Series in Mainstream Media Depicting Autism and Self-Diagnosis of Autism in a General Population of Young Adults," *Journal of Autism and Developmental Disorders,* (2023), Accessed October 25, 2024.

for Disease Control's Autism and Developmental Disabilities Monitoring (ADDM) network.[103] Research networks like the ADDM exist to continue expanding data and knowledge on conditions like autism and to improve diagnostic tests.

**Supporting the Community**

Advocacy and support can take many forms, but one of the most crucial forms of support is parental involvement and understanding to ensure neurodiverse children thrive. Parents have a role as advocates for their children—and societies have a responsibility to care for all their members. Ensuring that neurodiverse children receive appropriate resources and accommodations that provide support is crucial to development and equity. Historically, how autistic individuals were treated can be considered an epistemic injustice. Epistemic injustices are situations where those who do not belong to the dominant social group are denied/not offered access to shared resources.[104] For autism and other neurodivergent conditions,

> discourse surrounding neurodivergent individuals tends to steer into discussions of their ability (or lack thereof) to access epistemic resources. Although far from being an illegitimate question, it seems to outweigh the question of resource accessibility and system discrimination. The question is often "are they capable of accessing resources?" rather than "are the resources accessible?".[105]

Creating systems of equity starts with advocacy. Autistic Self Advocacy Network provides resources for autistic individuals and has content for neurotypical individuals to further their understanding of how autism can affect functioning.[106] On their website they have a statement:

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[103] "Autism and Developmental Disabilities Monitoring (ADDM) Network," May 16, 2024, Accessed December 10, 2024, https://www.cdc.gov/autism/addm-network/?CDC_AAref_Val=https://wwwcdc.gov/ncbddd/autism/addm.html.
[104] Dinakaran, Janai M.D., Jayendra Arya MBBS MD, Niharika Prasad, and Sakshi Jain MBBS MD, "Parental Understanding of and Support for Neurodivergent Conditions." *Journal of Cardiovascular Disease Research* 14, no. 07 (2023). Accessed September 15, 2024.
[105] Ibid. Accessed September 15, 2024.
[106] "About Autism," Autistic Self Advocacy Network, Accessed December 10, 2024, https://autisticadvocacy.org/about-asan/about-autism/.

> Autism is a developmental disability that affects how we experience the world around us. Autistic people are an important part of the world. Autism is a normal part of life, and makes us who we are. Autism has always existed. Autistic people are born autistic and we will be autistic our whole lives. … anyone can be autistic, regardless of race, gender, or age.
>
> Autistic people are in every community, and we always have been…The communities we are a part of and the ways we are treated shape what autism is like for us. There is no one way to be autistic. Some autistic people can speak, and some autistic people need to communicate in other ways. Some autistic people have intellectual disabilities, and some autistic people don't. Some autistic people need a lot of help in their day-to-day lives, and some autistic people only need a little help. All of these people are autistic, because there is no right or wrong way to be autistic. All of us experience autism differently, but we all contribute to the world in meaningful ways. We all deserve understanding and acceptance. [107]

At the core of the issue, the most important thing one can do is be informed and treat autistic individuals with respect and understanding.

**Disability Studies**

Another way research is being conducted is through the field of Disability Studies. Often misconstrued in the media, disability studies' goal is to "weave disabled people back into the fabric of society, thread by thread, theory by theory."[108] In traditional education and curriculum, the focus on disabilities tends to be aimed at individuals—

> they are the *objects* of study, and the emphasis on changing them (us) to fit more comfortably in the existing left hand, which is considered for the most part solid and immutable. Disabled people are to be acted on, shaped, and turned out as best as can be done to fit into the existing social structure.[109]

Disability studies instead aims to change the focus towards

> the idea that what compromises the fit is the rigidity, faultiness, deficits, and pathological structures in the left hand. In disability studies the lens is turned toward the representational and institutional structures that constitute the left hand to discover what

[107] "About Autism," Autistic Self Advocacy Network, Accessed December 10, 2024, https://autisticadvocacy.org/about-asan/about-autism/.
[108] Linton, Simi, "What is Disability Studies?," *PMLA/Publications of the Modern Language Association of America* 120, no. 2 (2005): 518-522, Accessed December 10, 2024.
[109] Ibid. Accessed December 10, 2024.

> kinds of analyses and interventions can reconstruct the left hand and make for a better fit. Disability studies also includes the vibrant self-explorations…that are found in memoir and cultural expressions of various kinds.[110]

Research emerging from this field has important implications for those with disabilities. Because of this, there are a few concepts that are core to the success of this interdisciplinary research. Disability studies aims to capture the "social model" of disability rather than the "medical model"—disability should not only be researched within a medical capacity but also in a social, cultural, and historical context.[111] It is also important that the reasoning behind research is intended to understand the foundational concepts of human differences, rather than what sets one disability apart. Disability research should be interdisciplinary and participatory. Disability studies should be "changing how societies (and ourselves!) think about and respond to disability [to create] cultural space in which inclusive approaches…can flourish."[112] Disability studies can help connect individuals to research in a way that allows researchers to listen and understand the learned experiences of those who are neurodiverse, in a way that scientific research fails.

Disability studies developed out of the activism of disabled people—those who had a "commitment to challenging everyday negative attitudes to disability" and changing "the social norms that define particular attributes as impairments, as well as the social conditions that concentrate stigmatized attributes in particular populations."[113] The notion that society is the burden of disability rather than the medical nature of a disability is known as the Social Model of Disability, and was meant to be a starting point that challenged societal assumptions. As this grew into Disability Studies, core themes emerged. There is a need to explore alternative

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[110] Linton, Simi, "What is Disability Studies?," *PMLA/Publications of the Modern Language Association of America* 120, no. 2 (2005): 518-522, Accessed December 10, 2024.
[111] Ferguson, Philip M., and Emily Nusbaum, "Disability Studies: What Is It and What Difference Does It Make?," *Research & Practice for Persons with Severe Disabilities* 37, no. 2 (2012): 70-80, Accessed December 10, 2024.
[112] Ibid. Accessed December 10, 2024.
[113] Boys, Jos, "Chapter Three – Disability Studies, Neurodivergence and Architecture," in *Developments in Neuroethics and Bioethics*, ed. Anthony Clarke, Jos Boys, John Gardner (Academic Press, 2022), 39-67.

frameworks, study across a wide range of participants, acknowledge the cruel and problematic ways physically disabled and neurodiverse individuals have been treated across history, and treat people's experiences and life as being equally as important, valid, and deserving of equity. [114]

**Tourism**

UN Tourism, an agency of the United Nations defines tourism as "a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes."[115] Others have called it "the theory and practice of touring, travelling for pleasure."[116]

As the tourism industry matured, it expanded to include a cross section of economic industries: transportation, accommodation, recreation, food, and related services. From an economic perspective, conglomerates dominate the tourism industry, and have done so since their rise in the mid-1970s.[117] The process of tourism can be grouped into categories: leisure (traveling for pleasure or relaxation), organizational and planning (traveling with the intent of participating in activities), free inherent and natural resources (places, climates, landscapes that are vital to tourism), incidental industries (business that serve tourists wants and needs), and the tourist industry (the circumstances in which goods/services are consumed).[118] These metrics analyze how tourists interact with the tourist industry. Parents' travel-related choices are driven by a desire to provide good experiences for their children, and often the children can directly

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[114] Boys, Jos, "Chapter Three – Disability Studies, Neurodivergence and Architecture," in *Developments in Neuroethics and Bioethics*, ed. Anthony Clarke, Jos Boys, John Gardner (Academic Press, 2022), 39-67.
[115] UN Tourism, "Glossary of Tourism Terms," UN Tourism, United Nations, Accessed January 5, 2025. https://www.unwto.org/glossary-tourism-terms.
[116] Leiper, Nell, "The Framework of Tourism: Towards a Definition of Tourism, Tourist, and the Tourist Industry," *Annals of Tourism Research* 6, no. 4 (1979): 390-407, Accessed December 10, 2024.
[117] Ibid. Accessed December 10, 2024.
[118] Ibid. Accessed December 10, 2024.

influence the family travel destination.[119] Factors such as goods and services at the destination can influence the decision-making choice of tourists, and planning processes for trips can begin far in advance.

Tourism is a juggernaut of an industry, spanning from the production of goods and services to transportation to and from a destination to governmental bodies that create regulations for tourism. Tourism, however, also exists as a deeply personal experience for the tourist. Tourism can be healing, and "travel experiences can bolster an individual's mental health metrics like positivity, self-esteem and confidence. Similarly, they can stimulate improvements in interpersonal relationships, understanding of others, and broadening of personal social circles."[120] People's reasoning to partake in travel experiences has been found to be driven by a desire for "tangible sensory experiences encompassing touch, smell, taste, sight, hearing and more."[121] Positive tourism experiences are crucial for success in the tourism market, and research has shown that positive feelings are associated with the anticipation before travel and the reminiscing upon return from travel.[122] Even with all the researched benefits of travel and the positive feelings associated with travel, it is still tough for neurodiverse individuals and families to go on tourism trips, oftentimes due to a lack of accessibility.

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[119] Fazil, Fauzunnasirah., Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana Tambi, and Hamzah Jusoh, "Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisure or Work," *Akademika* 92, no. 1 (2022): 101-112, Accessed December 10, 2024.
[120] Liu, Chyong-Ru, Yao-Chin Wang, Tonny Menglun Kuo, Cheng-Hsiung Tsui, and Hsuan Chen, "Healing Experiences at Resort Hotels (HERH): Conceptualization and Scale Development," *International Journal of Hospitality Management* 120, (2024):103749, Accessed October 4, 2024.
[121] Ibid. Accessed October 4, 2024.
[122] Ostela, Reeta. "Accessible Tourism Experiences of Families with Autistic Children." Thesis, University of Eastern Finland, 2023. Accessed September 16, 2024.

**Accessible Tourism**

Accessible tourism, the notion that tourism should be available to people with a wide range of abilities, has gained interest among media and hospitality outlets in recent years, but it isn't something that is easily understood or readily available. Accessible tourism is tourism that "involves collaborative processes between different stakeholders, which allows people with access requirements including cognitive, vision, hearing, and mobility to take part in tourism"[123] Accessible tourism should be "barrier-free" tourism for all.[124] Accessible tourism is critical because it allows people who need differing accommodations to explore independently with dignity and equitably, utilizing principles of universal design.

Demand for accessible tourism is increasing—even the United Nations has a treaty put in place in 2008 (Convention on the Rights of Persons with Disabilities) to protect and ensure the full and equal enjoyment of human rights for all.[125] This treaty recognizes, among many other things, the right for persons with disabilities to have equal access to cultural life, recreation, and leisure—with a specific mention of tourism venues. Individuals with different abilities have the right to maintain a high quality of life, which is often achieved through social inclusion, emotional well-being, interpersonal relations, and physical well-being.[126] Tourism can meet all four of these metrics and can be considered a tool used to enhance the quality of life for someone who is neurodiverse.

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[123] Ostela, Reeta. "Accessible Tourism Experiences of Families with Autistic Children." Thesis, University of Eastern Finland, 2023. Accessed September 16, 2024.
[124] Ibid. Accessed September 16, 2024.
[125] UN (United Nations) General Assembly. 2006. *Resolution adopted by the General Assembly on 12 December 2006 – Convention on the Rights of Persons with Disabilities.* Accessed September 16, 2024.
[126] Hamed, Hend M., "Tourism and Autism: An Initiative Study for how Travel Companies can Plan Tourism Trips for Autistic People," *American Journal of Tourism Management* 2, no. 1 (2013): 1-14, Accessed December 10, 2024.

On top of this, the tourism market is highly competitive, and providing services that benefit more people on a universal level opens businesses to more potential customers. As of 2006, in the United States, persons with visible disabilities made up less than 29% of all persons with disabilities, and there is a demand for accessible travel by persons with disabilities.[127] Persons with disabilities are also the prime market to serve well within tourism—they advocate for brands they love, which can be free, positive marketing, and they take longer trips on average, making them spend more money per trip.[128] These individuals tend to travel with others, rather than by themselves, generating even more revenue for tourism businesses. Autistic individuals and others with disabilities both visible and invisible deserve to have equitable access to travel.

**Travelling with ASD**

Travelling as an individual with disabilities or as a family unit where members have varying abilities and disabilities present various challenging emotions such as stress or guilt for caregivers of persons with disabilities can take a toll on the experience.[129] Autism is a sensory condition, meaning it can affect individuals with it in completely different ways.[130] Constraints can be intrinsic, interactive, and environmental—and can require coping strategies to deal with

[127] Ostela, Reeta. "Accessible Tourism Experiences of Families with Autistic Children." Thesis, University of Eastern Finland, 2023. Accessed September 16, 2024.
[128] Ibid. Accessed September 16, 2024.
[129] Ibid. Accessed September 16, 2024.
[130] Cena, Federica., Noemi Mauro, Liliana Ardissono, Fabio Ferrero, Serena Ferrigno, Amon Rapp, Claudio Mattutino, and Roberto Keller. "CARES: an Inclusive Personalized Touristic System for Autism." in *UMAP '23 Adjunct: Adjunct Proceedings of the 31st ACM Conference on User Modeling, Adaption and Personalization,* (2023).; "Autism Spectrum Disorder," National Institute of Health, NIH, February 2024, Accessed October 20, 2024, https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd.

the degree of disorder faced throughout travel.[131] One such constraint is sensory demands.[132] Many autistic individuals process sensory input differently from neurotypical individuals.[133] Hypersensitivity or hyposensitivity to sensory stimuli can present challenges to an individual's emotional state or stress levels.[134] People with autism may be overloaded with stimuli, which may lead them to actively avoid places that negatively overstimulate them, prompting them to need additional support when exploring new places.[135] Another constraint to travel is repetitive behavior. Many autistic individuals experience stimming, or repetitive behavior, that can be intense and at times alarming for people not familiar with the need these individuals have to self-stimulate because of stress or a need to self-soothe.[136] Change in routine can also be a serious consideration when an autistic person decides to go on a trip or families decide to travel with their children with autism. Often, routines are necessary to maintain control over their environment and create daily consistency, a break in this can elevate stress levels.[137]

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[131] Freund, Daniela, Monica C. Chiscano, Gilda Hernandez-Maskivker, Mireia Guix, Ana Inesta, and Montserrat Castello, "Enhancing the Hospitality Customer Experience of Families with Children on the Autism Spectrum Disorder," *International Journal of Tourism Research* 21, no. 5 (2019): 606-614, Accessed September 23, 2024.

[132] Fazil, Fauzunnasirah., Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana Tambi, and Hamzah Jusoh, "Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisure or Work," *Akademika* 92, no. 1 (2022): 101-112, Accessed December 10, 2024.

[133] Cena, Federica., Noemi Mauro, Liliana Ardissono, Fabio Ferrero, Serena Ferrigno, Amon Rapp, Claudio Mattutino, and Roberto Keller. "CARES: an Inclusive Personalized Touristic System for Autism." in *UMAP '23 Adjunct: Adjunct Proceedings of the 31st ACM Conference on User Modeling, Adaption and Personalization,* (2023).

[134] Hamed, Hend M., "Tourism and Autism: An Initiative Study for how Travel Companies can Plan Tourism Trips for Autistic People," *American Journal of Tourism Management* 2, no. 1 (2013): 1-14, Accessed December 10, 2024.

[135] Cena, Federica., Noemi Mauro, Liliana Ardissono, Fabio Ferrero, Serena Ferrigno, Amon Rapp, Claudio Mattutino, and Roberto Keller. "CARES: an Inclusive Personalized Touristic System for Autism." in *UMAP '23 Adjunct: Adjunct Proceedings of the 31st ACM Conference on User Modeling, Adaption and Personalization,* (2023).

[136] Hamed, Hend M., "Tourism and Autism: An Initiative Study for how Travel Companies can Plan Tourism Trips for Autistic People," *American Journal of Tourism Management* 2, no. 1 (2013): 1-14, Accessed December 10, 2024.; Fazil, Fauzunnasirah., Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana Tambi, and Hamzah Jusoh, "Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisure or Work," *Akademika* 92, no. 1 (2022): 101-112, Accessed December 10, 2024.

[137] Hamed, Hend M., "Tourism and Autism: An Initiative Study for how Travel Companies can Plan Tourism Trips for Autistic People," *American Journal of Tourism Management* 2, no. 1 (2013): 1-14, Accessed December 10, 2024.; Cena, Federica., Noemi Mauro, Liliana Ardissono, Fabio Ferrero, Serena Ferrigno, Amon Rapp, Claudio Mattutino, and Roberto Keller. "CARES: an Inclusive Personalized Touristic System for Autism." in *UMAP '23 Adjunct: Adjunct Proceedings of the 31st ACM Conference on User Modeling, Adaption and Personalization,*

Communication challenges can also become a constraint to travel. Autistic individuals can have a range of verbal abilities or preferences which can cause difficulties with self-advocacy when traveling, though the use of assistive communication devices can minimize this communication barrier.[138] Social interaction can also be a challenge, some autistic individuals struggle to read social cues, maintain eye contact, or predict other's actions—this can be confusing or lead to a desire to isolate oneself to decrease the need for social interaction.[139] Other constraints include medical or sleeping problems, both of which are common among autistic individuals.

As noted in the introduction, travelling with Autism or other neurodiverse conditions can prevent those facing difficulties from travelling. Despite growing attention to reach equity for those with disabilities, there are still many discriminatory practices in place—inaccessibility of equipment, inaccessible accommodations, etc.[140] Individuals report not being able to adapt spaces to fit their sensory needs, and stress when planning the trip to accommodate this.[141] Families with autism felt they lacked manageable spaces, safe environments to allow children

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(2023).; Fazil, Fauzunnasirah., Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana Tambi, and Hamzah Jusoh, "Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisure or Work," *Akademika* 92, no. 1 (2022): 101-112, Accessed December 10, 2024.

[138] Hamed, Hend M., "Tourism and Autism: An Initiative Study for how Travel Companies can Plan Tourism Trips for Autistic People," *American Journal of Tourism Management* 2, no. 1 (2013): 1-14, Accessed December 10, 2024.

[139] Hamed, Hend M., "Tourism and Autism: An Initiative Study for how Travel Companies can Plan Tourism Trips for Autistic People," *American Journal of Tourism Management* 2, no. 1 (2013): 1-14, Accessed December 10, 2024.; Fazil, Fauzunnasirah., Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana Tambi, and Hamzah Jusoh, "Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisure or Work," *Akademika* 92, no. 1 (2022): 101-112, Accessed December 10, 2024.

[140] Freund, Daniela, Monica C. Chiscano, Gilda Hernandez-Maskivker, Mireia Guix, Ana Inesta, and Montserrat Castello, "Enhancing the Hospitality Customer Experience of Families with Children on the Autism Spectrum Disorder," *International Journal of Tourism Research* 21, no. 5 (2019): 606-614, Accessed September 23, 2024.

[141] Cena, Federica., Noemi Mauro, Liliana Ardissono, Fabio Ferrero, Serena Ferrigno, Amon Rapp, Claudio Mattutino, and Roberto Keller. "CARES: an Inclusive Personalized Touristic System for Autism." in *UMAP '23 Adjunct: Adjunct Proceedings of the 31st ACM Conference on User Modeling, Adaption and Personalization,* (2023).; "Autism Spectrum Disorder," National Institute of Health, NIH, February 2024, Accessed October 20, 2024, https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd.

independence, and quiet spaces.[142] There is a pressure on families with autism to force their child with ASD to behave "normally" for fear of judgement, ridicule, and discriminatory comments or behaviors.[143] This leads many families to feel uncomfortable traveling and stop traveling altogether. Another barrier that will become an issue to accessible tourism: money. There is projected to be a wide disparity between wealthy and poor individuals across travel services, making the finite accessible resources that currently exist harder for every family to afford.[144] Tourism providers stand to financially benefit from the growing market that is accessible tourism. One crucial group of these providers working to adapt to accessible tourism is hospitality providers.

**Hospitality**

> Whoe'er has travel'd life's dull round,
> Where'er his stages may have been,
> May sigh to think he still has found
> The warmest welcome at an inn.[145]

Hospitality has many meanings, going all the way back to the Latin "hospitalitas" meaning to receive as a guest and the French "hospice" meaning taking care of travelers.[146] Hospitality is multifaceted—it involves more that providing shelter. According to Sandoval-Strausz in the book *Hotel: An American History*, hospitality is a "sacred responsibility" with roots in religion from ancient civilizations.[147] Hospitality "expresses the values of the culture that

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[142] Fazil, Fauzunnasirah., Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana Tambi, and Hamzah Jusoh, "Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisure or Work," *Akademika* 92, no. 1 (2022): 101-112, Accessed December 10, 2024.
[143] Ibid. Accessed December 10, 2024.
[144] Ibid. Accessed December 10, 2024.
[145] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), dedication.
[146] Giousmpasoglou, Charalampos and Evangelia Marinkaou, *The Contemporary Hotel Industry: A People Management Perspective* (Palgrave Macmillan, 2024), 9-37.
[147] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 1-3.

creates it and registers changes in those values, making it a sensitive and revealing indicator of the timing and causes of historical change and the nuances of human experience."[148] Hospitality is mentioned in writings dating back to 15,000 BCE, in ancient civilizations. People would travel for a variety of purposes and locals would allow them to rest. At the time, there were no facilities built for this purpose. Slowly, different forms of institutionalized hospitality started to develop. Some of the first establishments were found in monasteries, inns and taverns dating back to 4000-2000 BCE. The ancient mediterranean had the Pandocheion and the Islamic world had Caravanserai along trade routes.[149] Rest houses for pilgrims in the eighth century were developed, and in the late 16th century, some taverns were established enough to serve fixed price, fixed menu meals.[150] In Germanic cultures there were the Gasthof, and in Spain and Latin America Posadas developed.[151] With the Renaissance, global trade and colonization increased, leading to the establishment of outposts and inns for travelers. In the mid-eighteenth-century inns aimed at the wealthy began to appear.[152] Boarding houses, inns, and taverns would eventually give way to hotels like those seen today. To quote Jefferson Williamson in his 1930 novel *The American Hotel: An Anecdotal History*,

> Roughly speaking, it took inns twelve thousand years to grow from one to thirty rooms in size, and then, in the next hundred and thirty years – or since about the year 1800 – they have shown a great burst of speed in development and have attained a present maximum of three thousand rooms. Which may, or may not, be the ultimate limit. The probability is that it will not.[153]

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[148] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 1-3.
[149] Denby, Elaine, *Grand Hotels: Reality and Illusion* (Reaktion Books, 2002), 14.
[150] Ibid, 17-18.
[151] Giousmpasoglou, Charalampos and Evangelia Marinkaou, *The Contemporary Hotel Industry: A People Management Perspective* (Palgrave Macmillan, 2024), 9-37.; Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 6-9.
[152] Giousmpasoglou, Charalampos and Evangelia Marinkaou, *The Contemporary Hotel Industry: A People Management Perspective* (Palgrave Macmillan, 2024), 9-37.
[153] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 3.

**The Birthplace of the Modern Hotel**

There is debate over the birthplace of the modern hotel—some argue that the modern hotel industry began in Europe—where chalets and small hotels catered to the aristocracy—others argue that the modern hotel industry was born in North America.[154] Some go so far as to argue that "the hotel was the physical manifestation of a distinctly American vision of mobility, civil society, democracy, and ultimately, space—a vision which, if the subsequent propagation of hotels in virtually every nation and culture on earth is any indication, has shown itself to be quite compelling."[155] Williamson described the hotel as profoundly American, saying "our ornate hotels symbolize and typify the spirit of America. They have been, perhaps, the most distinctively American of all our institutions, for they were nourished and brought to flower solely in American soil and borrowed practically nothing from abroad."[156] In North America, hotels developed from colonial towns. Public houses, an establishment that sold drinks and rented rooms to travelers, no longer met the needs of every type of traveler. Dignified people and people of certain social classes weren't satisfied with public houses—places that were non-descript architecturally, were so crowded that strangers would share bedchambers and even beds, and overall were quite unclean.

The hotel was so ingrained into the fabric of the new United States that this era of hotels has been the "cradle" for the American Revolution. Authors have attributed a large part of the transitory nature of urban mobility within the new republic to George Washington, who upon becoming president, went on a tour of his new nation.[157] As he stayed in boarding houses across

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[154] James, Kevin J, *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).
[155] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 6-9.
[156] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 5.
[157] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 39-40.

the nation, he wrote about the unfit conditions and how there was a need for better accommodation. Of course, this is a stretch, but it is a detailed look into one man's perspective on hospitality and how it could grow to be better in the new century.

As the nineteenth century approached, a need developed for a suitable place to stay for dignified guests, notable people of high socio-economic status. Prior to the nineteenth century, only inns and public houses provided accommodation in the United States.[158] In 1794, one of the first established modern hotels was opened—the City Hotel in New York.[159] The City Hotel was a grand public house that served as a social center, a political center, and a business center in New York.[160] Its ballrooms and parlors hosted the social events for elites, entrepreneurs opened up shops nearby, and political groups held caucuses inside the City Hotel's meeting rooms. [161] The hotel had seventy-three rooms and was considered to be a much more "immense establishment" than public houses before it.[162] The City Hotel spurred the development of similar establishments in the early nineteenth century; hotels like Boston's Exchange Coffee House, Philadelphia's Mansion House, and New Orleans' St. Charles Hotel started popping up. These hotels would set up the framework for a new model for urban living.

In some ways, the first hotels in the United States were a success: they had become largely public places, had a large clientele, and had become centers of civic life.[163] In other ways, the first generation of hotels were failures. Most ended up bankrupt and urban growth seemed

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[158] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 3.
[159] Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 18-20.; Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 23-25.; Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 10.
[160] Denby, Elaine, *Grand Hotels: Reality and Illusion* (Reaktion Books, 2002), 33.
[161] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 23-25.
[162] Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 18-20.; Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 10.
[163] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 9.; James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).

like it was going to stall in the 1810s.[164] The second generation of American hotels came out of the transportation boom after the war of 1812. Travel networks were being established throughout the United States—riverboats up and down rivers and canals were running consistent routes, train tracks were being laid to connect more and more cities, and the economy was growing from manufacturing.[165] As the 1820s were starting, hotels were slow to be built, but in settlements like St. Louis, people started to realize that "a good hotel meant a prosperous town."[166] Hotels became ways to establish that a town was of significance. After this, hotels began to pop up rapidly.[167] If a town had outgrown its hotel, a new one would be built. If the hotel was successful, others would be built to try to compete for equal success. Through the 1830s and 1840s, there was a "rapid multiplication" of hotels within the urban landscape.[168] During this time, the guests that would have been staying in these hotels would have been the wealthy elite and the new, growing middle class. At the same time politically, Andrew Jackson and Jacksonian politics had established economic policies aimed at spreading the wealth around from the wealthy elite to give White Men equal opportunity. A new class of people therefore was able to patronize the new hotels.[169] And one didn't need to spend the night to patronize the hotel—regular people could visit the bar and have a drink or something to eat at an affordable price. The great success of this second wave of American hotels can be contributed to the fact that they became less exclusive.

As time passed, hotels became part of a larger network. There was a hotel in every town, and every hotel was dependent on their being a network in every town. It is because of this

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[164] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 45-47.
[165] Denby, Elaine, *Grand Hotels: Reality and Illusion* (Reaktion Books, 2002), 34.
[166] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 49-50.; Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 73.
[167] Denby, Elaine, *Grand Hotels: Reality and Illusion* (Reaktion Books, 2002), 35.
[168] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 61.
[169] Ibid, 63-65.

network that territorial expansion, economic growth and the emergence of specialized hotel types occurred. In the 1840s, the United States was expanding—territories such as Texas and Oregon were being annexed into the country, and in four years, the U.S. increased it's land mass by 51%.[170] The new West was settled quickly, because of events such as the Gold Rush, and all of the travelers who were crossing to the West needed places to stay—hotels.[171] Hotels were quickly constructed across the new Western frontier. The quantity of hotels throughout the 1840s and 1850s started to make inns and taverns obsolete. Hotels were truly a nationally spanning system.

As hotels became more established in the 1870s, they adapted into location and function specific types. There were seven main variants: luxury hotels, commercial hotels, middle-class hotels, marginal hotels, resort hotels, railroad hotels, and settlement hotels. Hotels that dated back to the late 1790s—first- and second-generation hotels—were considered luxury.[172] These large, opulent hotels were so impressive that they continue to shape the modern luxury hotel.[173] Commercial hotels emerged to provide businessmen places to stay for less money. They were smaller hotels and were often near business centers rather than city centers.[174] Middle-class hotels were similarly affordable hotels, but they were meant for all, rather than for businessmen. These hotels were plain, and did not shy away from the fact that they were not luxury accommodations.[175] While they were not luxurious, however, they were still considered respectable—they were suitable for women and children and considered family hotels. Both commercial and middle-class hotels outnumbered luxury hotels across the United States.[176]

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[170] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 75-77.
[171] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 86-87.
[172] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 81.
[173] Denby, Elaine, *Grand Hotels: Reality and Illusion* (Reaktion Books, 2002), 112-113.
[174] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 82-83.
[175] Ibid, 83-84.
[176] Ibid, 84-85.

Marginal hotels were unlike the typical hotel. Marginal hotels ranged from slightly run-down hotels that were in a seedy part of town to those that were barely even considered a hotel—sometimes bars would set up cots in a back room to claim they were hotels.[177] These marginal "hotels" capitalized on the reputation of hotels to claim heightened status.[178] These hotel types thrived in urban centers, where people were traveling through.

The other hotel types that emerged were often away from the urban center. This doesn't mean, however, that they are removed from the network of urban hotels. Resort hotels were intended as getaways, but because their main clientele was from city centers, they remained linked to the city centers and were often linked by distance as well.[179] Early resort hotels were linked to wellness; they were constructed at mineral springs thought to improve health.[180] A major one of these was Saratoga; people would go visit to drink the spring water for improved health.[181] Resort hotels that followed continued to be built with health in mind—"Americans found medical or quasi-medical reasons to build man more hotels, including the benefits of sea air, high elevations, and desert climates."[182] Resort hotels would eventually transition into a social setting.[183] Seasonal patrons would create a community over their extended stays, often returning consistently. Romantic attachments and flings at these resorts are a main takeaway from literature written about these resorts—there was something romantic in the air on these

[177] James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).
[178] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 86-87.
[179] Ibid, 87.
[180] Denby, Elaine, *Grand Hotels: Reality and Illusion,* (Reaktion Books, 2002), 36.; Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 224,229.
[181] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 224-235.
[182] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 88.
[183] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 224-235.

holidays.[184] Popular destinations included Saratoga, Cape May, and Atlantic City.[185] The coastal air, opportunities for swimming, and social mobility of these locations made them destinations for urbanites looking for a break from daily life in the industrial city center. Williamson, in 1930, wrote about the incredible demand on American resort towns, saying,

> thanks to the robust condition of their pocketbooks, Americans have always been able to go to resorts in greater numbers than the people of any other country…nothing better illustrates the far-reaching social changes than the enormous growth of the vacation habit…'in little more than a generation the vacation has become universal.'[186]

He goes on to describe this "vacation fever", saying that

> by 1850 the vacation resorts were frequented by no inconsiderable portion of the population, and the summer flitting, with trunks of increasing number and size, had become a feature of travel. Excursions gave the great multitude an opportunity to go forth and see some of the great, wide, wonderful world. Packed into day-coaches like sardines, or on steamers far beyond rightful capacity, passengers could ride hundreds of miles for a dollar or two, spend a few hours, or a day or two, in some distant city, or at Saratoga, Newport, cape May, or Long Branch, and go back home with something to talk about for months to come.[187]

Resort hotels were typically quite large, and by the late 19th century, they were often substantial—like Michigan's Grand Hotel on Mackinac Island.[188] A major way that these hotels differed from other hotel typologies, is that they were considered "terminal points" in the greater hotel network, rather than pass through points. These resort hotels were the destination. They represented a new type of travel: "one based not on moving goods, workers, or information but rather on transporting people to safe pleasurable surroundings where they could occupy and consume the land in new ways."[189]

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[184] Ibid, 224-225.
[185] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 250-254.; James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).
[186] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 256.
[187] Ibid, 257.
[188] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 90-91.
[189] Ibid, 92.

Mobility had become a major influence on hotel typology. Beyond resorts, railroad hotels and settlement hotels both grew out of the increased mobility of transportation networks.[190] They multiplied as the rail network grew, and people spread across the new territories. At this point in time—the late 1870s—hotels also existed in specific forms to serve specific groups. For example, hotels would be built to serve German or Irish immigrant communities. Oftentimes, groups would build accommodations for themselves—Black people weren't able to stay at most establishments in the late 1800s, so they built hotels for their community. All these hotel developments

> formed an essential part of a national system because they facilitated personal mobility for a growing proportion of Americans…The evolution of distinct hotel types was a decentralized process that proceeded without conscious national planning or coordination.[191]

The Civil War slowed down the development of new hotels, but it also emphasized the network of hotels throughout the country—and opened up the nation to a new generation of Americans who had been forced to think in different ways about travel. [192]

In the wake of the Civil War, there was a rapid growth of tourism throughout the United States. Hotels had long been built around the urban industrial centers, but in the dawn of tourism, hotels became the center of urbanization across the frontier. It was during this time that some of the "Great American Hoteliers" established themselves. These hoteliers had realized that there was a benefit to standardizing their hotels to create a steady flow of tourism. Some of these men include Fred Harvey (1835-1901) and Henry M. Flagler (1830-1913).[193] Harvey built up a hotel

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[190] James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).; Bates, Charlotte, "Hotel Histories: Modern Tourists, Modern Nomads and the Culture of Hotel-Consciousness," *Literature & History* 12, no. 2 (2003), Accessed December 11, 2024.
[191] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 99.
[192] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 99-102.; Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 127.
[193] Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), V.

network in New Mexico and Arizona, and was known for his reliable hospitality, and the "Harvey Girls": hostesses whose appearances were highly regulated to create a standardized set of faces of hospitality in his hotel.[194] These girls "no doubt kept many a farmer, rancher, and railroader coming back to dine again and again" at his "Harvey Houses" and helped contribute to his immense success—to the point where Harvey eventually ran restaurants, hotels, gift shops, newsstands, and even dining cars on the railways.[195] In the same way, Henry M. Flagler created a hotel empire in Florida. By the 20th century, Flagler had established hotels across three hundred miles of Florida coast and had personally paid to extend the railway network to reach his hotels.[196] Flagler "invented the concept of the Florida vacation as we know it today" through his leisure-based seasonal communities.[197] These hoteliers helped promote tourism, and often, in the process promote "exotic" destinations. This often involved the exploitation of many indigenous groups or traditions by wealthy white men, hoping to turn a profit. Fred Harvey established the Hopi House at the Grand Canyon to capitalize off the Hopi-community, and eventually utilized native communities to make a profit off native crafts.[198] It is important to note that "while these and many other instances of cultural exploitation were certainly less brutal than outright expulsion, they were coercive nonetheless because they shifted control over ritual practices and craft production away from local populations and towards outsiders."[199] Resort hotels became

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[194] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 99-102.; Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 97.
[195] Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 89-97.
[196] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 117-118.; Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 53-59.; James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).
[197] Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 43.
[198] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 119.; Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 98-101.
[199] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 119.

> an indispensable part of a new age of domestic tourism that brought enormous numbers of white Americans to remote areas they might otherwise never have visited, in some cases hastening permanent Anglo settlement of entire regions.[200]

Tourism, it seemed, was there to stay.

As all of this was happening, other nations and regions became aware of the American network of hotels and adopted the American hotel form. Prior to then, nothing comparable to the American hotel had existed throughout Europe.[201] Throughout the 1800s, European countries built hotels modeled after grand American hotels, starting small and eventually scaling up their hotels to a more comparable scale.[202] By the early twentieth century, American hotels had become the standard for hospitality, in part thanks to colonialism.

Back in the United States, the hotel continued to evolve—hotels were getting larger and more innovative. Hotels like the Waldorf, the Astoria, and the Plaza were built at the turn of the century, and more hoteliers established themselves. One of these men was Ellsworth Milton Statler (1863-1928). Statler started as a bellboy in a hotel and rose up through the ranks while becoming an entrepreneur.[203] He was able to create efficient processes to cut costs and still offer services and comfort.[204] Statler had learned growing up in the hotel business that "it is the service that makes a hotel and he was determined to for the guests of his own hotels a little more than had even been done for them before."[205] Statler was successful in building several profitable hotels and creating a recognizable typology for his hotels. He became one of the best-known

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[200] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 119.
[201] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 48.
[202] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 123.; James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).
[203] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 130-132.
[204] Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 277-278.
[205] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 162.

hoteliers in America and set a new standard in the industry for affordable luxury. [206] Many of the great hoteliers of this era had, like Statler, grown up in the hotel industry. They knew the business inside and out and knew what patrons desired.

At the turn of the century, the age of mass transportation via train was coming to an end, and with it the rapid development shifted from train to automobile. The hotels of the 19th century started to fade and the hotels of the 20th century slowly began to overtake them. Following principles like Statler's, hotels continued to modernize through the first World War. Williamson shares his perspective of this, saying "during the past ten years thousands of fine new hotels have been built, in every city, big and little, from Maine to California, and as a result the older houses have been thrown into the discard."[207] In the first decade of the twentieth century, five famous hotels in New York city closed, align with the "fine old New York hotels that rose magnificently during the Gilded Age."[208] One of the greatest hotels that closed in the early 20th century was the Waldorf Astoria in New York. It closed in 1929 at only 32 years old. It was the first thousand-room hotel and had amassed a rich history. The Waldorf Astoria was filled with new-rich millionaires, Wall Street financiers, and even had a following that was known as the "Waldorf crowd."[209] This dying off of old hotels was not unique to New York, it occurred on a broad scale across the entire United States to make way for the Modern Hotel.

Despite the mass closures of old hotels in the 1910s and 1920s, new hotels went up incredibly fast. There were dozens of hotels built in the 1920s that had thousands of rooms. At the time of writing his book, Williamson reported 25,950 hotels in the country, having a

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[206] Sandoval-Strausz, A. K., *Hotel: An American History* (Yale University Press, 2007), 130-133.; Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 107, 158.; Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 153, 159.; James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).
[207] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 260.
[208] Ibid, 269.
[209] Ibid, 273-274.

valuation of $5.1 billion, employing 580 thousand people, and having more than 1.5 million rooms all combined.[210] He goes on to mention two of the "greatest hotels yet to be built"—The new Waldorf Astoria, and the Hotel Pierre. This Waldorf Astoria was to be 46 stories tall, occupy an entire city block of New York, and connect into the New York Central Railroad.[211] It was to feature deluxe suites, high ceilings, and ballrooms, all towering over the city below.[212] The Hotel Pierre was to be a model for modern hotels, with sweeping suites that resemble private homes, and dozens of restaurants, stores, and parlors. These two hotels were to

> be magnificent in a way that will make many of those gorgeous hotels of the 'age of innocence' merely vulgar…Americans for the last quarter-century have been moving rapidly forward in their demands for luxury, and this constant quest for supreme elegance [was] now to be met by the hotel.[213]

Williamson goes on to say,

> Our national appetite for luxury will only be whetted by these two examples of what hotels may be, and it is safe to predict that very soon Mine Host will be planning others to equal them in magnificence. For the history of the hotel in America is the history of progressive luxury, and it is not to be assumed that its end has been reached.[214]

James notes that the "discursive positioning and repositioning [of the American hotel] reflects the shifting power of particular class, cultural and political interests and reveals conflicts among them as the meaning of hotels and the wider places they inhabit are contested and change."[215] Williamson and James both highlight the rapidly changing landscape of the American hotel. As the socio-economic status of the public grew and changed, and as cultural events set the tone for the twentieth century, industries like the hotel industry grew and changed.

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[210] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 294.
[211] Denby, Elaine, *Grand Hotels: Reality and Illusion* (Reaktion Books, 2002), 226.
[212] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 295.
[213] Ibid, 297.
[214] Williamson, Jefferson, *The American Hotel: An Anecdotal History* (Alfred Knopf Inc., 1930), 297.
[215] James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).

The American desire for hospitality and luxury can be seen through the 1900s. It was during the twentieth century that the modern hotel industry as it is known today developed. In 1919, Conrad Hilton opened his first hotel in Texas.[216] Hilton quickly began to accumulate more hotels, eventually opening the first Hilton branded hotel in Dallas in 1925. By 1943, he had hotels from coast-to-coast, and by 1946, his company incorporated as Hilton Hotels Corporation (HHC) and was traded on the New York Stock Exchange (NYSE) in 1947.[217] Hilton was considered an innovator—his hotels were the first to install televisions in guest rooms and the first to have a multi-hotel reservation system.[218] Hilton would eventually build an international network of hotels and began buying out other hotel companies, like the Statler Hotel chain.[219] The Hilton Hotels Corporation became the US wing, and Hilton International was based in London. Hilton made a series of strategic partnerships, some with major US airlines and airports to establish accommodation across the new network of travel.[220] These partnerships were efficient strategies to establish Hilton's dominance across the United States as the economy was rebuilding after World War II, and the subsequent international wars the U.S. was involved in.

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[216] Giousmpasoglou, Charalampos and Evangelia Marinkaou, *The Contemporary Hotel Industry: A People Management Perspective* (Palgrave Macmillan, 2024), 12; Manoharan, Ashokkumar., Juan M. Madera, and Manisha Singal, *The Routledge Handbook of Diversity, Equity, and Inclusion Management in the Hospitality Industry* (Taylor & Francis, 2023).

[217] Manoharan, Ashokkumar., Juan M. Madera, and Manisha Singal, *The Routledge Handbook of Diversity, Equity, and Inclusion Management in the Hospitality Industry* (Taylor & Francis, 2023).; Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 129.

[218] Manoharan, Ashokkumar., Juan M. Madera, and Manisha Singal, *The Routledge Handbook of Diversity, Equity, and Inclusion Management in the Hospitality Industry* (Taylor & Francis, 2023).; Hilton, Barron, "Foreword." in *Be My Guest* (Fireside, 1994), 6.; James, Kevin J., *Histories, Meanings and Representations of the Modern Hotel* (Channel View Publications, 2018).

[219] Manoharan, Ashokkumar., Juan M. Madera, and Manisha Singal, *The Routledge Handbook of Diversity, Equity, and Inclusion Management in the Hospitality Industry* (Taylor & Francis, 2023).; Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 285.; Strand, Curt R., "Lessons of a Lifetime: The Development of Hilton International," *Cornell Hotel and Restaurant Administration Quarterly* 37, no. 3 (1996): 9-96, Accessed December 12, 2024.

[220] Hilton, Barron, "Foreword." in *Be My Guest* (Fireside, 1994).; Turkel, Stanley, *Great American Hoteliers: Pioneers of the Hotel Industry* (Bloomington, Indiana: AuthorHouse, 2009), 135.; Strand, Curt R., "Lessons of a Lifetime: The Development of Hilton International," *Cornell Hotel and Restaurant Administration Quarterly* 37, no. 3 (1996): 9-96, Accessed December 12, 2024.

Throughout the 1980s and 1990s, The Hilton Hotels Corporation started acquiring hotel chains at a rapid rate, and through these acquisitions they developed a portfolio that spanned various price points and segments. [221] Conrad Hilton established a consistent brand and vision for his company, cementing the Hilton brand as a global leader in the hotel industry.[222]

Other hotel companies were established in the years following Hilton, including Marriott in 1927, Sheraton in 1937, and Hyatt in 1957.[223] In the mid-to-late twentieth century, these hotel conglomerates issued in a world of luxury hospitality—wealthy people were once again interested in luxury in the same way the were in the 1930s, and brands like the Ritz Carlton (1983) were established. There was also a break from chain hotel companies in the 1980s and beyond to lead to the establishment of a new type of hotel—the boutique hotel. Boutique hotels were luxurious and design-led, in small capacities.[224] As the new century rolled in, all of these hotel types were well established and had carved out a clientele for themselves. Corporate hotels, luxury hotels, and boutique hotels had become powerhouses in their own ways.

**The Modern Hotel**

The modern hotel as it is understood today is in many ways "the world", as it is referenced by Laurent Tissot. Tissot describes it as

> "a delimited space, certainly, but one that brings together all the contrasts of humanity, which are as many distinctions as they are divisions: the proximity of heterogeneous populations, the use of more or less efficient technical devices, the assembly of collective and intimate places, in short, a swarming of people who live together as best they can

[221] Manoharan, Ashokkumar., Juan M. Madera, and Manisha Singal, *The Routledge Handbook of Diversity, Equity, and Inclusion Management in the Hospitality Industry* (Taylor & Francis, 2023).
[222] Hilton, Barron, "Foreword." in *Be My Guest* (Fireside, 1994), 8.
[223] Giousmpasoglou, Charalampos and Evangelia Marinkaou, *The Contemporary Hotel Industry: A People Management Perspective* (Palgrave Macmillan, 2024), 12.
[224] Ibid, 12.

> while avoiding meeting each other, and an accumulation of objects and devices that are supposed to make the whole thing work." [225]

A large way hotels are viewed in the twenty-first century is by type—restricted service, mid-range service, luxury full service—and even more so by corporate brand. Hotel chains, defined as "a horizontal alliance of hotels under a common brand" are major actors in the industry.[226] Chains radically change hotel competition in the hospitality industry through mergers and acquisitions as well as affiliations like franchise contracts, management contracts, leases, and consortiums. As of 2013, hotel chains accounted for 67% of total hotel room supply in North America, 28% in Asia-Pacific, 26% in Europe, 23% in the Middle East and Africa, and 20% in Latin America.[227] Some of the most prevalent global parent companies of hotel brands include Wyndham Hotels & Resorts (headquartered in Parsippany-Troy Hills, USA)[228], Marriott International (headquartered in Bethesda, USA)[229], Hilton Worldwide (headquartered in Mclean-Tysons, USA)[230], Choice Hotels International (headquartered in Rockville, USA)[231], IHG Hotels & Resorts (headquartered in Denham, UK)[232], Huazhu Hotels Group (headquartered in Shanghai, China)[233], Accor (headquartered in Paris, France)[234], Best Western Hotels (headquartered in

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[225] Tissot, Laurent, "Histoire de l'entreprise hôtelière en Europe occidentale: acteurs, strategies et gestion. Introduction," *Mondes du Tourisme* 22, (2022), Accessed November 18, 2024.
[226] Ivanova, Maya G., and Stanislave H. Ivanov, "Conceptual Framework of Hotel Chains," *International Journal of Hospitality and Tourism Administration* 16, no. 2 (2015), Accessed November 18th, 2024.
[227] Ibid. Accessed November 18th, 2024.
[228] "Wyndham Hotels & Resorts," Wyndham Hotels & Resorts, Inc., Accessed December 4, 2024, https://corporate.wyndhamhotels.com.
[229] "We Are Marriott International," Marriott International, Inc., Accessed December 4, 2024, https://www.marriott.com/marriott/aboutmarriott.mi
[230] "FAQs," Hilton, Accessed December 4, 2024, https://ir.hilton.com/investor-resources/faqs.
[231] "Corporate Contacts," Choice Hotels International, Inc., Accessed December 4, 2024, https://www.choicehotels.com/about/offices/corporate-contacts.
[232] "Regional Headquarters," InterContinental Hotels Group, Accessed December 4, 2024, https://www.ihgplc.com/en/contact-us/regional-headquarters.
[233] "Contact Us," ICP, China Lodging Group, Accessed December 4, 2024, https://ir.hworld.com/invetor-resources/contact-us.
[234] "Legal Notice," Accor, Accessed December 4, 2024, https://group.accor.com/en/legal-information.

Phoenix, USA)[235], Jinjiang International (headquartered in Shanghai, China)[236], Hyatt Hotels Corporation (headquartered in Chicago, USA)[237], and Four Seasons Hotels & Resorts (headquartered in Toronto, Canada).[238] This corporate conglomerate version of hospitality is highly profitable; the global hotel and resort industry was consistently growing until the outbreak of SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), more commonly referred to as the Covid-19 pandemic.[239] As the Covid-19 pandemic eased, travel restrictions eased, and the global hotel and resort industry resumed financial growth, eventually being forecast to reach a value of 1.21 trillion US dollars by 2023.[240] A small group of companies accounts for most of the industry, so much so that the eleven parent companies listed previously account for approximately 250 brands of hotels: Wyndham Hotels & Resorts (24 brands)[241], Marriott International (35 brands)[242], Hilton Worldwide (24 brands)[243], Choice Hotels International (22 brands)[244], IHG Hotels & Resorts (19 brands)[245], Huazhu Hotels Group (9-25 brands)[246], Accor

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[235] "Careers," Best Western International, Inc., Accessed December 4, 2024, https://jobs.bestwestern.com/.
[236] "About Us," Jin Jiang International Holdings Co., Ltd, Accessed December 4, 2024, https://www.jinjiang.com/hq/en.
[237] ".Hyatt," Hyatt Corporation, Accessed December 4, 2024, https://www.hyatt.com/info/nic.
[238] "Four Seasons Legal Entities," Four Seasons Hotels Limited, Accessed December 4, 2024, https://www.fourseasons.com/privacy/four-seasons-legal-entities/.
[239] Giousmpasoglou, Charalampos and Evangelia Marinkaou, *The Contemporary Hotel Industry: A People Management Perspective* (Palgrave Macmillan, 2024), 9-37.; Mayo Clinic Staff, "Coronavirus disease 2019 (COVID-19)," Mayo Clinic, Accessed November 16, 2024, https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963.
[240] Giousmpasoglou, Charalampos and Evangelia Marinkaou, *The Contemporary Hotel Industry: A People Management Perspective* (Palgrave Macmillan, 2024), 9-37.
[241] "Our Brands," Wyndham Hotels & Resorts, Inc., Accessed December 4, 2024, https://www.wyndhamhotels.com/en-ap/wyndham-rewards/our-brands.
[242] "A Hotel Brand for Every Type of Journey," Marriott International Inc, Accessed December 4, 2024, https://www.marriott.com/marriott-brands/explore-our-brands.mi.
[243] "Explore Hilton's Brands and Ways to Stay," Hilton, Accessed December 4, 2024, https://www.hilton.com/en/brands/.
[244] "Our Brands," Choice Hotels International, Inc., Accessed December 4, 2024, https://media.choicehotels.com/our-brands.
[245] "Brands," IHG, Accessed December 4, 2024, https://www.ihg.com/content/us/en/about/brands.
[246] "Investor Relations," ICP, China Lodging Group, Accessed December 4, 2024, https://ir.hworld.com/brands.; "Hotel Brands," H World International, Accessed December 4, 2024, https://int.hworld.com/brands.

(44 brands)[247], Best Western Hotels (3-18 brands)[248], Jinjiang International (11 brands)[249], and Hyatt (30 brands).[250] These brands span from budget hotels to luxury resorts. Resort hotels are properties "located in destinations with staying customers mainly for entertainment and recreational purposes rather than conducting business activities." [251] Resorts are beloved for their "top tier amenities, refined visual appeal, advantageous geographical locations, privacy, safety, and exceptional services that meet or exceed guest expectations."[252] Resorts have a specially crafted ambiance to create a restorative and therapeutic experience for guests.

**Wellness: Tourism and Resorts**

Tourism resorts erupted from booming Western economies to fit the growing demand for a place for relaxation and rejuvenation. The Tourist Area Life Cycle (TALC) quantifies the evolution of resorts as a cyclical process: exploration, involvement, development, consolidation, stagnation, and post-stagnation.[253] There is a natural cycle to the development of these resorts based on demand in tourism. Because of this cycle, tourism is very dependent on economic stability. The economic recession of 2008-2010 and the COVID-19 pandemic both caused tourism to take a serious hit, but despite economic hardship, a form of tourism thrived—health

[247] "Brands," Accor, Accessed December 4, 2024, https://group.accor.com/en/brands.
[248] "Our Brand Portfolio," Best Western International, Inc., Accessed December 4, 2024, https://www.bestwestern.com/en_US/hotels/discover-best-western/brands.html.
[249] "About Us," Jin Jiang International Holdings Co., Ltd, Accessed December 4, 2024, https://www.jinjiang.com/hq/en/.
[250] "Welcome to Hyatt Hotels," Hyatt Corporation, Accessed December 4, 2024, https://www.hyatt.com/brands/hyatt.
[251] Costa, George, Eleni Glinia, Mario Goudas, and Panagiotis Antoniou, "Recreational Services in Resort Hotels: Customer Satisfaction Aspects," *Journal of Sport & Tourism* 9, no. 02 (2007), Accessed November 18, 2024.
[252] Liu, Chyong-Ru, Yao-Chin Wang, Tonny Menglun Kuo, Cheng-Hsiung Tsui, and Hsuan Chen, "Healing Experiences at Resort Hotels (HERH): Conceptualization and Scale Development," *International Journal of Hospitality Management* 120, (2024):103749, Accessed October 4, 2024.
[253] Papatheodorou, Andreas, "Exploring the Evolution of Tourism Resorts," *Annals of Tourism Research* 31, no. 1 (2004): 219-237, Accessed November 18, 2024.

and wellness tourism.[254] This is a relatively new trend that can be loosely attributed to the increasing dialogue about health and wellness from groups like the World Health Organization. Because tourism resorts and luxury hotels have an emphasis on providing services, they have transitioned into centers for wellness tourism. Health and wellness tourism has not been well defined; definitions for this type of tourism encompass a broad spectrum of wellness.

Health in resort settings is "an attempt on the part of a tourist facilities (e.g. hotel) or destination (e.g. Baden, Switzerland) to attract tourists by deliberately promoting its health-care services and facilities, in addition to its regular amenities."[255] These services can range from full medical interventions to acupuncture, herbal remedies, etc. Health retreats have "emerged from a history of travel to foreign destinations such as spas, hot springs, sacred sites, and pilgrimage locations that have been used as places of rest and rejuvenation for countless generations."[256] Wellness services from resorts are often built more in the practice of treatments from ancient civilizations. Tourists can be unaware of the origins of the treatments they enjoy at wellness centers—Indian ayurvedic practices date back to 5000 BCE, Egyptian women were using cosmetics back in 3,000 BCE, Chinese medicinal practices date back to 1000 BCE, bathing culture existed in Indus River Valley communities, Greeks, Persians, Hebrews, and Thais had cultural bathing practices, and Roman baths were built in thermal springs across the Holy Roman Empire, Ottomans utilized Turkish baths in 800 CE, and saunas were in Finland as early as 1000 CE.[257] Some of the earliest references to "Latin sanitas per aqua" (the healing water of spas) date

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[254] Koncul, Nico, "Wellness: A New Mode of Tourism," *Economic Research-Ekonomska Istraživanja* 25, no. 2 (2012): 525-534, Accessed November 18, 2024.
[255] Smith, Melanie and László Puczkó. *Health and Wellness Tourism*. 2009. Accessed November 18, 2024.
[256] Naidoo, Dhevakasha, Adrian Schembri, and Marc Cohen, "The Health Impact of Residential Retreats: A Systematic Review," *BMC Complementary and Alternative Medicine* 18, no. 8 (2018), Accessed November 19, 2024.
[257] Koncul, Nico, "Wellness: A New Mode of Tourism," *Economic Research-Ekonomska Istraživanja* 25, no. 2 (2012): 525-534, Accessed November 18, 2024.; Smith, Melanie and László Puczkó. *Health and Wellness Tourism*. 2009. Accessed November 18, 2024.

back to 1700 BCE. Ancient civilizations across Asia have been practicing yoga, massage, meditation, and other forms of healing, spiritual practices for centuries, dating back to as early as 100 BCE.[258] Australian Aborigines and Pacific Māori's have utilized these as well to maintain health and wellbeing. Tribal Africa has a history in relaxation through massage and spiritual training, with groups like the Masai and Zulu, as well as medicinal practices drawn from the natural environment around them.[259] In contrast, European health tourism historically has been based around spas and thalassotherapy (the use of the sea to treat illness, via seawater, water exercise, and even seaweed wraps). In the 1980s and 1990s, most destinations that offered these services were in southeast Asia. As these services grew in popularity with tourists, they became widely available in Europe, specifically Switzerland and France, the "destination of the rich."[260] Luxury hotels are some of the top providers of these services and have helped establish health and wellness tourism as a luxury. These luxury services don't always come at luxury prices, however, because health retreats can cover facilities like low-cost hostel like retreats in India. Most of the time however, wellness services are found at luxury lifestyle resorts.

Some resorts have wellness components purely based on location—these resorts are in therapeutic landscapes. Therapeutic landscapes are "environments that merge physical and architectural elements with societal conditions and human perceptions, thereby fostering an atmosphere conducive to healing.[261] These landscapes laid the groundwork for wellness experiences at resorts and evoke healing sensations through the interactions with the physical and architectural environment. Therapeutic landscapes can be broken into blue spaces (beaches,

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[258] Koncul, Nico, "Wellness: A New Mode of Tourism," *Economic Research-Ekonomska Istraživanja* 25, no. 2 (2012): 525-534, Accessed November 18, 2024.
[259] Ibid. Accessed November 18, 2024.
[260] Ibid. Accessed November 18, 2024.
[261]Liu, Chyong-Ru, Yao-Chin Wang, Tonny Menglun Kuo, Cheng-Hsiung Tsui, and Hsuan Chen, "Healing Experiences at Resort Hotels (HERH): Conceptualization and Scale Development," *International Journal of Hospitality Management* 120, (2024):103749, Accessed October 4, 2024.

rivers, lakes, and spas) and green spaces (gardens and forests), and individuals seek out these blue and green spaces for distinctly tranquil environments. Landscape can play a "crucial role in fulfilling individual's sense of happiness while promoting health and overall well-being."[262] These landscapes exemplify biodiversity and elements like vegetation, wildlife, and water bring a sense of rejuvenation in individuals seeking health and happiness.[263] Spaces can become sensory therapeutic landscapes as multisensory encounters with things like natural sounds, colors, etc. have potential to alleviate stress and aid emotional recovery.[264] Utilizing therapeutic landscapes outside and creating therapeutic landscapes inside resort hotels can enhance guests' wellbeing, attract positive social interaction, and strengthen the overall wellness experience.

**Conclusion**

Travel for neurodiverse individuals, in particular autistic individuals, is not without its challenges. Lack of accessible accommodation, judgement, and the emotional weight of these trips present an extreme barrier to tourism. A portion of this comes from societal perception of autism, which traces back to the 1910s and historical autism research and marginalization. This can be attributed in part to psychologists and conspiracy theorists who created incorrect narratives about autism that reached the general public. The autistic community has developed systems of advocacy to work to reverse these negative perceptions and create equitable systems, but the journey is just beginning and requires work from neurotypical individuals, rather than just the autistic community.

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[262] Liu, Chyong-Ru, Yao-Chin Wang, Tonny Menglun Kuo, Cheng-Hsiung Tsui, and Hsuan Chen, "Healing Experiences at Resort Hotels (HERH): Conceptualization and Scale Development," *International Journal of Hospitality Management* 120, (2024):103749, Accessed October 4, 2024.
[263] Hedblom, Marcus., Bengt Gunnarsson, Behzad Iravani, Igor Knez, Martin Schaefer, Pontus Thorsson, & Johan N. Lundström, "Reduction of Physiological Stress by Urban Green Space in a Multisensory Virtual Experiment," *Scientific Reports* 9, no. 10113 (2019), Accessed December 11, 2024.
[264] Ratcliffe, Eleanor, Birgitta Gatersleben, and Paul T. Sowden, "Bird Sounds and Their Contributions to Perceived Attention Restoration and Stress Recovery," *Journal of Environmental Psychology* 36, (2013):221-228, Accessed December 11, 2024.

An industry identified that needs to create new systems of accessibility is the hospitality industry. Accommodation based on those dating back to before the common area and developing throughout the 1800s and 1900s are not historically renowned for their accessibility practices. The hotel industry is an innovative industry, however, so it has the potential—and the means—to innovate to accommodate neurodiverse individuals. In some ways, the tourism already has moved to create accessible accommodation, as spaces that benefit autistic individuals can overlap with spaces that are typically considered resorts, wellness retreats, or therapeutic spaces. Understanding the historical context of autism, hospitality and utilizing research about travel for those with ASD can provide a solid base for work towards equitable spaces.

**Building Documentation**

**Name:** Peter's Cartridge Factory
**Address:** 1409 Grandin Road, Maineville, Ohio 45039





265


266

[265] "Photos: The Eerie Old Peters Cartridge Company Factory is a Spooky Sight." Cincinnati Refined. October 12, 2017. Accessed December 12, 2024.
[266] Armstrong, Phil. "Inside the Industrial Apartments Bringing the Peters Cartridge Factory Back to Life." Cincinnati Refined. February 9, 2021. Accessed November 23, 2024.

**Original Architects:** VanLeyere, Schilling, & Keough [267]
**Renovation Architects:** Bloomfield/Schon; Platte Architecture + Design.[268] [269]

**Description:**

The Peters Cartridge Company, a manufacturing factory producing munitions, was located on this site as early as 1887. The company was the first ammunition company to produce machine-loaded shotgun shells. In 1890s, there was an explosion on site that killed twelve and destroyed the original building. The new building, opened in the mid-late 1910s, is a historical site built of brick and reinforced concrete and is pictured above. The company held military contracts to produce arms for World War I, during which the factory employed thousands of employees—many of whom were women.[270] The factory produced more than one million ammunition cartridges daily. The company was then bought by Remington in 1933 and began producing for World War II efforts. After 1945 and the end of WWII, the factory passed through many hands until 1968 when it fell into disrepair. In the late 1980s into the 1990s, businesses and haunted house companies tried to revive the factory, but nothing quite took off until the early 2000s and mid 2010s.[271] In the late 1990s and early 2000s, the site was an EPA Superfund cleanup site, first being recognized as needing to be cleaned up in the 1990s, and cleanup being completed in 2017. [272] During the Superfund cleanup process, a development firm bought the property in 2015 and renovated it into a mixed-use housing and retail complex, opening in

[267] National Park Service, Department of the Interior. *Peters Cartridge Factory.* 1985.
[268] "Peters Cartridge Factory." Bloomfield/Schon. Accessed November 15, 2024.
[269] "Cartridge Brewing" Platte Architecture + Design. Accessed November 16, 2024.
[270] "Home." Peters Cartridge Factory Apartments. Accessed November 15, 2024.
[271] "Our History." Cartridge Brewing. Saucy Brew Works Management. Accessed November 15, 2024.
[272] United States Environmental Protection Agency. *Superfund Site: Peters Cartridge Factory Kings Mills, OH.* Accessed December 8, 2024.

2020.[273] Peters Cartridge Factory Apartments include 134 apartments and retail on site features Cartridge Brewing.[274]

**Property Quick Facts:**

Year Built: 1916-1918
Year Renovated: 2019-2020
Zoning Classification: No Zone
Number of Buildings on Property: 6

https://www.wcauditor.org/propertysearch/summary/index?account_nbr=3103557
https://www.wcauditor.org/propertysearch/PropertySearchPrintable/Submit

*Building A*
Number of Floors: 4

*Building B*
Number of Floors: -

*Building C*
Number of Floors: 3

*Building D*
Number of Floors: 3

*Building E*
Number of Floors: tower – 11, main building – 3

*Building F*
Number of Floors: 2

[273] "Peters Cartridge Company, Mainesville: Preservation Merit Award." Ohio History Connection. Accessed January 7, 2024.
[274] "Home." Peters Cartridge Factory Apartments. Accessed November 15, 2024.

**Current Use:**

134 Apartments – Studio, 1 Bed, 1 Bed Loft, 2 Bed/ 1.5 BT, 2 Bed/2.5 BT, 3 Bed
Retail – yet to be filled
Restaurant – Cartridge Brewing

**Features and Amenities:**

- 13’ Ceilings
- Concrete Floors
- Outdoor & Indoor Parking
- Low VOC finishes
- Insulated floor-to-ceiling operable windows

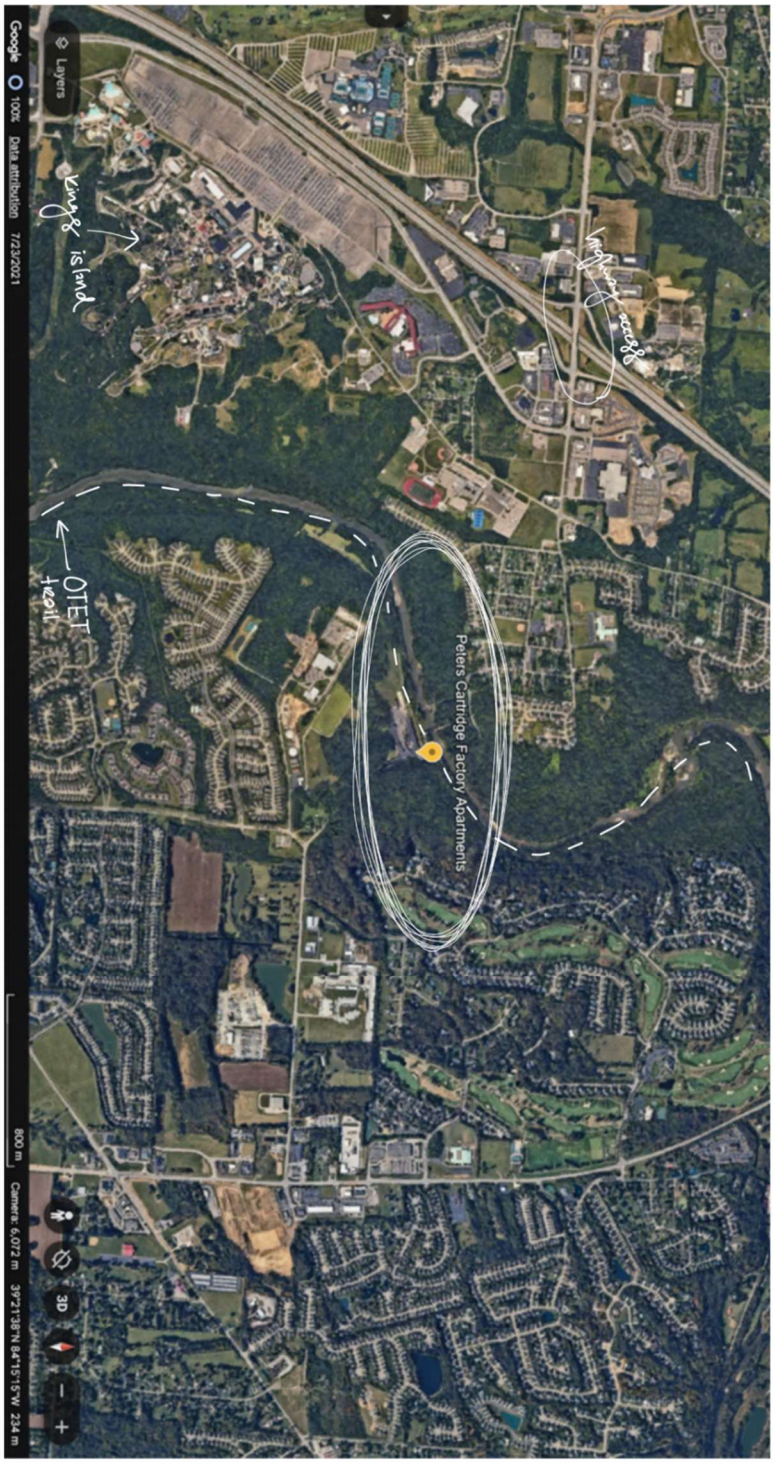
**Notes/Adjacencies:**

- Access to Little Miami Scenic Bike Trail, a portion of the Ohio to Erie Trail
- Easy Access to Kings Island
- Near I-71

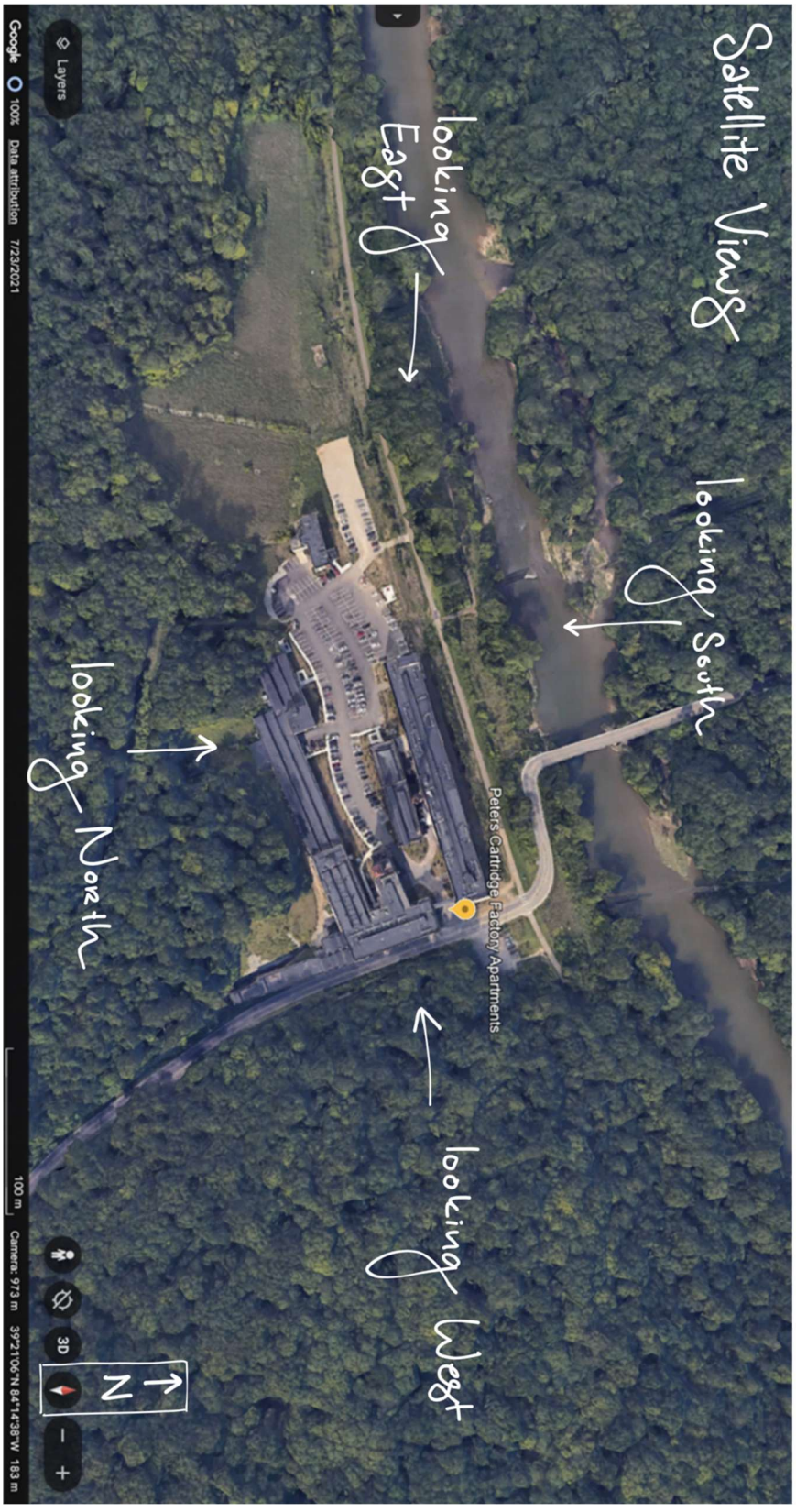
**SITE VIEWS**

Google Earth Perspective images of Site:

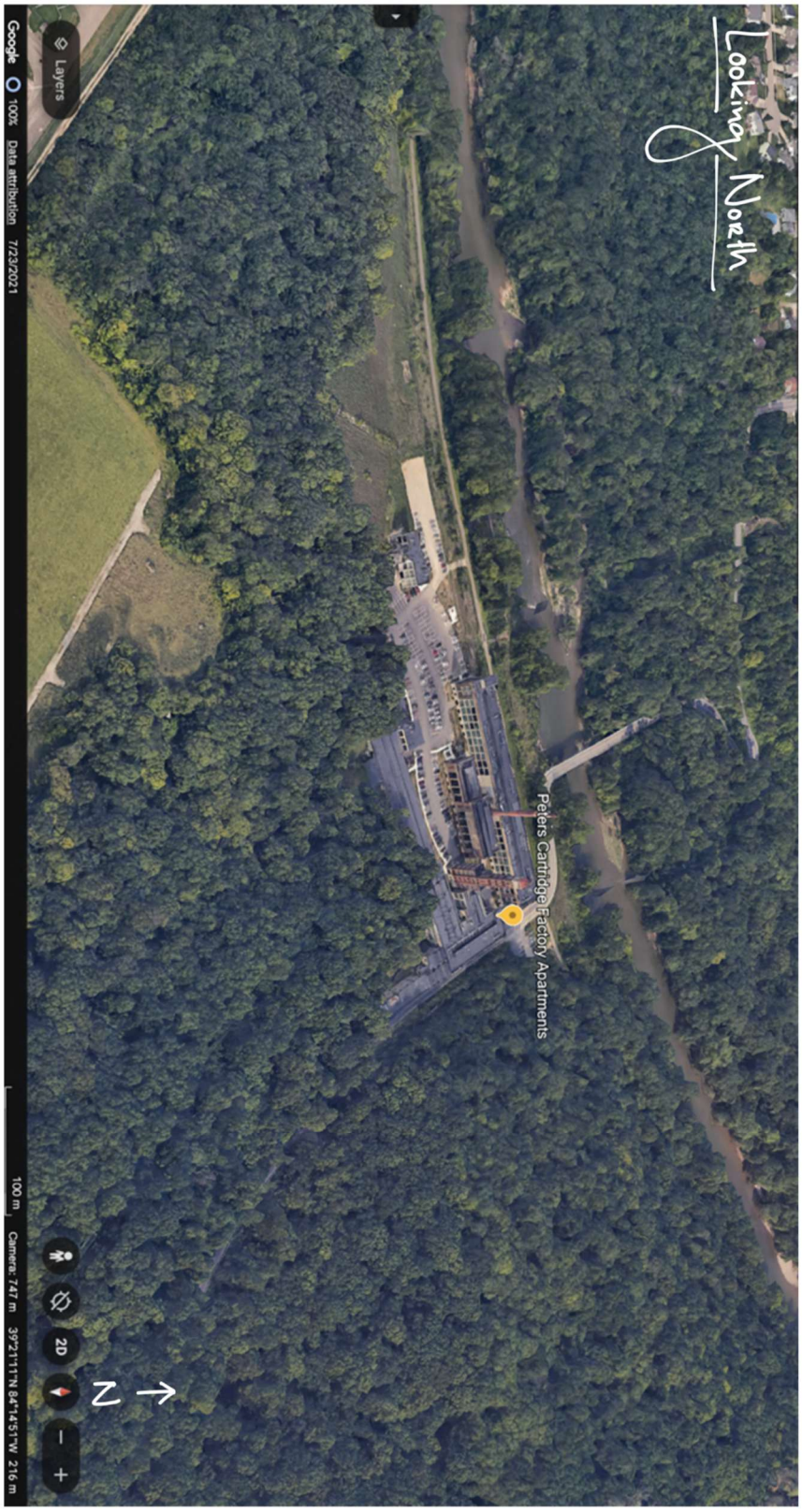
*Above, zoomed out for site context*



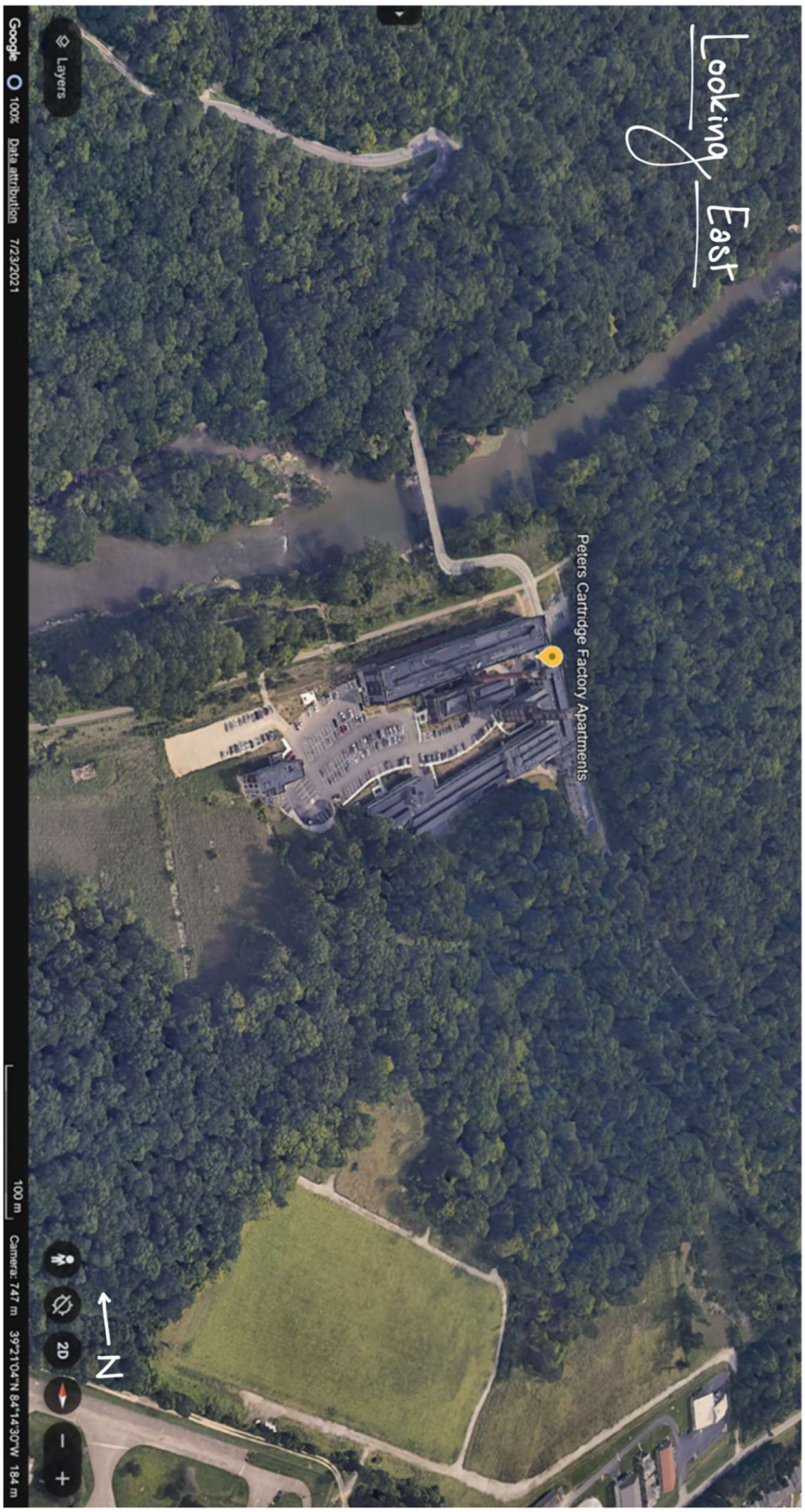
*Above*


Satellite Views
looking South
looking East
looking West
looking North
Peters Cartridge Factory Apartments
Layers
Google
100%
Data attribution
7/23/2021
100 m
Camera: 973 m
39°21'06.7"N 84°14'38"W 183 m
3D
N

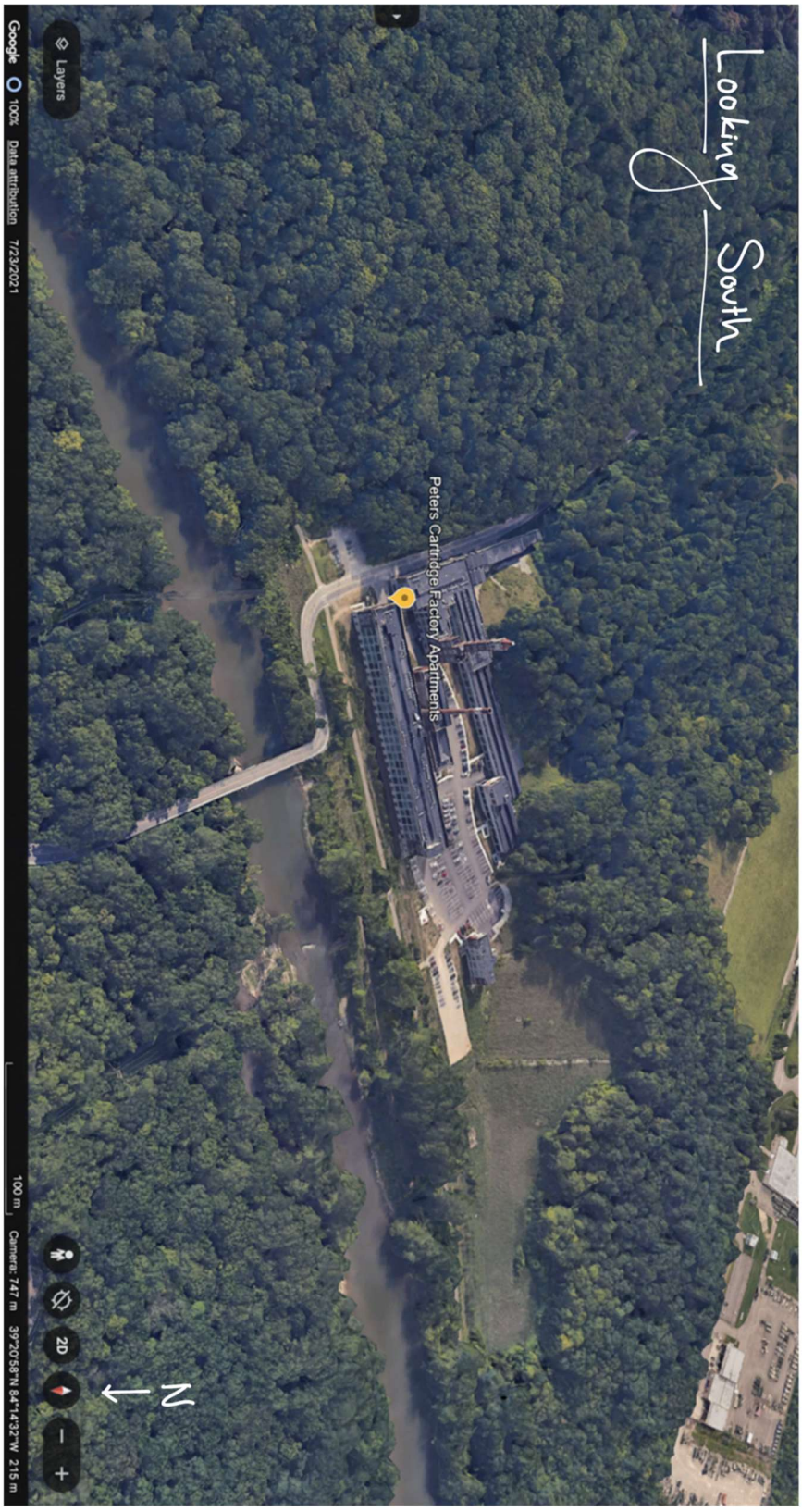
*Looking North:*



*Looking East:*



*Looking South:*



*Looking West:*



WKRC-TV SkyView – Stills from Video Coverage of Peters Cartridge Factory



*Unless noted otherwise, official plans, sections, and elevations below are courtesy of the Warren County Building and Rural Zoning Department and are available under the Freedom of Information Act.*

**WARREN COUNTY BUILDING AND RURAL ZONING INSPECTION**
**WARREN COUNTY ADMINISTRATION BUILDING**
**406 JUSTICE DRIVE - LEBANON, OHIO 45036**

**Lebanon** –(513) 695-1290 and (513) 695-1294

***PUBLIC RECORDS REQUEST RESPONSE***

12.27.2024

Erin Lambert

RE: Public Records Request—Available Public records for:
1409 Grandin Rd
Maineville, OH 45039

Dear Mrs. Erin Lambert

This letter is in response to your public records request on *Dec 19, 2024 received* by the *Warren County Building and Rural Zoning Department.*

The records responsive to your request are available. The requested records do not have any redactions or applicable exemptions.

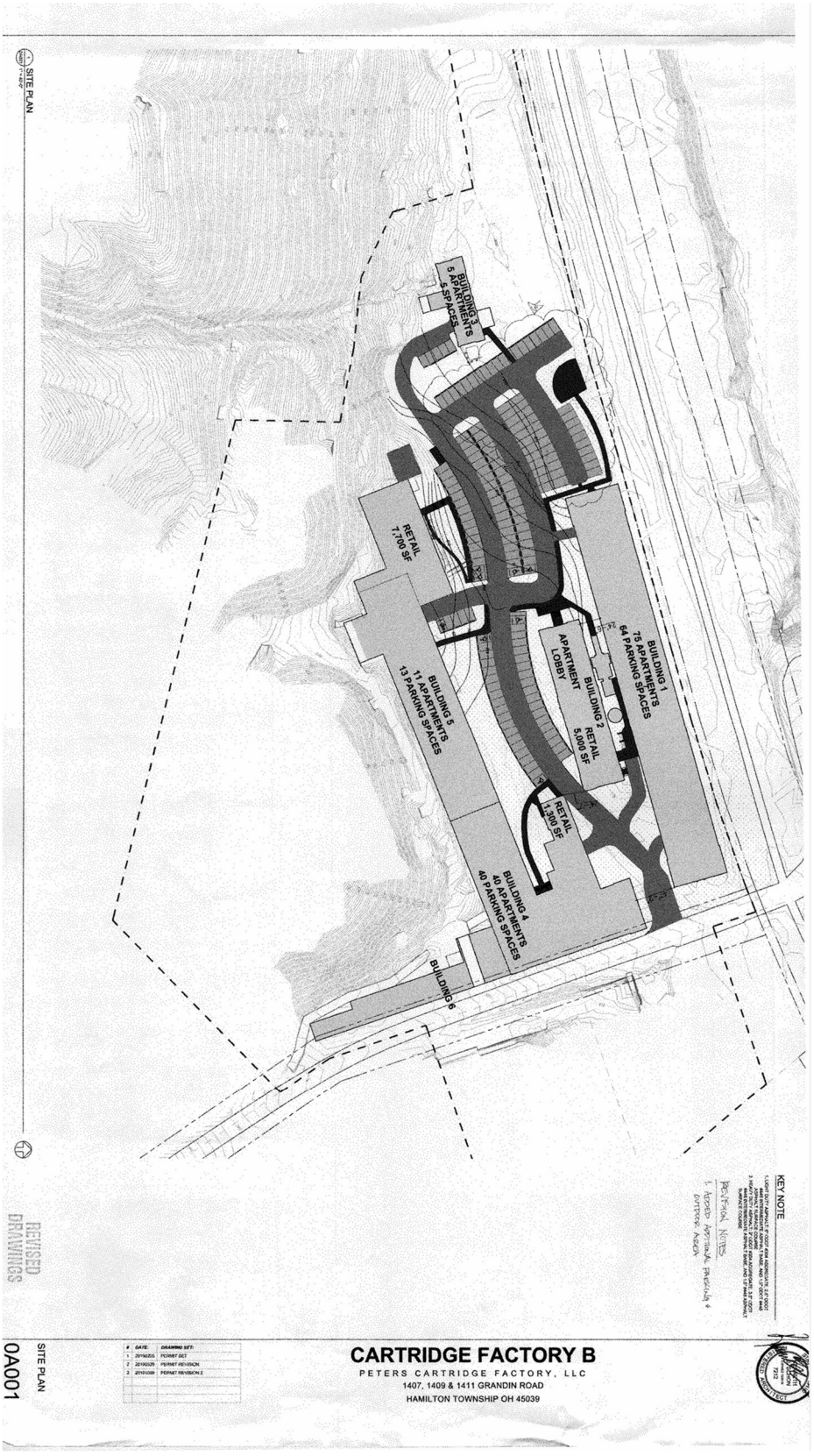
If you have any questions, do not hesitate to contact me.

Sincerely,

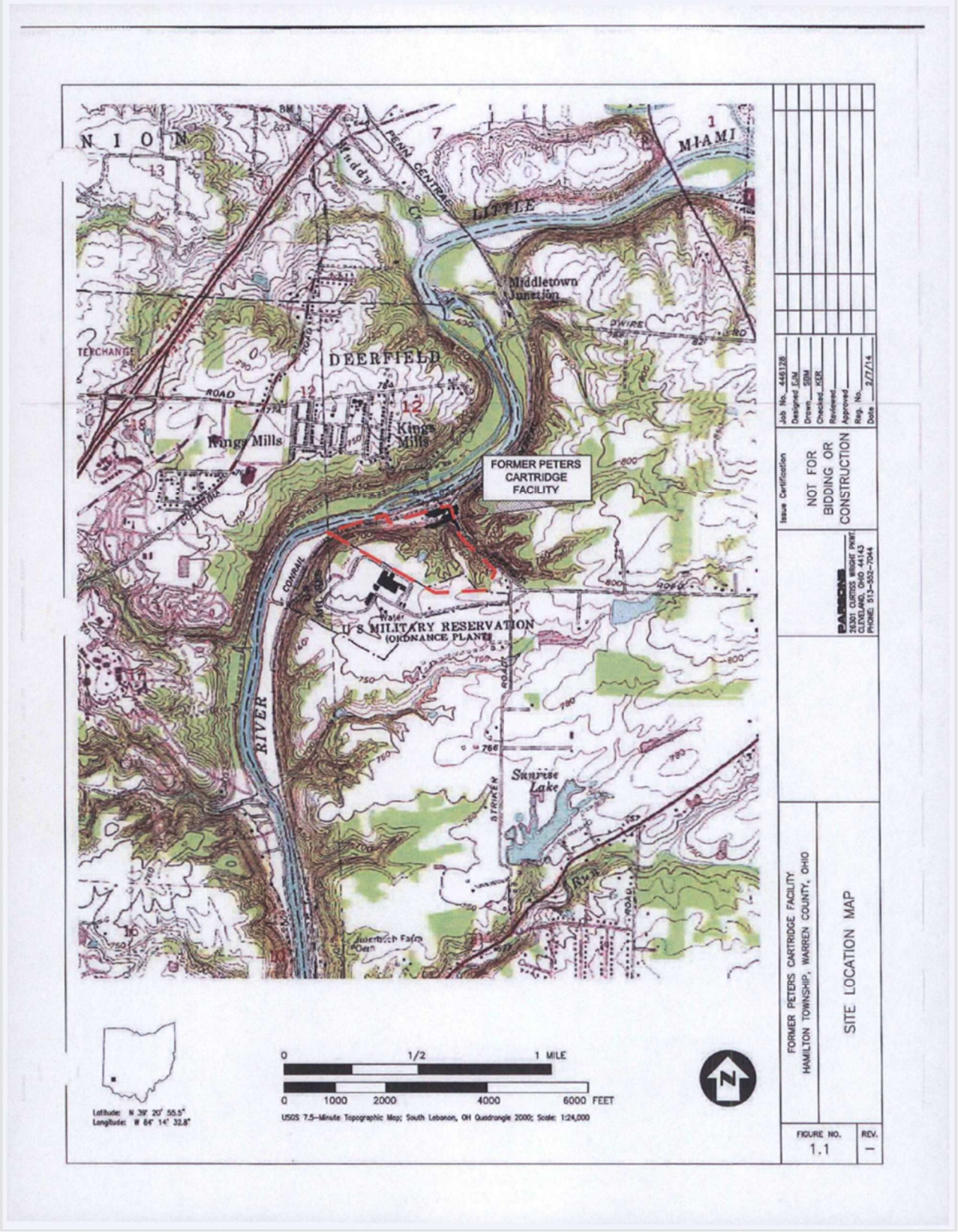
Kalena Kemp

Kalena Kemp
Residential Tech

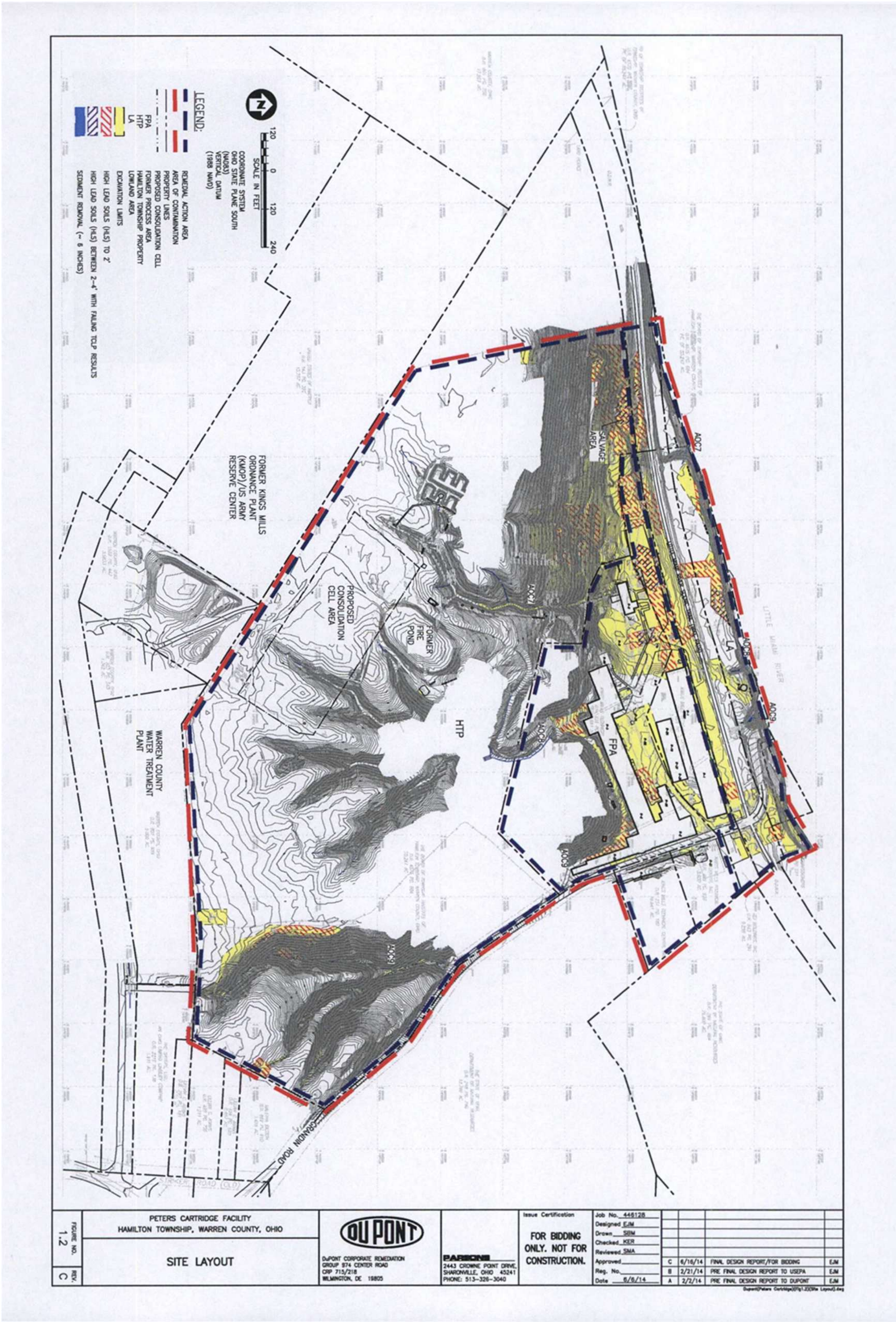
**Site Plan**


SITE PLAN
BUILDING 3
5 APARTMENTS
5 SPACES
RETAIL
7,100 SF
BUILDING 5
11 APARTMENTS
13 PARKING SPACES
APARTMENT
LOBBY
BUILDING 2
RETAIL
5,000 SF
BUILDING 1
75 APARTMENTS
64 PARKING SPACES
RETAIL
1,300 SF
BUILDING 4
40 APARTMENTS
40 PARKING SPACES
BUILDING 6
KEY NOTE
REVISED DRAWINGS
SITE PLAN
OA001
CARTRIDGE FACTORY B
PETERS CARTRIDGE FACTORY, LLC
1407, 1409 & 1411 GRANDIN ROAD
HAMILTON TOWNSHIP OH 45039

EPA Site Cleanup – from U.S. EPA, *Explanation of Significant Differences*

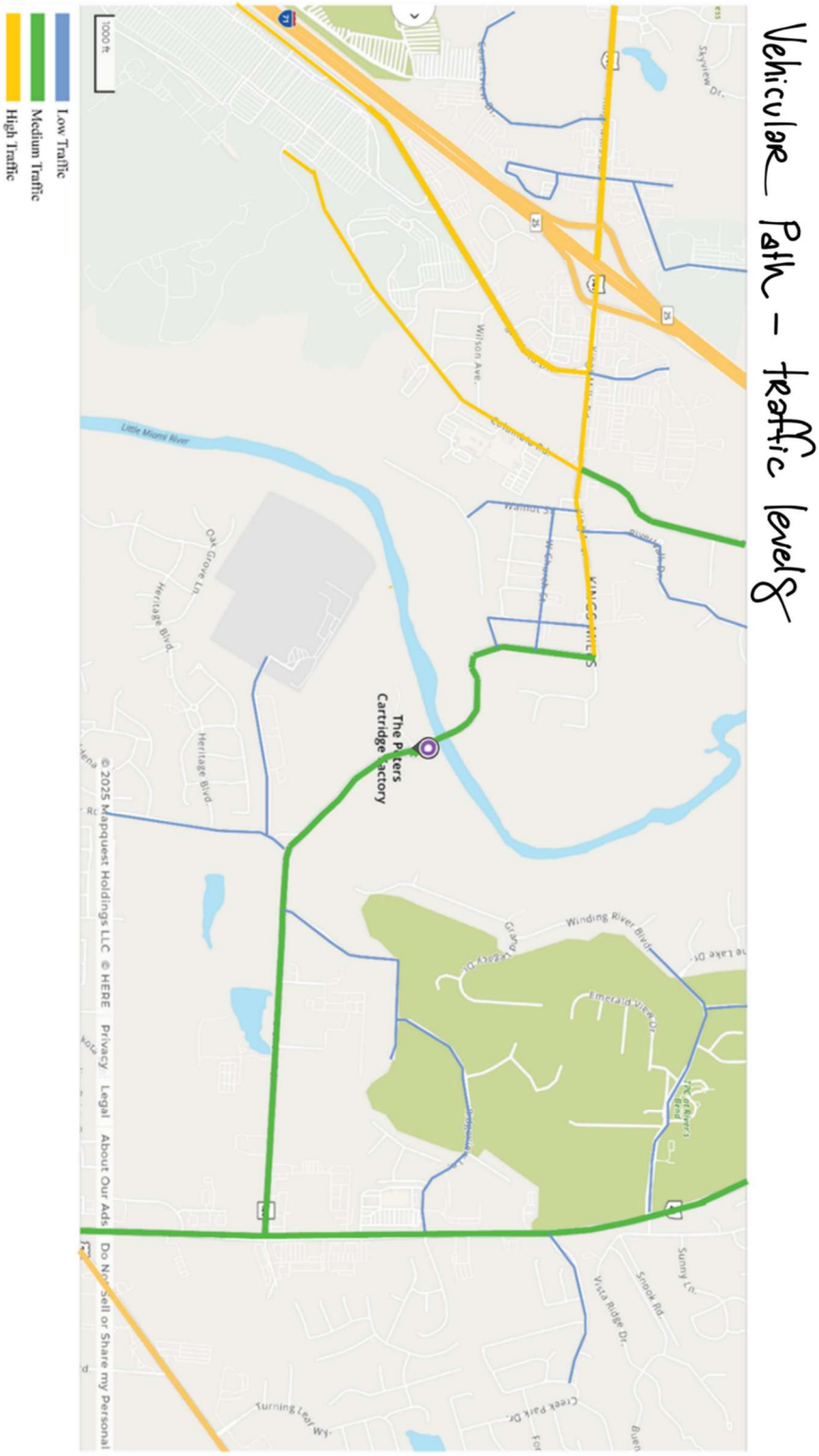


EPA Site Cleanup – from U.S. EPA, *Explanation of Significant Differences*



**TRANSPORTATION & MOBILITY**

Site Circulation – Vehicular traffic, map courtesy of MapQuest



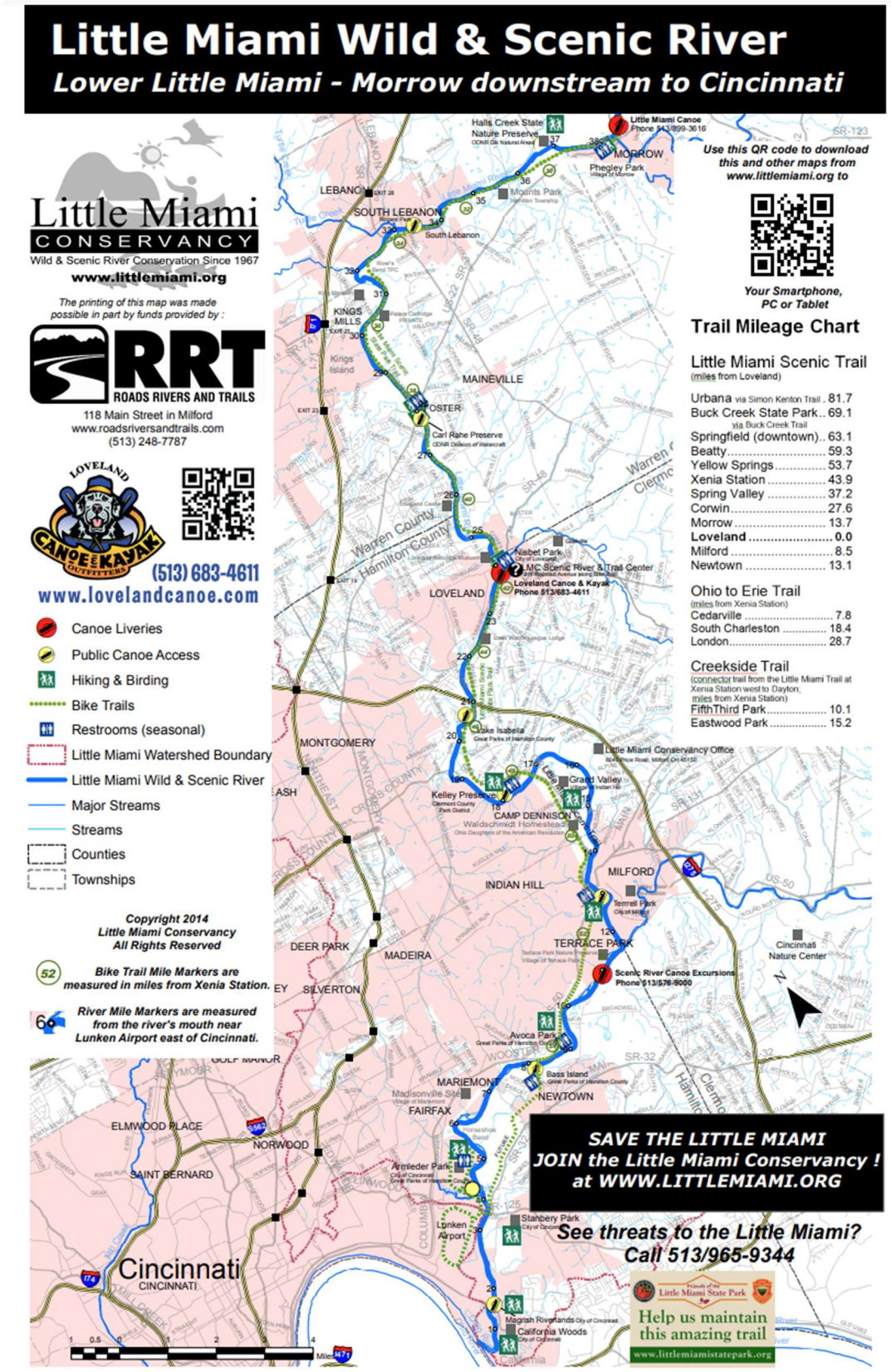
Pedestrian Travel: Ohio to Erie Trail, from OTET




**Ohio to Erie Trail traverses 15 counties across the state and is currently comprised of (south to north):**

- Ohio River Trail
- Lunken Airport Trail
- Little Miami Scenic Trail
- Prairie Grass Trail
- Roberts Pass
- Camp Chase Trail
- Hilltop Connector
- Lower Scioto Greenway
- Downtown Connector
- Alum Creek Trail
- Westerville Bike & Walk Route
- Genoa Trail
- Hoover Scenic Trail
- T.W. Hopper Legacy Trail
- Sandel Legacy Trail
- Heart of Ohio Trail
- Kokosing Gap Trail
- Mohican Valley Trail
- Holmes County Trail
- Salt Creek Trail
- Sippo Valley Trail
- Ohio & Erie Canal Towpath
- Centennial Lake Link Trail
- Whiskey Island Connector

Little Miami Conservancy – Little Miami River Map, From Little Miami Conservancy

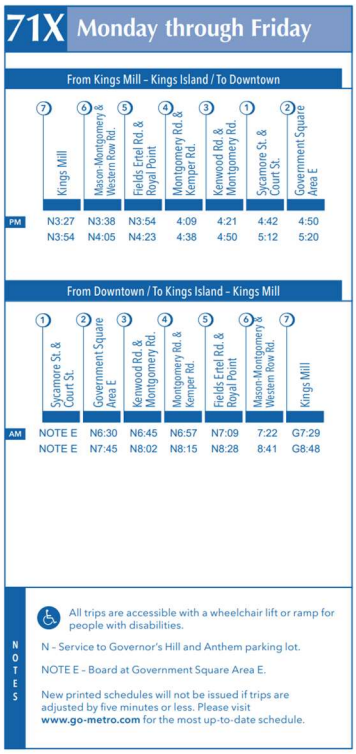


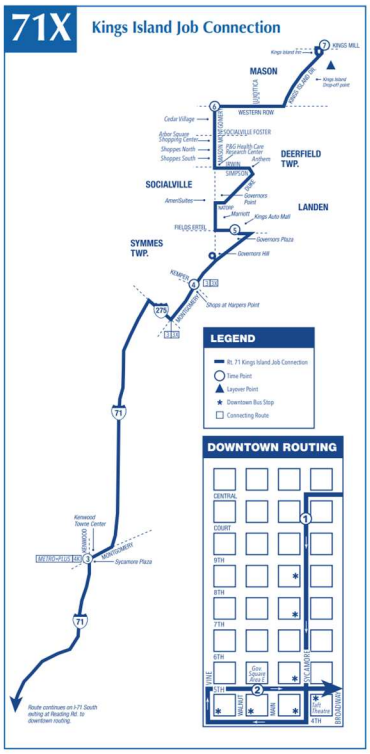
Little Miami Trail (Section of Ohio to Erie Trail), From Miami Valley Trails

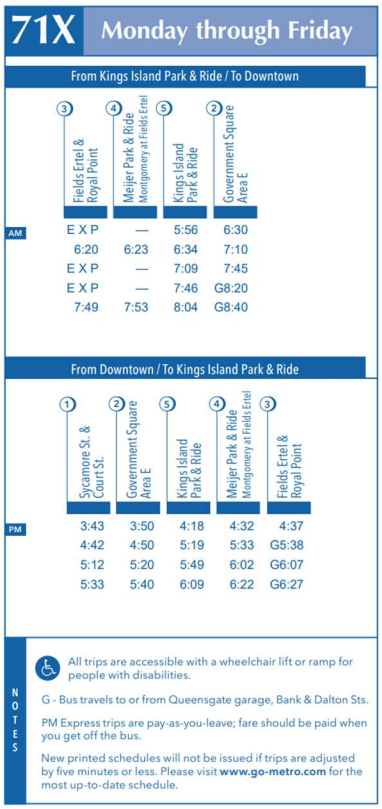


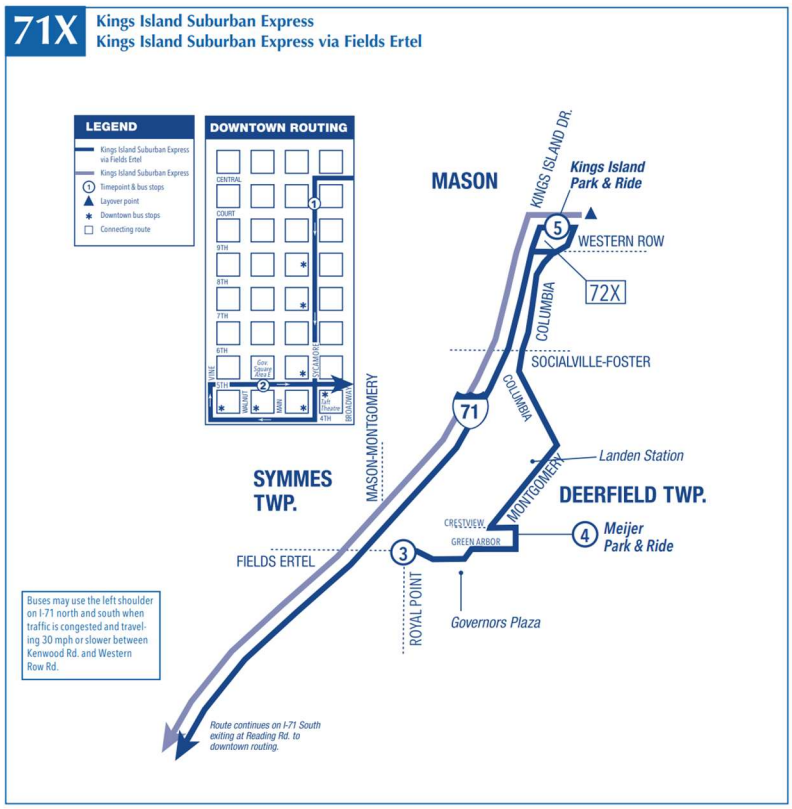
Public Transportation: Cincinnati Metro



# 72X

effective 5.26.2024

## Kings Island Direct Express

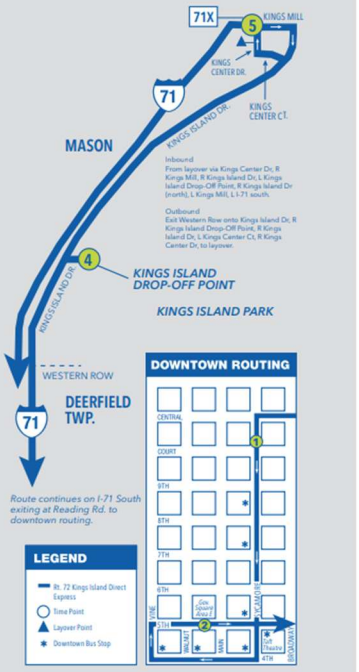
**Seven days a week**

**Serving:**
Downtown
Kings Island Amusement Park
Kings Island Inn
Kings Mills

metro
your way to go

**Metro Sales Office** · 120 E.Fourth St.
Mercantile Center arcade
Weekdays 7:30am - 4:30pm
bus schedules · information · passes · stored-value cards
**go-metro.com**

## 72X Kings Island Direct Express




## Metro Information
## Metro Información

metro

### Fare
### Tarifa

**72X Kings Island Direct Express**

Fare: $2.65 Express service
30-day rolling pass: Express service $106

### Contacting Metro
### Cómo comunicarse con Metro

| | |
|---|---|
| Bus info/Customer Care Center<br>Información sobre autobuses | 513-621-4455 |
| Customer Care Center<br>Relaciones de clientes | 513-632-7575 |
| Lost & Found<br>Objetos perdidos y encontrados | 513-632-7699 |
| Access information<br>Información sobre medios de acceso | 513-632-7590 |
| Fare Deal information<br>Información sobre el programa Fare Deal | 513-632-7540 |
| TDD Ohio Relay Service<br>(for deaf/hearing-impaired customers)<br>Servicio de relevo mediante TDD de Ohio (Para clientes sordos/con deficiencias auditivas). | 800-750-0750 |

**www.go-metro.com**

please recycle

[Fares effective April 4, 2021]

## 72X Weekdays

### To Downtown

| | Kings Mill Rd. & Kings Center Ct. (5) | Kings Island Drop Off Point (4) | Elsinore & Reading Rd. (3) | Government Square Area E (2) |
|---|---|---|---|---|
| PM | 2:30 | 2:34 | 3:07 | 3:15 |
| | 6:03 | 6:07 | 6:42 | 6:50 |
| | 7:42 | 7:46 | 8:18 | 8:25 |
| | 9:04 | 9:07 | 9:38 | 9:45 |
| | 10:29 | 10:32 | 11:03 | 11:10 |
| AM | 12:00 | 12:20 | 12:50 | 12:57 |

### To Kings Island/Kings Mill

| | Sycamore St. & Court St. (1) | Government Square Area E (2) | Kings Island Drop Off Point (4) | Kings Mill Rd. & Kings Center Ct. (5) |
|---|---|---|---|---|
| AM | 8:04 | 8:10 | 8:42 | 8:46 |
| | 8:54 | 9:00 | 9:31 | 9:35 |
| | 9:44 | 9:50 | 10:21 | 10:25 |
| | 1:44 | 1:50 | 2:21 | 2:25 |
| | 5:14 | 5:20 | 5:52 | 5:56 |
| PM | NOTE E | 6:50 | 7:19 | 7:23 |
| | NOTE E | 8:25 | 8:54 | 8:57 |
| | NOTE E | 9:45 | 10:16 | 10:19 |
| | NOTE E | 11:10 | 11:41 | 11:44 |

All trips are accessible with a wheelchair lift or ramp for people with disabilities.

NOTE E – Board at Government Square Area E.

## 72X Saturdays

### To Downtown

| | Kings Mill Rd. & Kings Center Ct. (5) | Kings Island Drop Off Point (4) | Elsinore & Reading Rd. (3) | Government Square Area E (2) |
|---|---|---|---|---|
| PM | 2:33 | 2:38 | 3:07 | 3:15 |
| | 6:05 | 6:10 | 6:42 | 6:50 |
| | 7:42 | 7:46 | 8:18 | 8:25 |
| | 9:02 | 9:06 | 9:38 | 9:45 |
| | 10:27 | 10:31 | 11:03 | 11:10 |
| AM | 12:00 | 12:20 | 12:50 | 12:57 |

### To Kings Island/Kings Mill

| | Sycamore St. & Court St. (1) | Government Square Area E (2) | Kings Island Drop Off Point (4) | Kings Mill Rd. & Kings Center Ct. (5) |
|---|---|---|---|---|
| AM | 8:05 | 8:10 | 8:39 | 8:42 |
| | 8:55 | 9:00 | 9:32 | 9:35 |
| | 9:45 | 9:50 | 10:22 | 10:25 |
| PM | 1:45 | 1:50 | 2:20 | 2:23 |
| | 5:14 | 5:20 | 5:50 | 5:53 |
| | NOTE E | 6:50 | 7:22 | 7:25 |
| | NOTE E | 8:25 | 8:54 | 8:57 |
| | NOTE E | 9:45 | 10:14 | 10:17 |
| | NOTE E | 11:10 | 11:38 | 11:41 |

All trips are accessible with a wheelchair lift or ramp for people with disabilities.

NOTE E – Board at Government Square Area E.

## 72X Sundays

### To Downtown

| | Kings Mill Rd. & Kings Center Ct. (5) | Kings Island Drop Off Point (4) | Elsinore & Reading Rd. (3) | Government Square Area E (2) |
|---|---|---|---|---|
| PM | 2:33 | 2:38 | 3:07 | 3:15 |
| | 6:04 | 6:09 | 6:42 | 6:50 |
| | 7:43 | 7:47 | 8:18 | 8:25 |
| | 9:04 | 9:08 | 9:38 | 9:45 |
| | 10:28 | 10:32 | 11:03 | 11:10 |
| AM | 12:00 | 12:20 | 12:50 | 12:57 |

### To Kings Island/Kings Mill

| | Sycamore St. & Court St. (1) | Government Square Area E (2) | Kings Island Drop Off Point (4) | Kings Mill Rd. & Kings Center Ct. (5) |
|---|---|---|---|---|
| AM | 8:04 | 8:10 | 8:39 | 8:42 |
| | 9:45 | 9:50 | 10:19 | 10:22 |
| PM | 1:45 | 1:50 | 2:19 | 2:22 |
| | 5:15 | 5:20 | 5:49 | 5:53 |
| | NOTE E | 6:50 | 7:18 | 7:21 |
| | NOTE E | 8:25 | 8:53 | 8:56 |
| | NOTE E | 9:45 | 10:16 | 10:19 |
| | NOTE E | 11:10 | 11:40 | 11:43 |

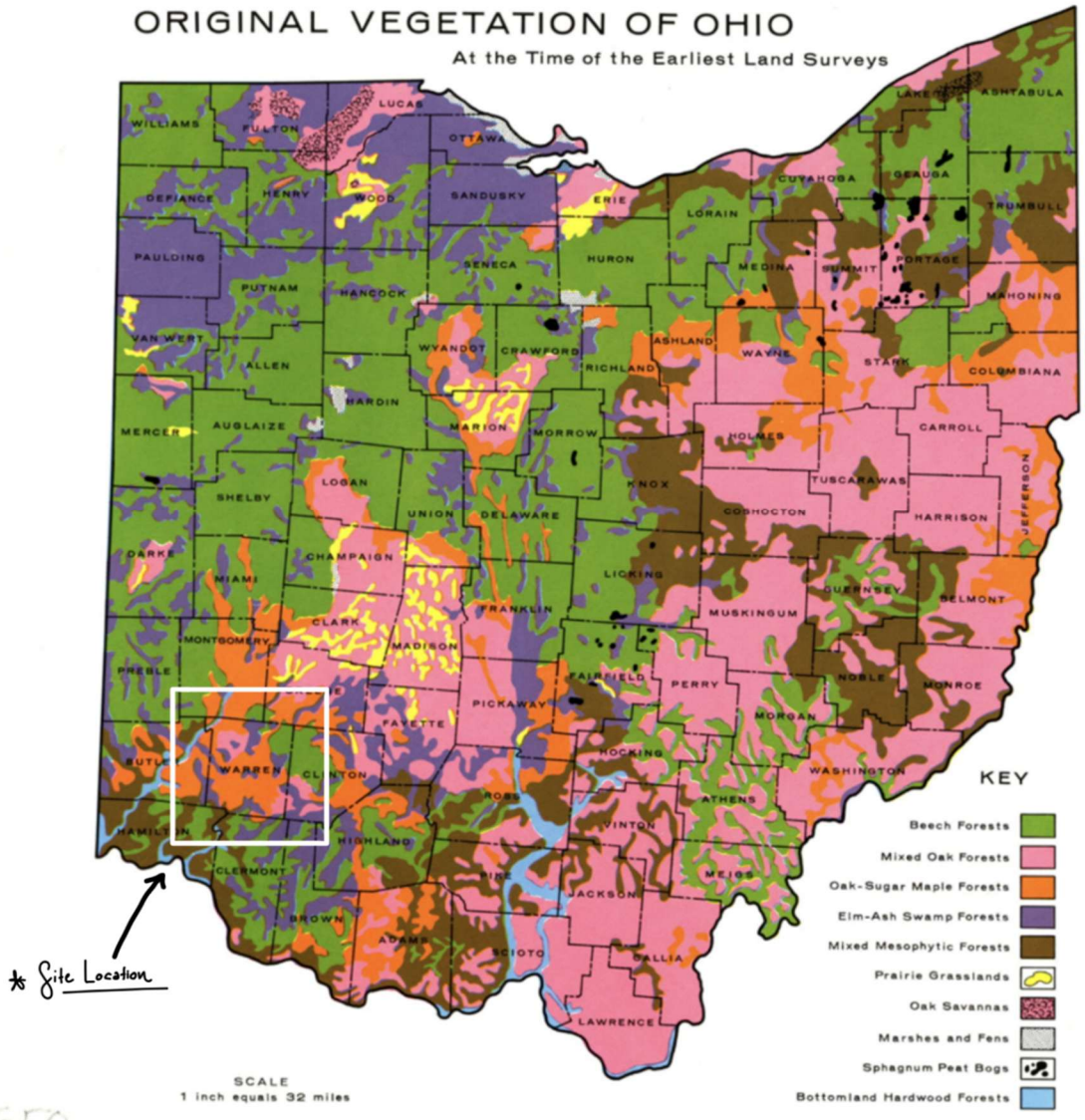
All trips are accessible with a wheelchair lift or ramp for people with disabilities.

NOTE E – Board at Government Square Area E.

**CLIMATE**

Original Vegetation Map – The Ohio State Library

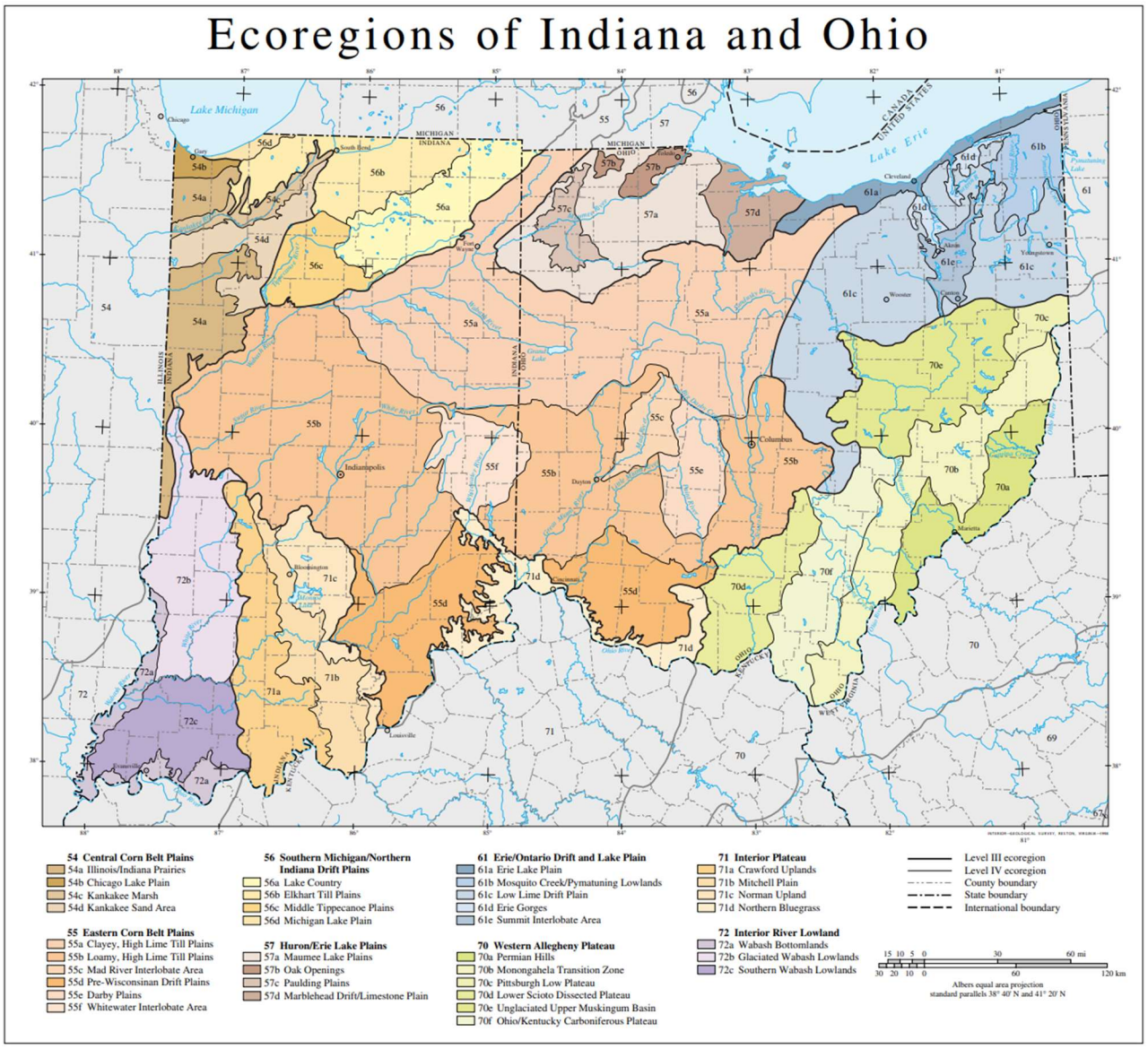
GEOLOGY LIBRARY
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K20
075

Orton Memorial Library of Geology
180 Orton Hall, 155 S Oval Mall
The Ohio State University
Columbus, OH 43210

Level IV Ecoregions of Indiana and Ohio – EPA



Level IV Ecoregions of Indiana and Ohio – EPA



Ecoregion 55a is a level, clayey, limy till plain. Its agricultural soils need artificial drainage.



The broad plains of Ecoregion 55b are made up of loamy, calcareous till. They were forested but now support corn, soybean, and livestock farming.



Large agricultural fields and very limited woodland are typical of Ecoregion 55c.



Cold water streams such as the Mad River are typical of Ecoregion 55c.

## 55. Eastern Corn Belt Plains

Ecoregion 55 is primarily a rolling till plain with local end moraines. It has lighter colored soils than Ecoregion 54, loamier and better drained soils than Ecoregion 57, and richer soils than Ecoregion 61. Glacial deposits of Wisconsian age are extensive; they are not as dissected nor as leached as the pre-Wisconsinan till which is restricted to the southern part of Ecoregion 55. Originally, natural tree cover was greater than Ecoregion 54; beech forests were common on Wisconsinan soils while beech forests and elm-ash swamp forests dominated the wetter pre-Wisconsinan soils. Today, extensive corn, soybean, and livestock production occurs and has affected stream chemistry and turbidity.

**55a** **The Clayey, High Lime Till Plains** ecoregion is transitional between the Loamy, High Lime Till Plains (55b) and the Maumee Lake Plains (57a); soils are less productive and more artificially drained than Ecoregion 55b and supported fewer swampy areas than Ecoregion 57a. Corn, soybean, wheat, and livestock farming is dominant and has replaced the original beech forests and scattered elm-ash swamp forests. No exceptional fish communities exist in the turbid, low gradient streams of Ecoregion 55a.

**55b** **The Loamy, High Lime Till Plains** ecoregion contains soils that developed from natural drainage than those of Ecoregion 55a and have more natural fertility than those of Ecoregion 55d. Beech forests, oak-sugar maple forests, and elm-ash swamp forests grew on the nearly level terrain; today, corn, soybean, and livestock production is widespread.

**55c** **The Mad River Interlobate Area** ecoregion is flanked by end moraines and received concentrated outwash deposits that filled preglacial valleys. Abundant ground water feeds its distinctive cold water streams that contain an abundance of riffle-inhabiting fish species. Originally, beech forest, mixed oak forest, and extensive fresh water fen/wet prairies were common in Ecoregion 55c. Today, extensive corn, soybean, dairy, and livestock farms as well as urban activity occur. Woodland still grows on steep sites and along riparian corridors; fresh water fen/wet prairies can also be found locally.

**55d** **The Pre-Wisconsinan Drift Plains** ecoregion is differentiated from the surrounding ecoregions by its deeply-leached, acidic, pre-Wisconsinan till and thin loess; widespread areas of nearly flat, very poorly-drained soils with fragipans are also distinctive. In addition, some dissected areas occur. Streams often have more sustained runoff and biotic diversity than those of Ecoregion 55b. Originally, beech forests and elm-ash swamp forests were dominant. Today, soybeans are common and are well adapted to spring soil wetness; corn, tobacco, and livestock farming also occurs.

**55e** **The Darby Plains** ecoregion once had a distinct assemblage of mixed oak forest; many prairies occurred on its end moraines, gravel-filled preglacial valleys, and seasonally wet areas. Today, tree density is less than in Ecoregion 55b and very large, productive crop and livestock farms occur on its level to undulating terrain. Big Darby Creek, a State and National Scenic River, has high fish diversity.

**55f** **The Whitewater Interlobate Area** ecoregion has distinctive cool water, coarse-bottomed streams that are perennial and fed by abundant ground water. The redside dace, northern studfish, and banded sculpin occur; they are absent or uncommon in Ecoregion 55b. Unique Ozarkian invertebrates also occur in Ecoregion 55f. Dolomitic drift and meltwater deposits are characteristic and overlie limestone, calcareous shale, and dolomitic mudstone.



Originally, the rose sparrow was common in Ecoregion 55b. Since 1940, it has declined one, partly, to a loss of wintering habitat.
*Photo: Mac Allen, Columbus Metro Parks*



Corn crops are less common on the leached soils of Ecoregion 55d than elsewhere in Ecoregion 55.



The blackeared darter is threatened in Ohio. It occurs in the swift, rocky riffles of Big Darby Creek, a State and National Scenic River in Ecoregion 55e.
*Photo: Roger F. Thomas, Ohio EPA*



Big Darby Creek, a State and National Scenic River in Ecoregion 55e, has a high diversity of mussels.
*Photo: Ohio Chapter, American Fisheries Society*

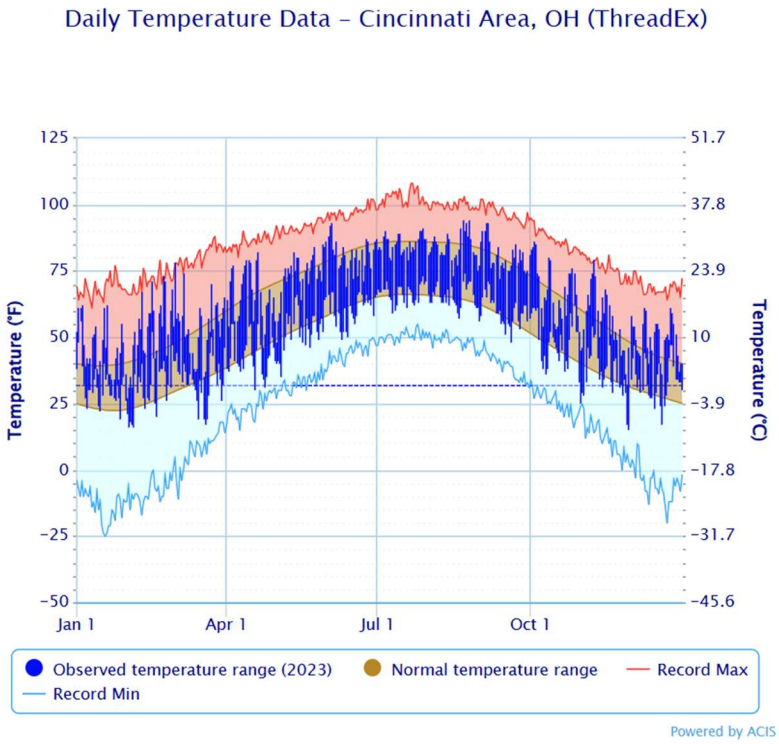
## 55. EASTERN CORN BELT PLAINS

| Level IV Ecoregion | Area (square miles) | Physiography | Geology | | Soil | | Climate | | | Potential Natural Vegetation | Land Use and Land Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Elevation / Local Relief (feet) | Surficial material and bedrock | Order (Great Groups) | Common Soil Series | Temperature / Moisture Regimes | Precipitation Mean annual (inches) | Frost Free Mean growing season (days) | Mean Temperature January minimum, (°F) / July maximum, (°F) | | |
| **55a. Clayey, High Lime Till Plains** | 10520 | Glaciated. Broad nearly level glacial till plains also basins and end moraines. Low gradient streams. | 700-1300 / <15-200 | Clayey, high lime, late-Wisconsinan glacial till, lacustrine deposits, and scattered loess overlie Paleozoic shales, carbonates, and sandstones. | Alfisols (Epiaqualfs, Hapludalfs), Mollisols (Argiaquolls, Endoaquolls) | Widespread: Blount, Pewamo, Glynwood, Morley. In east: Bennington, Cardington. In west: Del Rey, Eel. On lake plains: Nappanee, Milford. | Mesic/ Udic, Aquic/ Udic | 34-40 | 150-180 | 19-24/15-40; 59-63/83-89 | Mostly beech forest. Scattered elm-ash swamp forest in lacustrine basins and other poorly-drained areas. Wet prairies behind end moraines in Wyandot-Marion counties. | Extensive corn, soybean, wheat, livestock, and dairy farming on artificially drained soils; also scattered pin oak-swamp, white oak woodland, and beech-maple woodland. Urban activity in Fort Wayne. |
| **55b. Loamy, High Lime Till Plains** | 13978 | Glaciated. Level to rolling glacial till plain with low gradient streams; also end moraines and glacial outwash landforms. | 500-1350 / 15-300 | Loamy, high lime, late-Wisconsinan glacial till and also glacial outwash and scattered loess overlie Paleozoic carbonates and shale. | Alfisols (Hapludalfs, Epiaqualfs, Endoaqualfs), Mollisols (Argiaquolls, Endoaquolls, Argiudolls), Entisols (Fluvaquents) | Widespread: Miamian, Crosby. Ohio: Celina, Kokomo, Bennington, Cardington. Indiana: Fincastle, Treaty, Cyclone, Xenia, Ockley, Shoals. | Mesic/ Udic, Aquic/ Udic | 36-43 | 150-185 | 20-25/57-43; 61-65/86-90 | Mostly beech forest; also, oak-sugar maple forest, elm-ash swamp forest on poorly-drained valley bottoms and ground moraines, mixed oak forest on Pickaway Plains. | Mostly beech forest, elm-ash swamp forest, and livestock farming; also scattered beech-maple, pin oak-swamp, white oak woodlands. Urban-industrial activity in Columbus, Indianapolis, and Dayton. |
| **55c. Mad River Interlobate Area** | 657 | Glaciated. Level to hilly interlobate area with moderate stream gradients, and sand, gravel, or bedrock channels. Abundant ground water feeds cold, perennial, high volume streams. | 700-1425 / 50-325 | Loamy, high lime, late-Wisconsinan glacial till and coarse glacial outwash cover Paleozoic carbonates of the Salina Undifferentiated Group. Glacial outwash deposits are high yielding aquifers. | Alfisols (Hapludalfs, Epiaqualfs), Mollisols (Argiaquolls) | Widespread: Miamian, Kokomo, Crosby, Celina. On glacial outwash: Eldean, Westland. | Mesic/ Udic, Aquic | 35-38 | 155-165 | 21/37-41; 63/87 | West of Mad River: Mostly beech forest; scattered elm-ash swamp forest. East of Mad River, mixed oak forest interspersed with extensive fen/wet prairie. | Extensive corn and soybean farming; also dairy and livestock farming. Wooded where steep. Residential, commercial, industrial activity; also sand/gravel mining. Freshwater fen/wet prairie habitat occur and several thousand acres are under protection. |
| **55d. Pre-Wisconsinan Drift Plains** | 4234 | Glaciated. Dissected glacial till plain with low to medium gradient streams with beds of sand, gravel, or bedrock. Many streams, such as Indiana's Muscatatuck, Flats are poorly-drained. | 800-1200 / 50-500 | Deeply leached, acidic pre-Wisconsinan clay-loam glacial till and thin loess overlie Paleozoic shales, sandstones, limestones, and restrict drainage sometimes severely. | Alfisols (Fragiudalfs, Hapludalfs, Fragiaqualfs, Glossaqualfs), Inceptisols (Fluvaquents) | Widespread: Rossmoyne, Avonburg, Cincinnati. Ohio: Clermont. Glossaqualfs: Hickory. Inceptisols: Dubois, Stonelick, Bonnie. | Mesic/ Aquic, Udic/ Aquic | 39-45 | 165-195 | 23-27/40-45; 62-67/86-91 | Mostly beech forest, elm-ash swamp forest; also oak-sugar maple forest. | Mostly beech forest, elm-ash swamp forest; also oak-hickory forest. |
| **55e. Darby Plains** | 1132 | Glaciated. Level to undulating drift plain punctuated by the Edgerton, Rossville, Cable, London and Bloomingburg end moraines and a few streams. Often more poorly-drained than the soils of 55b. | 800-1200 / 20-100 | Loamy, high lime, late-Wisconsinan drift covers Paleozoic carbonates of the Salina Undifferentiated Group. | Mollisols (Argiaquolls), Alfisols (Epiaqualfs), Hapludalfs) | Widespread: Kokomo, Crosby. Miamian: Celina, Lewisburg. On glacial outwash: Eldean, Westland. On flood plains: Sloan. | Mesic/ Aquic, Udic | 37-41 | 160-175 | 22/42; 61-65/87 | Mixed oak forest interspersed with wet prairies on moraines, gravel-filled valleys, and seasonal ponds in south, broad poorly-drained areas had elm-ash swamp forest, wet prairies. | Extensive corn, soybean, and wheat farming; some pasture. Average farm size and yields per acre are greater than elsewhere in Ohio. |
| **55f. Whitewater Interlobate Area** | 1185 | Glaciated. Undulating, dissected interlobate area with moderate gradient streams and sand, gravel, or rock beds. Abundant ground water feeds cold, perennial, high volume streams. | 775-1200 / 25-225 | Loamy, high lime Wisconsinan glacial till, mixed drift, glacial outwash, and alluvium overlie Paleozoic limestone, calcareous shale, and dolomitic mudstone. Glacial till has high magnesium carbonate content. | Alfisols (Hapludalfs, Epiaqualfs), Mollisols (Endoaquolls, Argiaquolls); also Inceptisols (Eutrochrepts) | Crosby, Treaty, Miamian, Celina, Losantville, Eldean, Ockley, Eel. | Mesic/ Udic, Aquic | 39-41 | 150-165 | 22/38-42; 61/89 | Mostly beech forest and elm-ash swamp forest; also oak-hickory forest. | Corn, soybean, and livestock farming; also riparian woodland. |

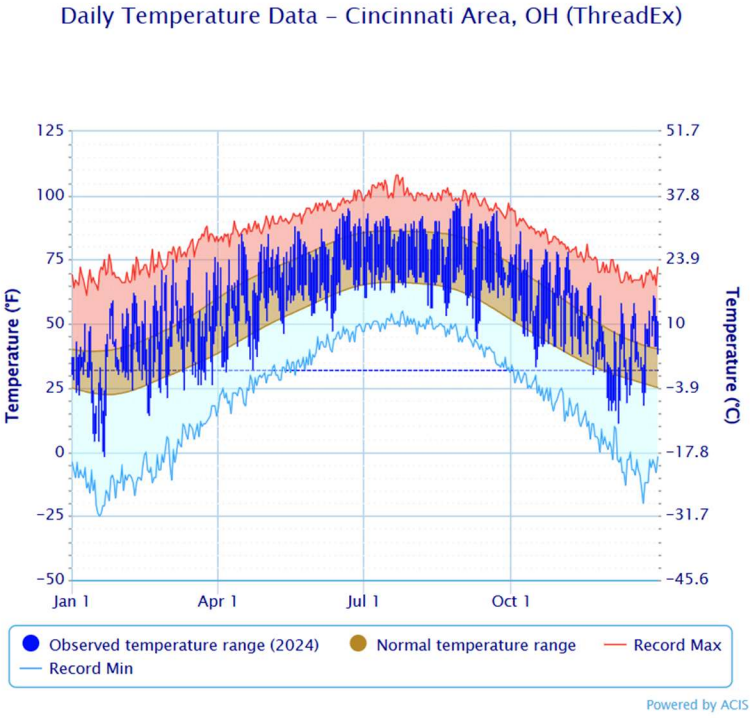
2023 USDA Plant Hardiness Zone Map – USDA



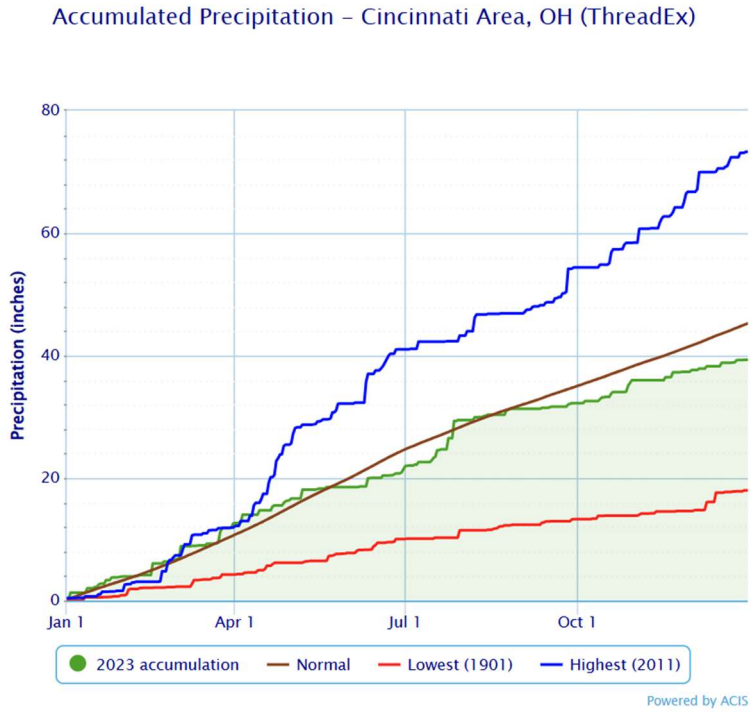
Temperature Graph 2023 – National Weather Service, NOAA



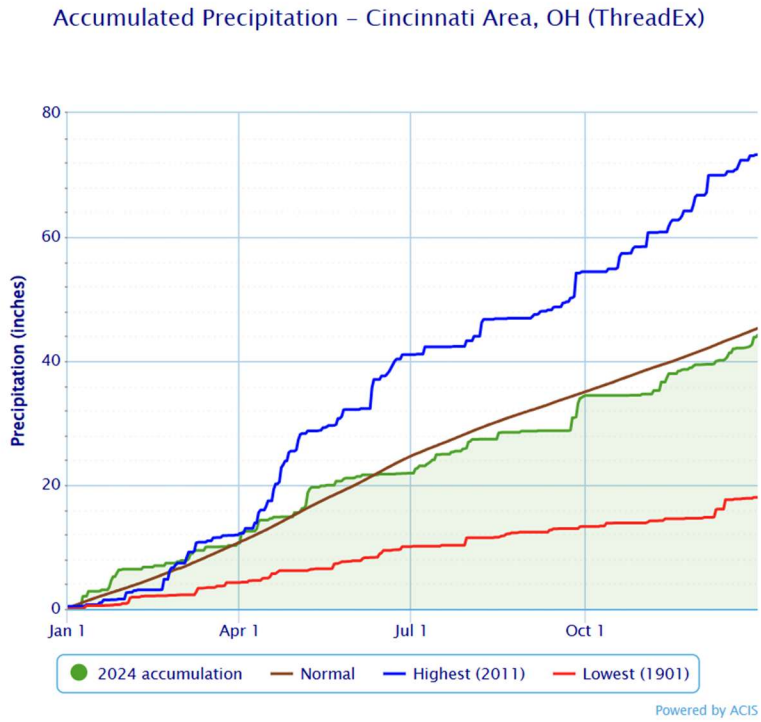

Temperature Graph 2024 - National Weather Service, NOAA



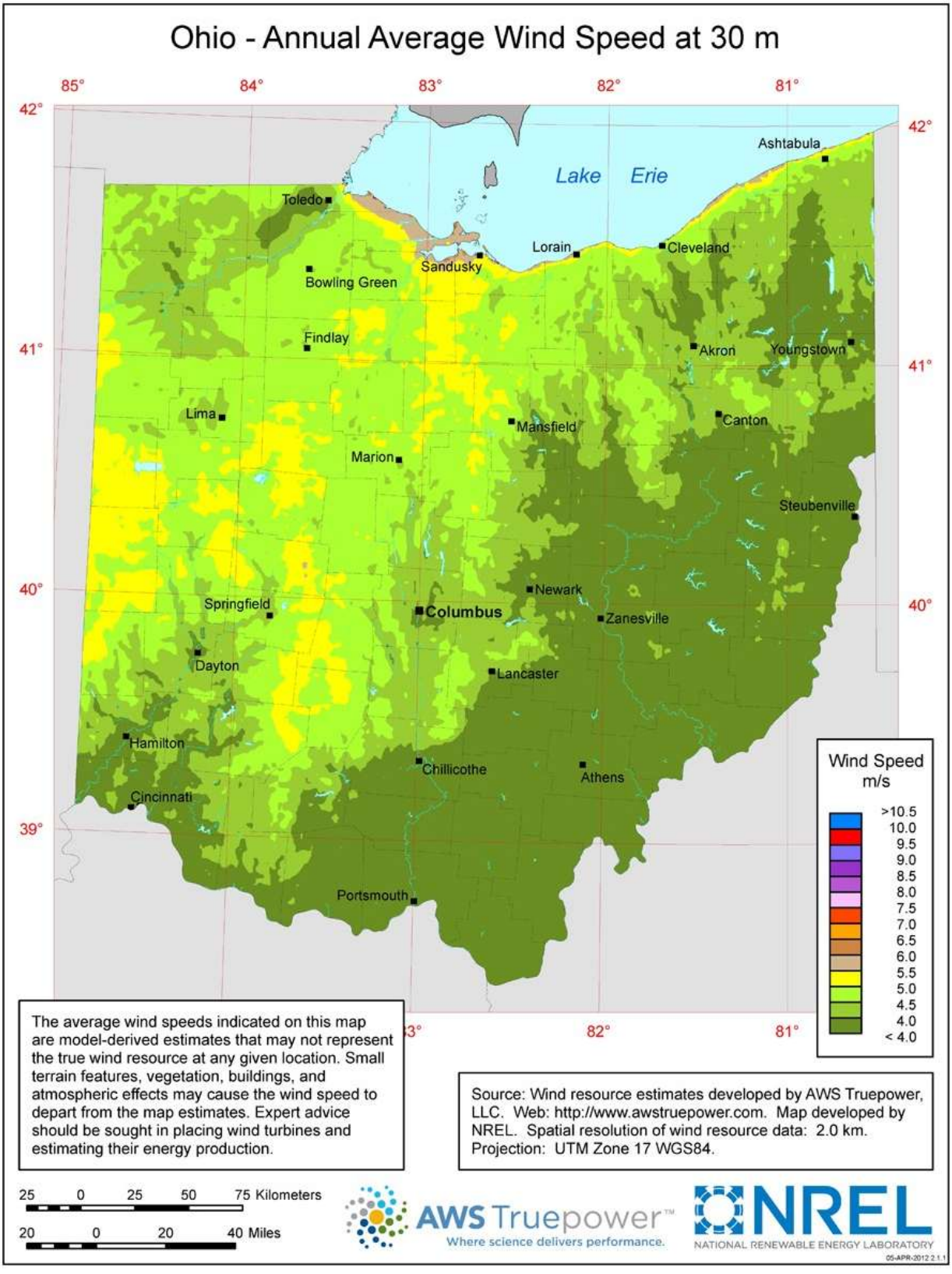
Precipitation Graph 2023 - National Weather Service, NOAA




Precipitation Graph 2024 - National Weather Service, NOAA

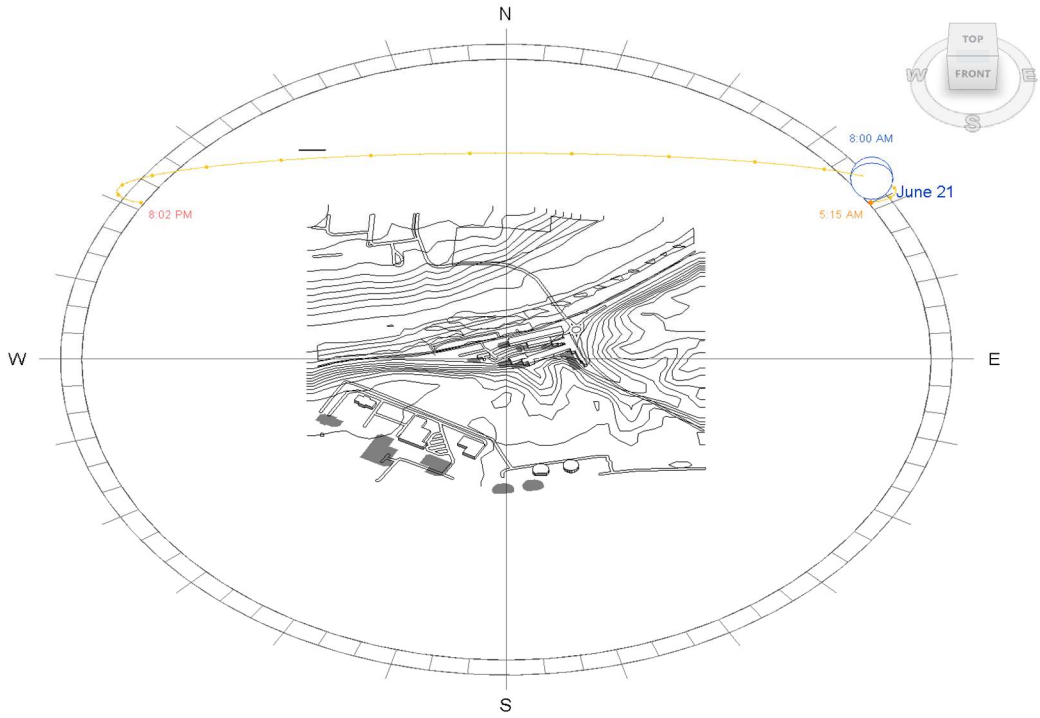


Average Wind – WINDExchange, U.S. Department of Energy

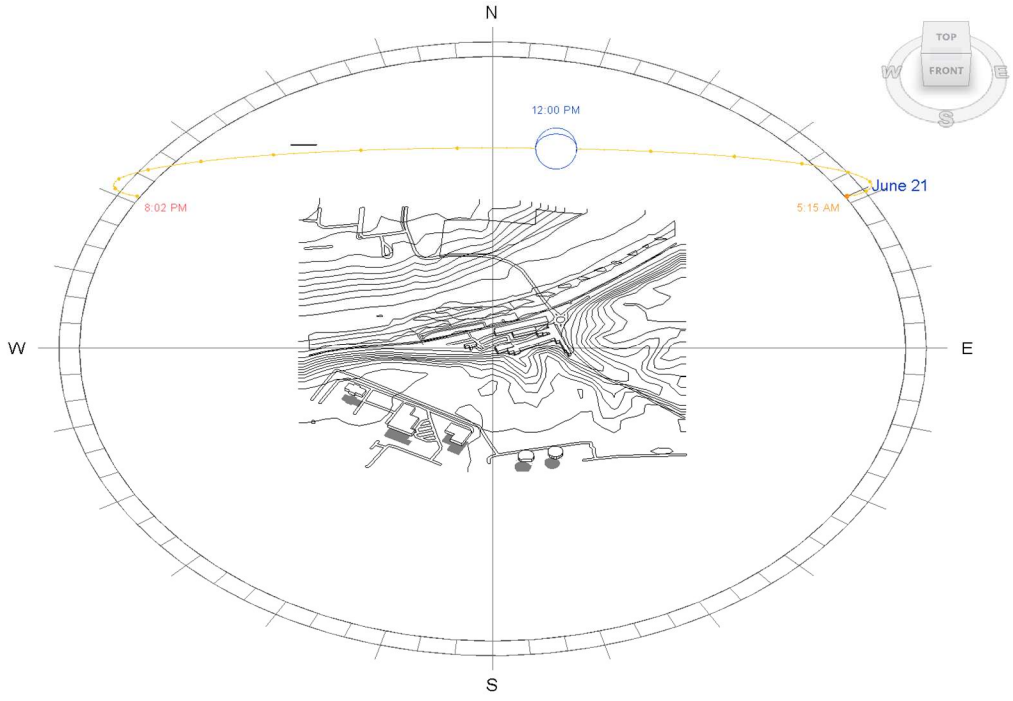


Solar Study:

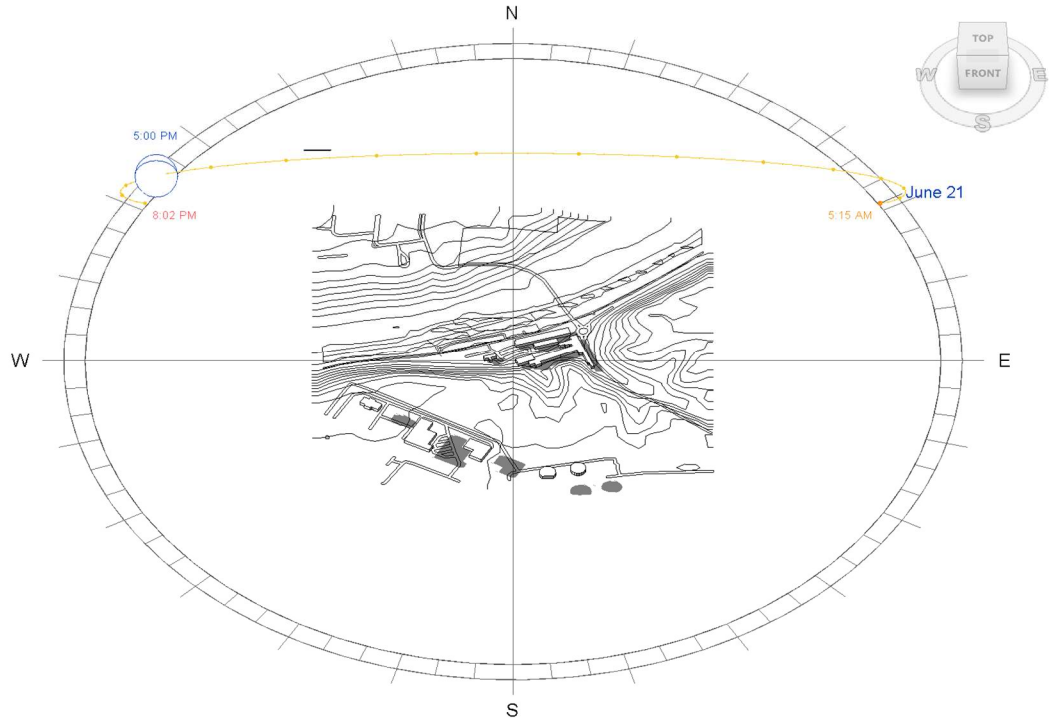
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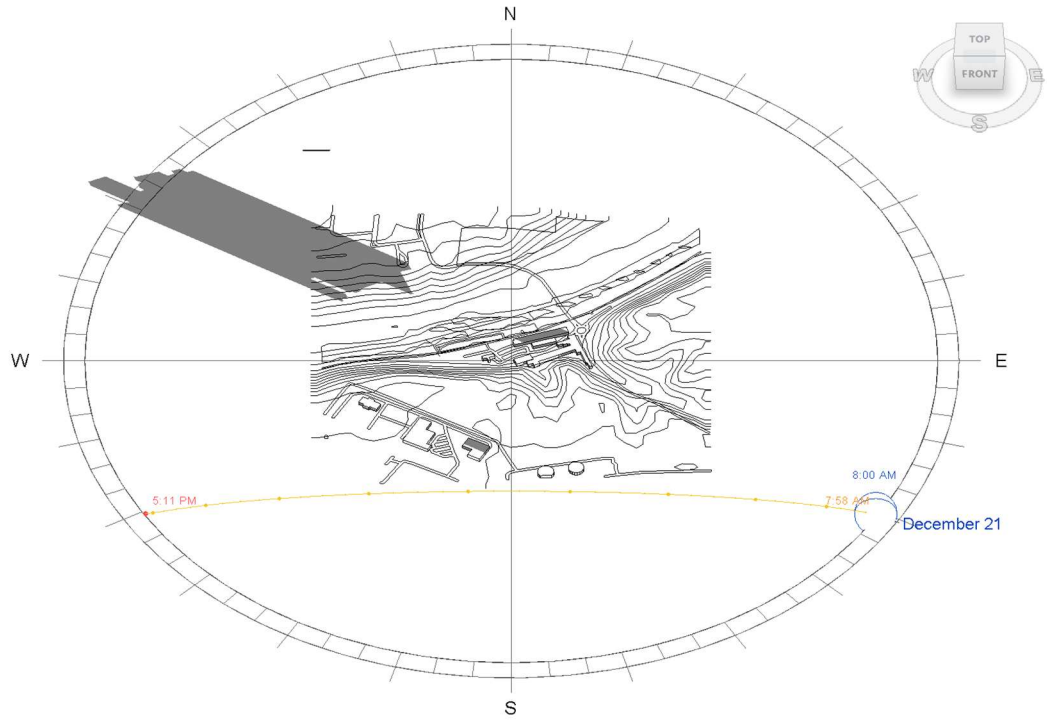

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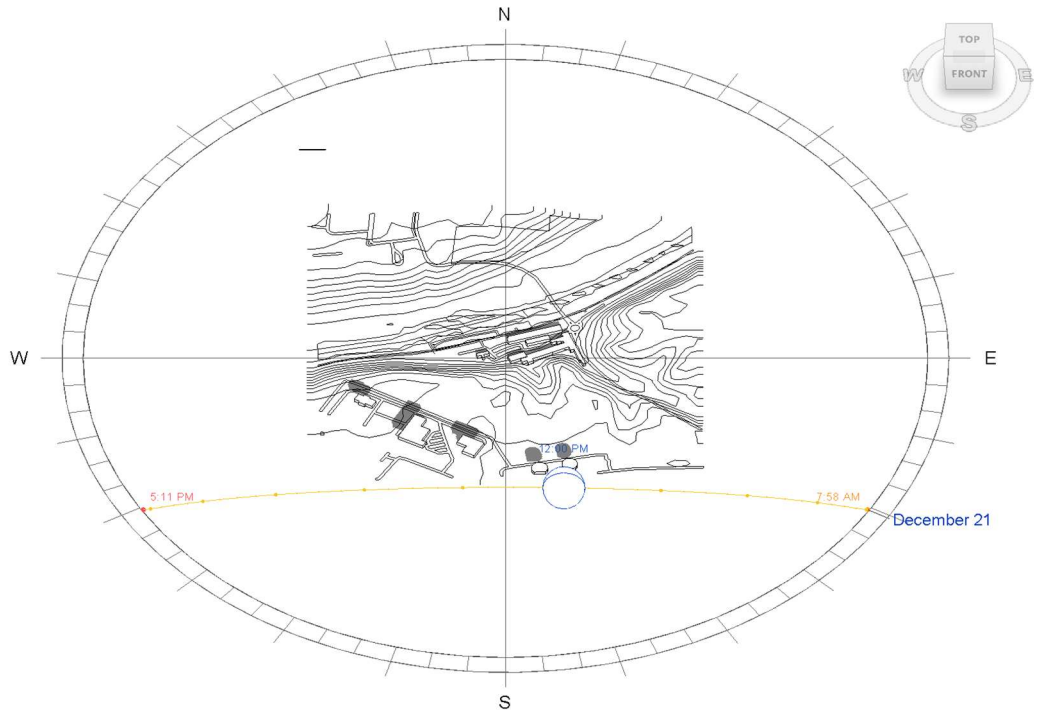
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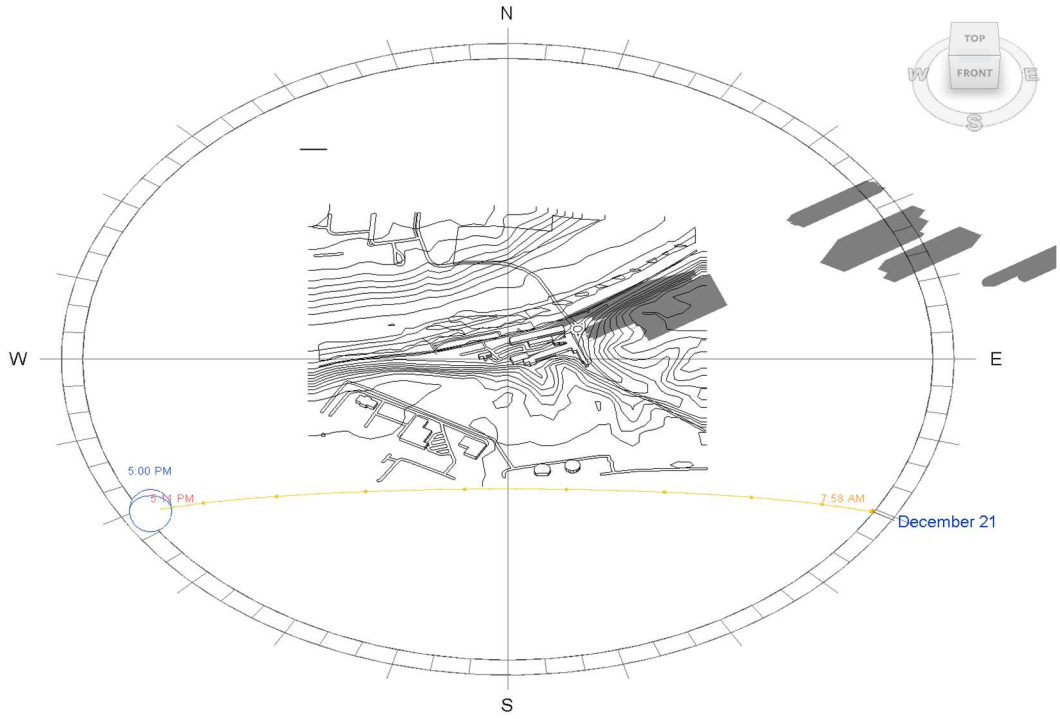

*December 21st, 8:00am*



*December 21st, 12:00pm*

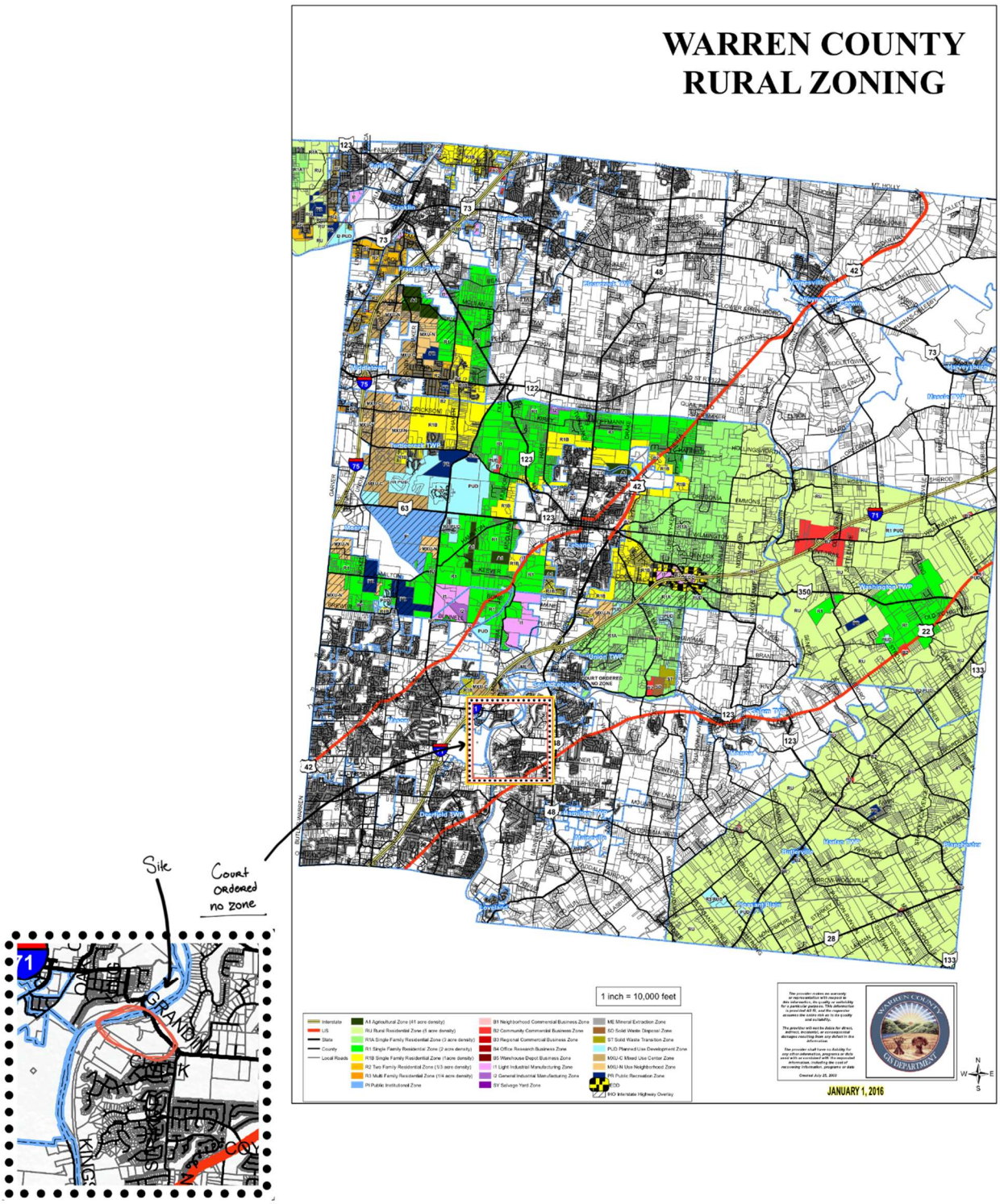



*December 21st, 5:00pm*



**ZONING**

Site Zoning - 2016

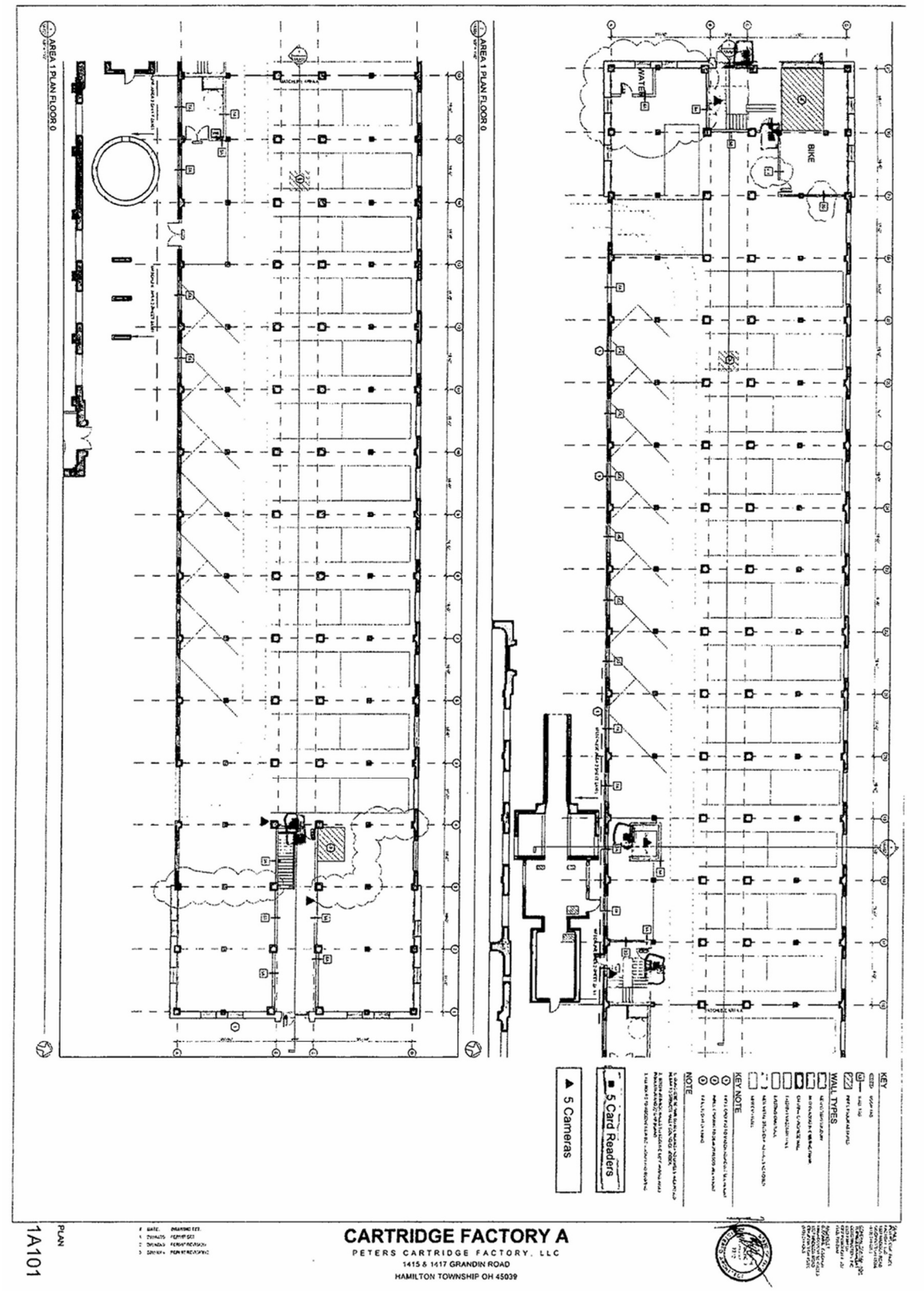


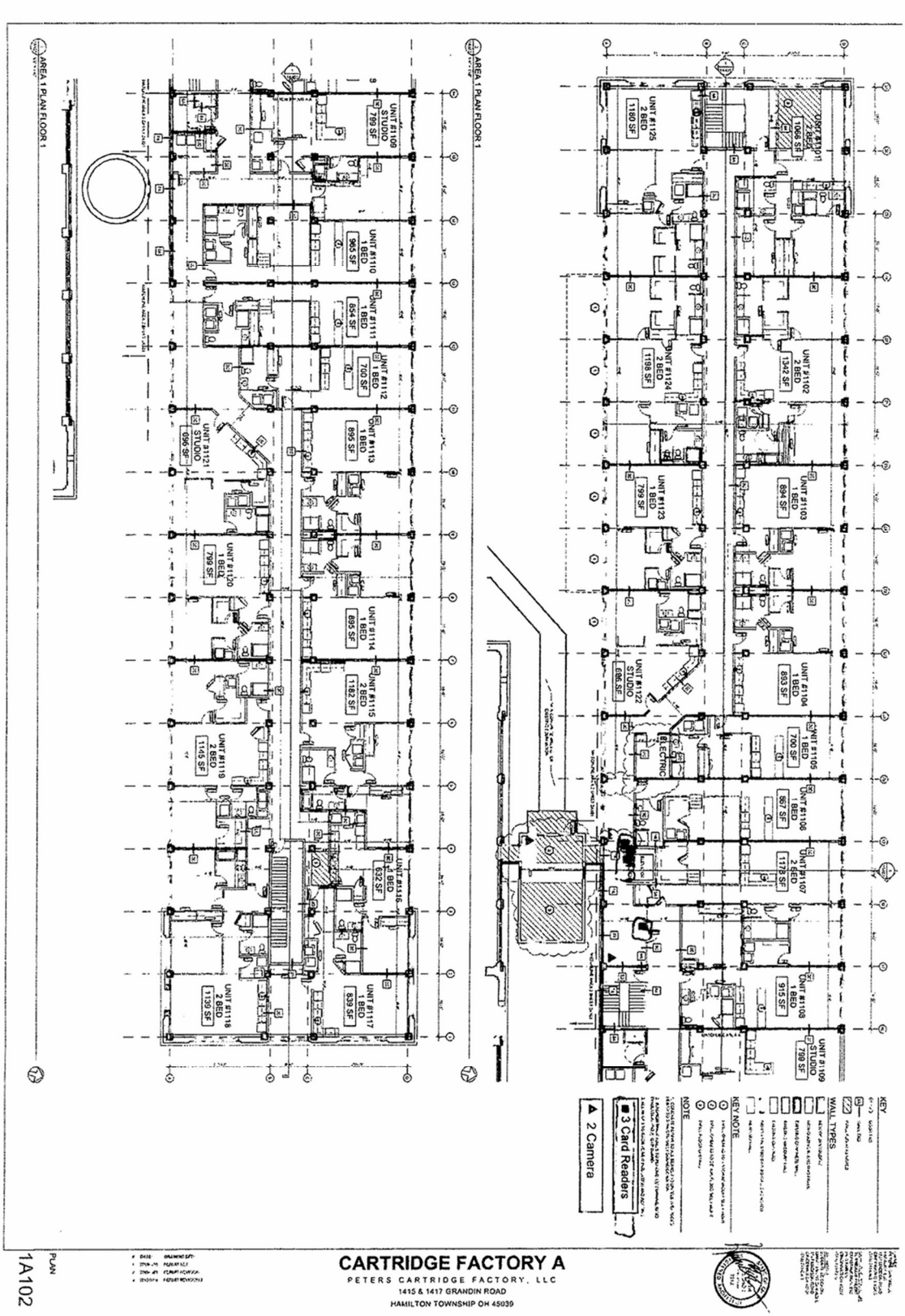
**BUILDINGS ON SITE**

Site Plan: Building Labels



Building A


AREA 1 PLAN FLOOR 0
AREA 1 PLAN FLOOR 0
WATER
BIKE
▲ 5 Cameras
■ 5 Card Readers
KEY
WALL TYPES
KEY NOTE
NOTE
CARTRIDGE FACTORY A
PETERS CARTRIDGE FACTORY, LLC
1415 & 1417 GRANDIN ROAD
HAMILTON TOWNSHIP OH 45039
PLAN
1A101


AREA 1 PLAN FLOOR 1
AREA 1 PLAN FLOOR 1
UNIT #1125 2 BED 1180 SF
UNIT #1101 2 BED 1066 SF
UNIT #1102 2 BED 1342 SF
UNIT #1124 2 BED 1198 SF
UNIT #1123 1 BED 799 SF
UNIT #1103 1 BED 894 SF
UNIT #1122 STUDIO 596 SF
UNIT #1104 1 BED 893 SF
ELECTRIC
UNIT #1105 1 BED 700 SF
UNIT #1106 1 BED 867 SF
UNIT #1107 2 BED 1178 SF
UNIT #1108 1 BED 915 SF
UNIT #1109 STUDIO 799 SF
UNIT #1110 1 BED 965 SF
UNIT #1111 1 BED 694 SF
UNIT #1112 1 BED 700 SF
UNIT #1113 1 BED 895 SF
UNIT #1121 STUDIO 596 SF
UNIT #1120 1 BED 799 SF
UNIT #1114 1 BED 895 SF
UNIT #1115 2 BED 1182 SF
UNIT #1119 2 BED 1145 SF
UNIT #1116 1 BED 632 SF
UNIT #1118 2 BED 1139 SF
UNIT #1117 1 BED 839 SF
2 Camera
3 Card Readers
KEY
WALL TYPES
KEY NOTE
NOTE
CARTRIDGE FACTORY A
PETERS CARTRIDGE FACTORY, LLC
1415 & 1417 GRANDIN ROAD
HAMILTON TOWNSHIP OH 45039
PLAN
1A102







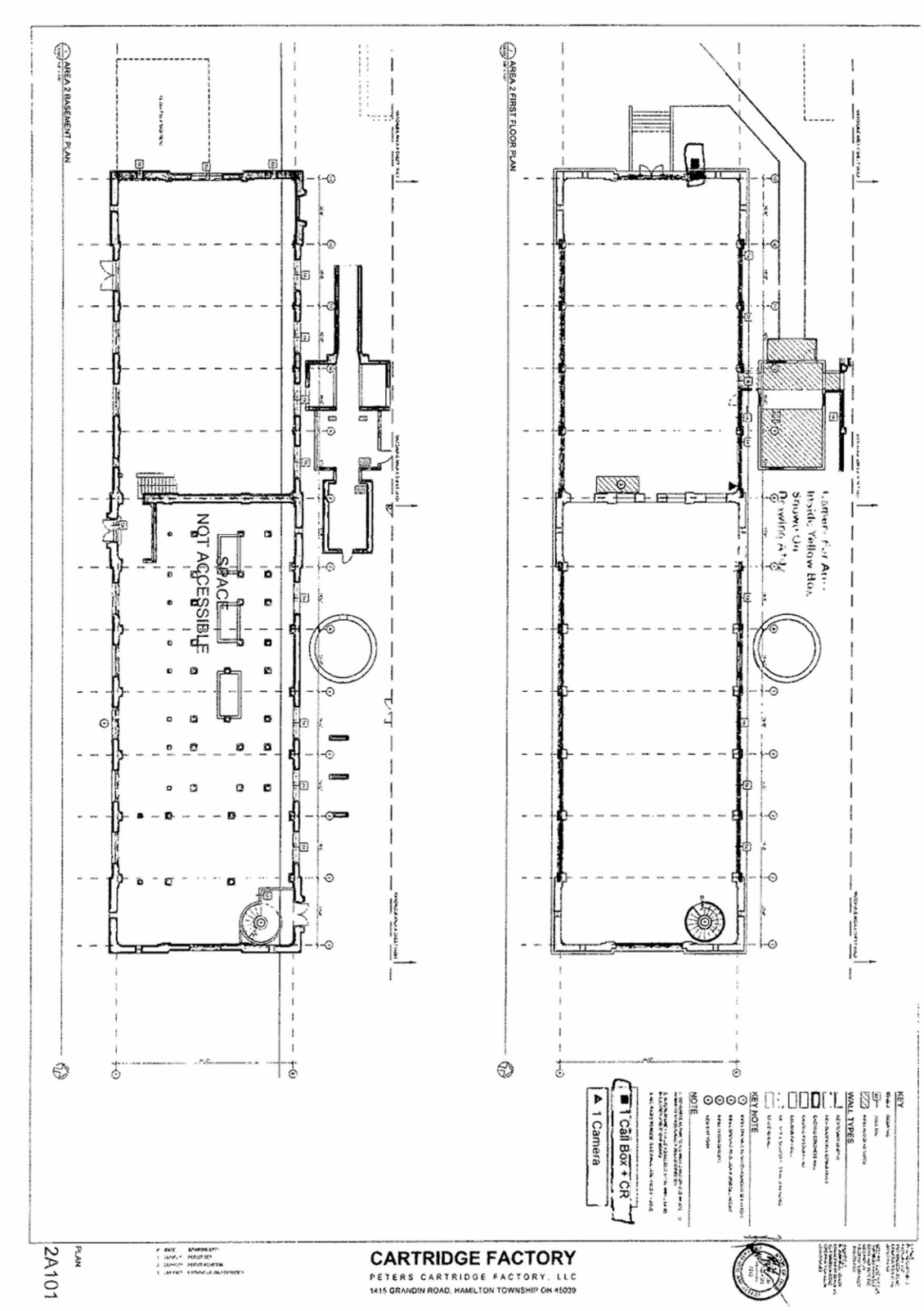








Building B


AREA 2 BASEMENT PLAN
AREA 2 FIRST FLOOR PLAN
NOT ACCESSIBLE
SPACE
1 Call Box + CR
1 Camera
KEY
WALL TYPES
KEY NOTE
NOTE
CARTRIDGE FACTORY
PETERS CARTRIDGE FACTORY, LLC
1415 GRANDIN ROAD, HAMILTON TOWNSHIP OH 45039
PLAN
2A101





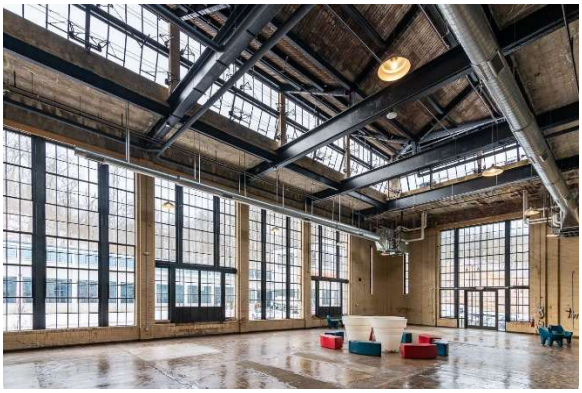




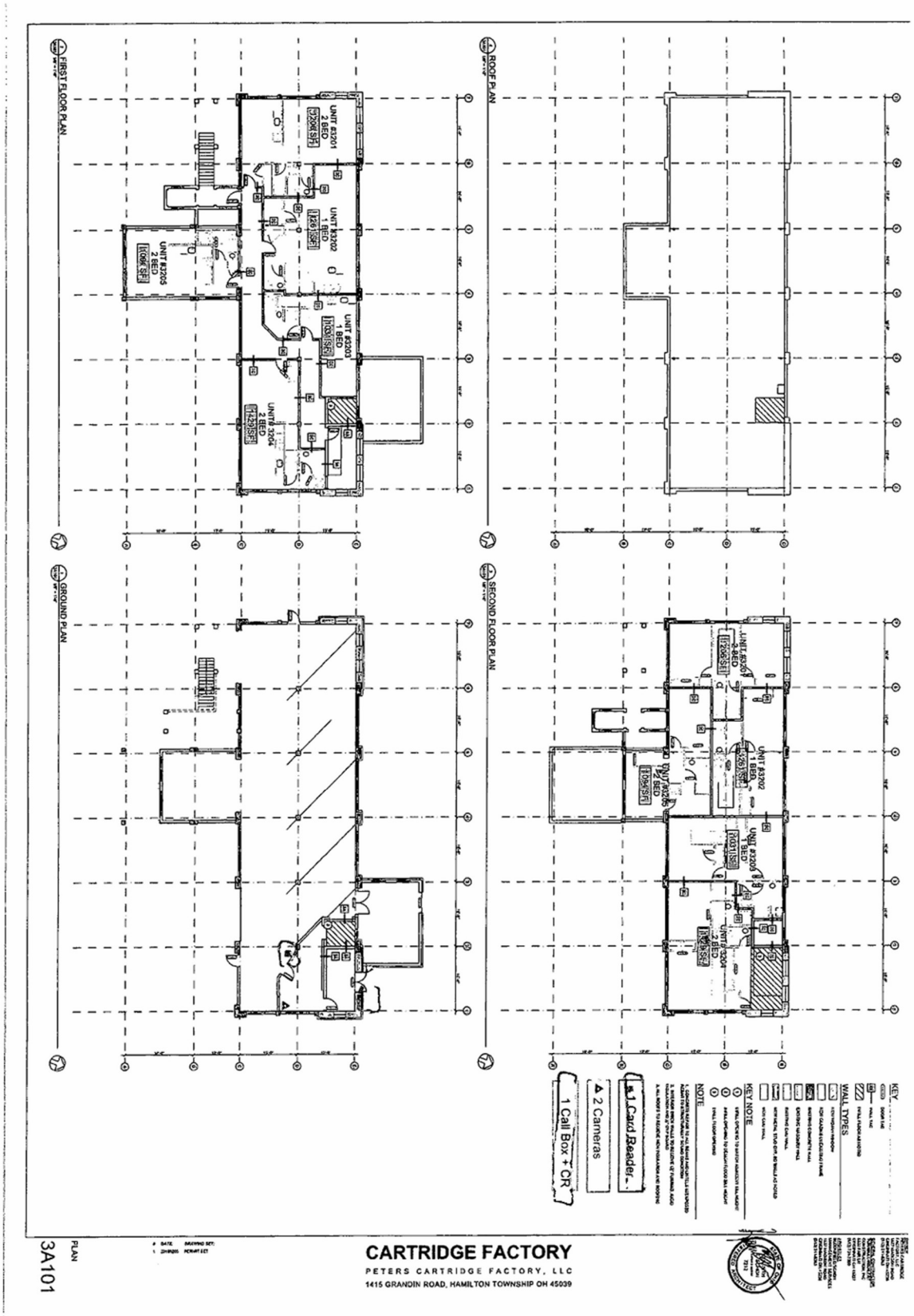








Building C


FIRST FLOOR PLAN
ROOF PLAN
GROUND PLAN
SECOND FLOOR PLAN
UNIT #3201
2 BED
1206 SF
UNIT #3202
1 BED
726 SF
UNIT #3203
1 BED
703 SF
UNIT #3204
2 BED
1425 SF
UNIT #3205
2 BED
1106 SF
UNIT #3206
2 BED
1206 SF
UNIT #3207
1 BED
726 SF
UNIT #3208
2 BED
1106 SF
KEY
WALL TYPES
KEY NOTE
NOTE
1 Card Reader
2 Cameras
1 Call Box + CR
CARTRIDGE FACTORY
PETERS CARTRIDGE FACTORY, LLC
1415 GRANDIN ROAD, HAMILTON TOWNSHIP OH 45039
3A101

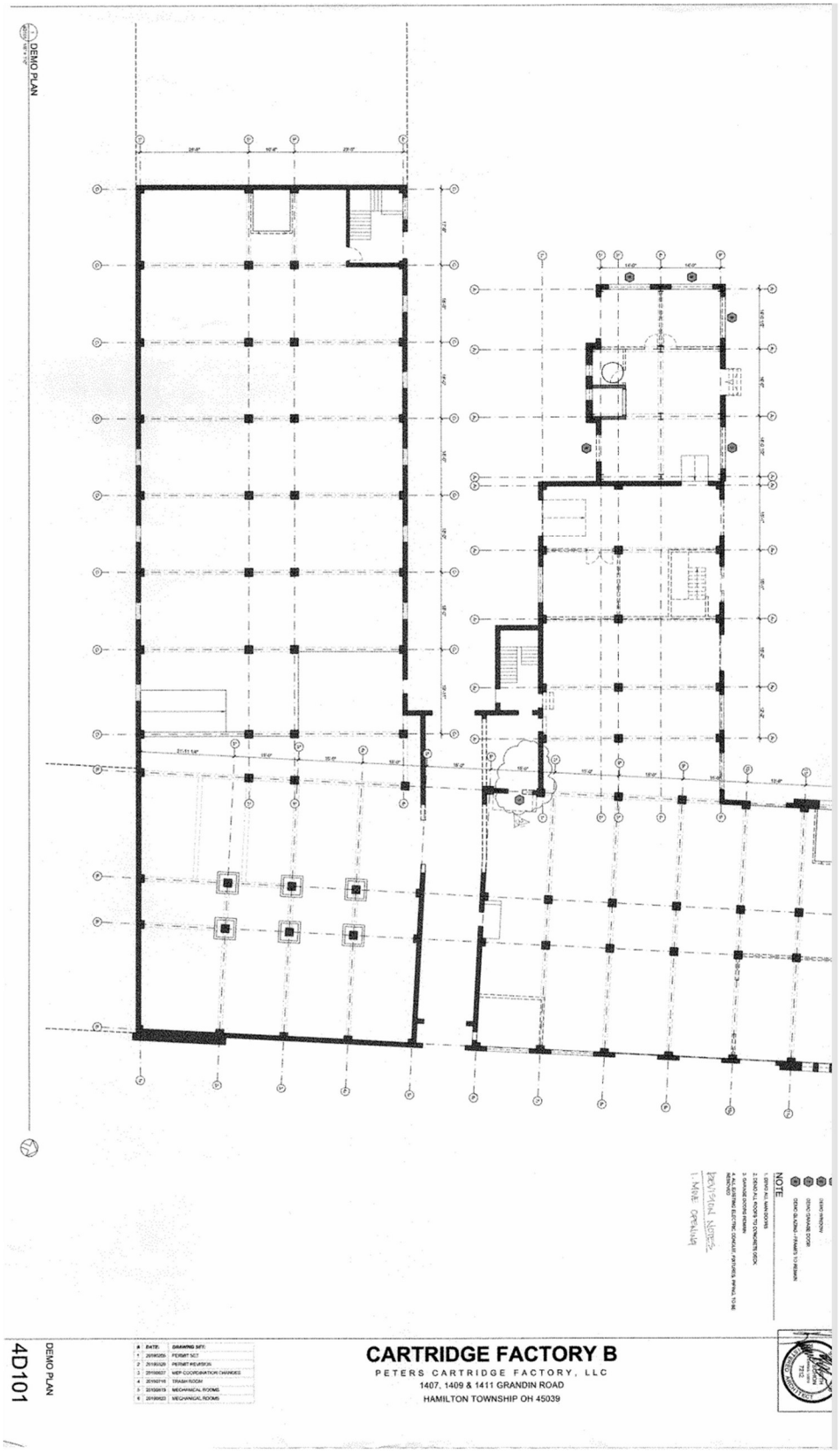


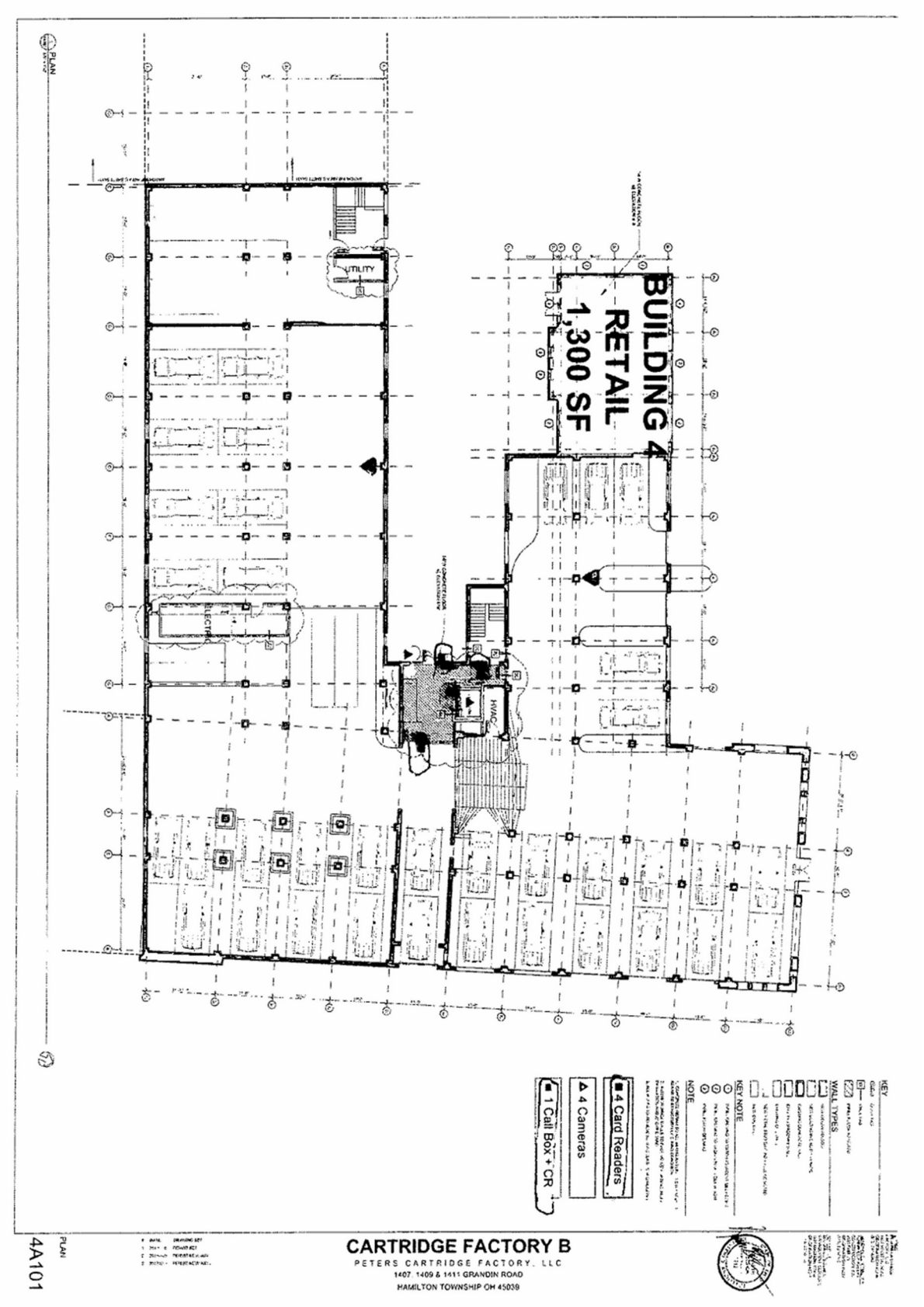


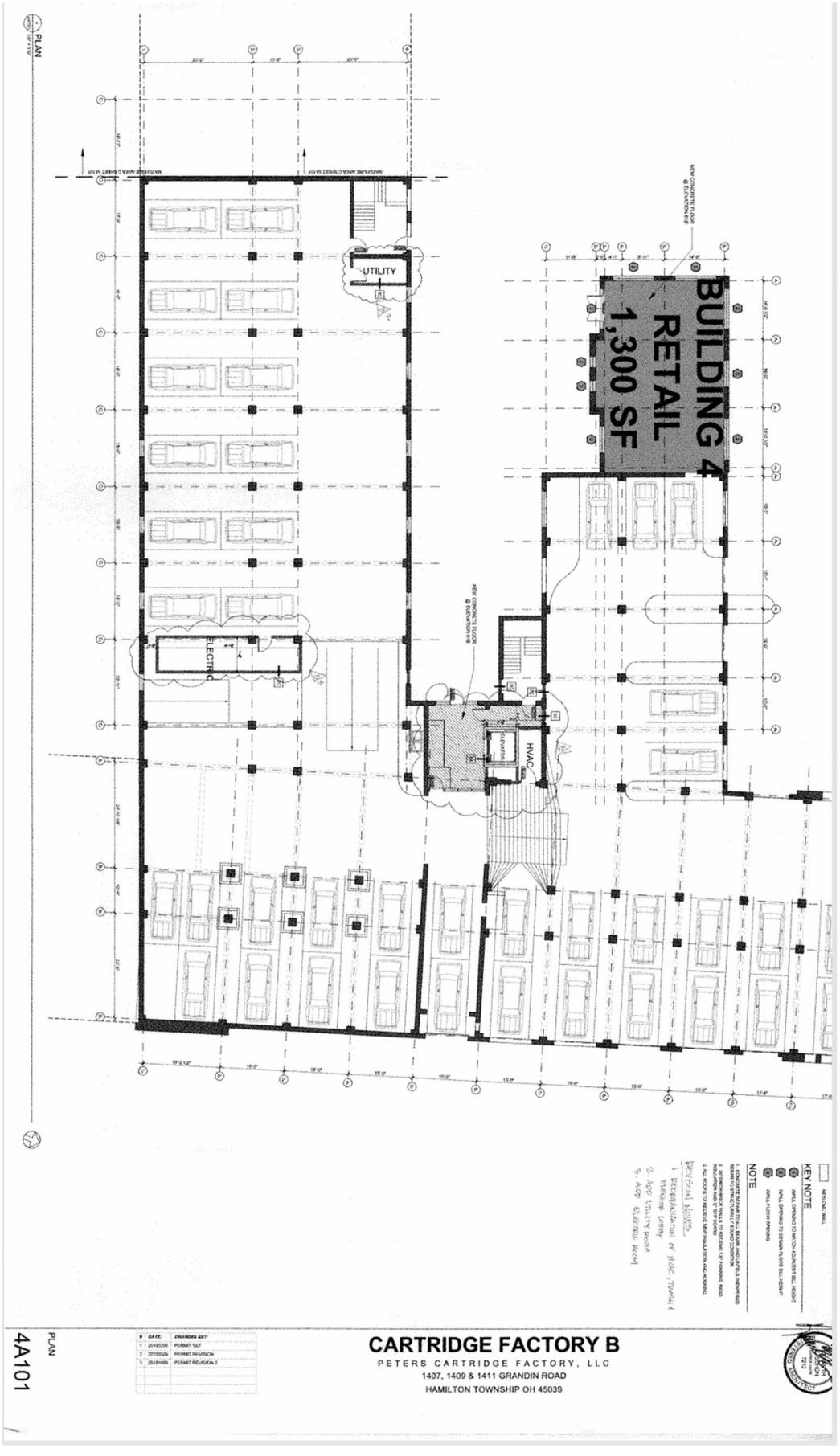


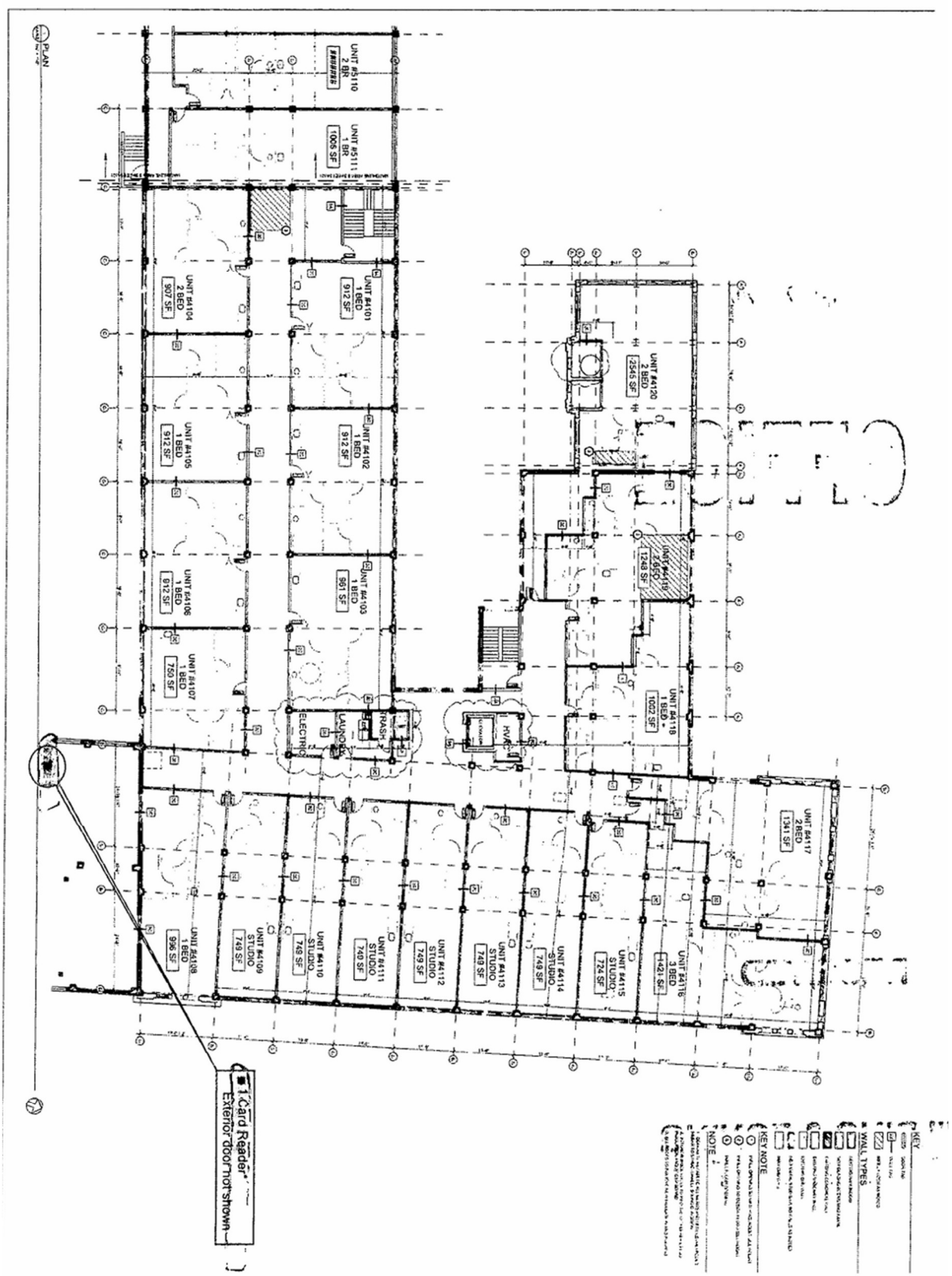


Building D


DEMO PLAN
CARTRIDGE FACTORY B
PETERS CARTRIDGE FACTORY, LLC
1407, 1409 & 1411 GRANDIN ROAD
HAMILTON TOWNSHIP OH 45039
DEMO PLAN
4D101


BUILDING 4
RETAIL
1,300 SF
UTILITY
HVAC
ELECTRIC
4 Card Readers
4 Cameras
1 Call Box + CR
KEY
WALL TYPES
KEY NOTE
NOTE
CARTRIDGE FACTORY B
PETERS CARTRIDGE FACTORY, LLC
1407, 1409 & 1411 GRANDIN ROAD
HAMILTON TOWNSHIP OH 45039
PLAN
4A101


BUILDING 4
RETAIL
1,300 SF
UTILITY
ELECTRIC
HVAC
ELEVATOR
KEY NOTE
NOTE
CARTRIDGE FACTORY B
PETERS CARTRIDGE FACTORY, LLC
1407, 1409 & 1411 GRANDIN ROAD
HAMILTON TOWNSHIP OH 45039
PLAN
4A101




PLAN

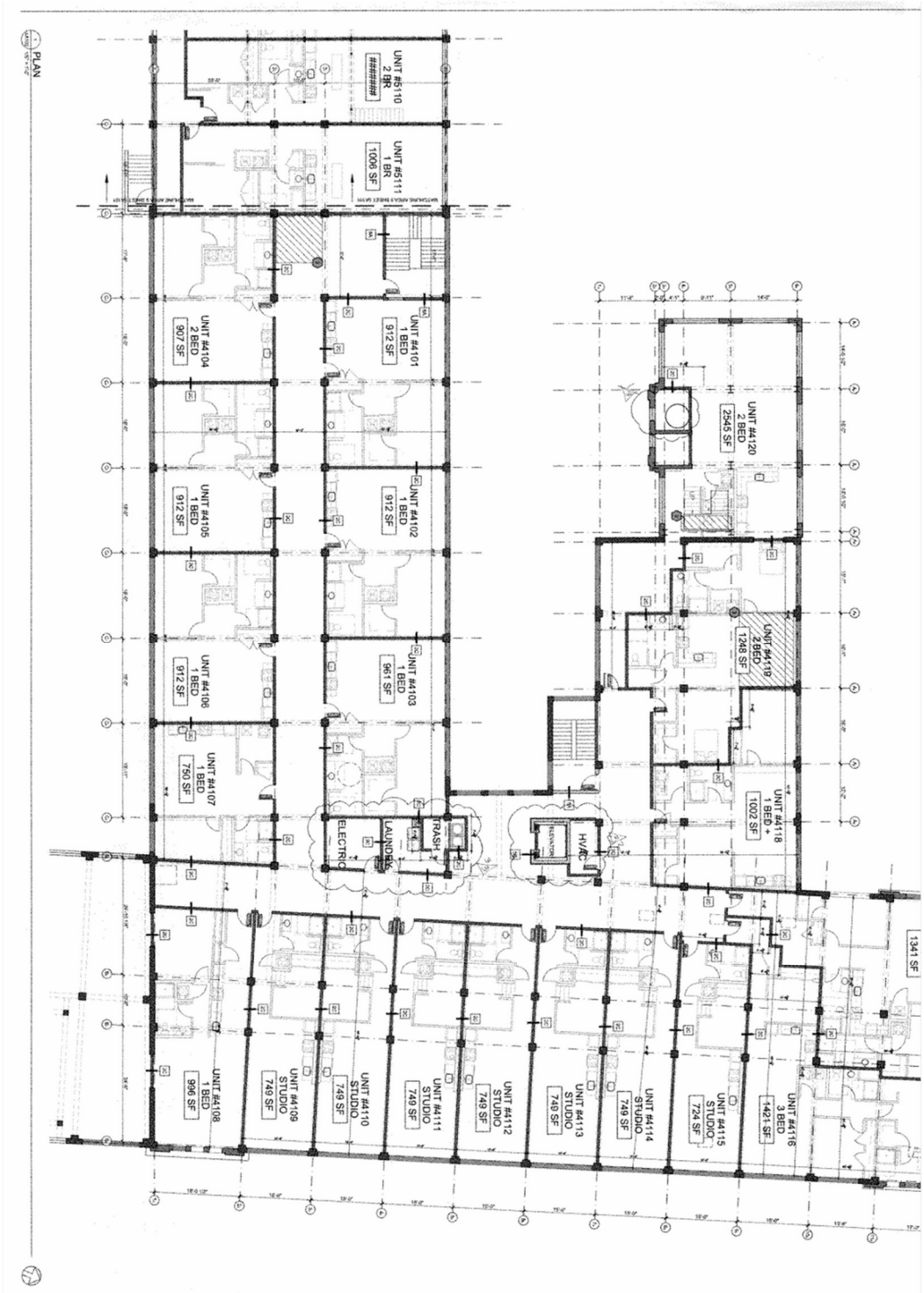
4A102

**CARTRIDGE FACTORY B**

PETERS CARTRIDGE FACTORY, LLC

1407, 1409 & 1411 GRANDIN ROAD

HAMILTON TOWNSHIP OH 45039




PLAN

4A102

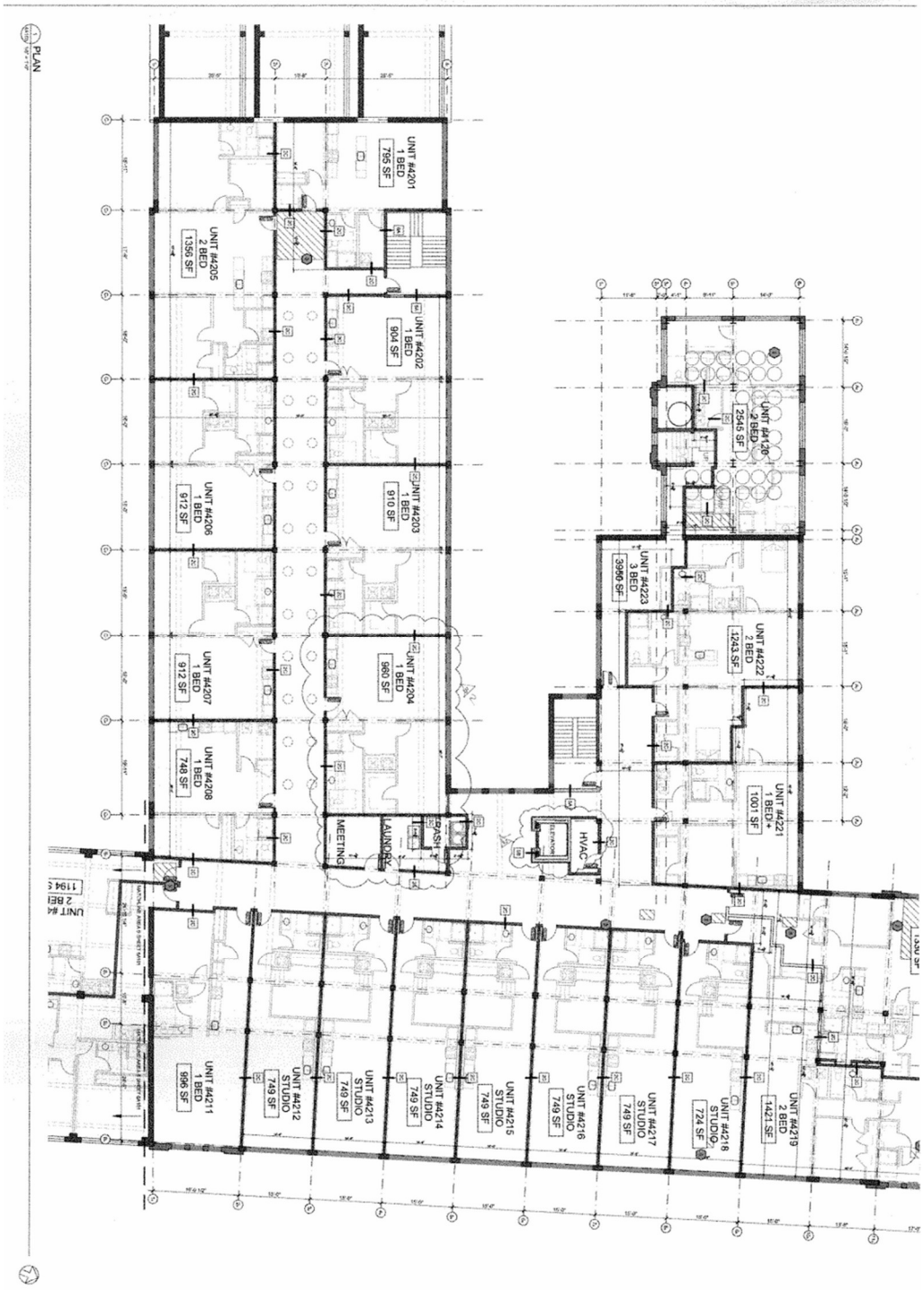
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| 2 | 20180629 | PERMIT REVISION |
| 3 | 20181009 | PERMIT REVISION 2 |

**CARTRIDGE FACTORY B**

PETERS CARTRIDGE FACTORY, LLC

1407, 1409 & 1411 GRANDIN ROAD

HAMILTON TOWNSHIP OH 45039




PLAN

4A103

| # | DATE: | DRAWING SET: |
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| 2 | 2018/3/20 | PERMIT REVISION |
| 3 | 2018/10/05 | PERMIT REVISION 2 |

**CARTRIDGE FACTORY B**

PETERS CARTRIDGE FACTORY, LLC

1407, 1409 & 1411 GRANDIN ROAD

HAMILTON TOWNSHIP OH 45039















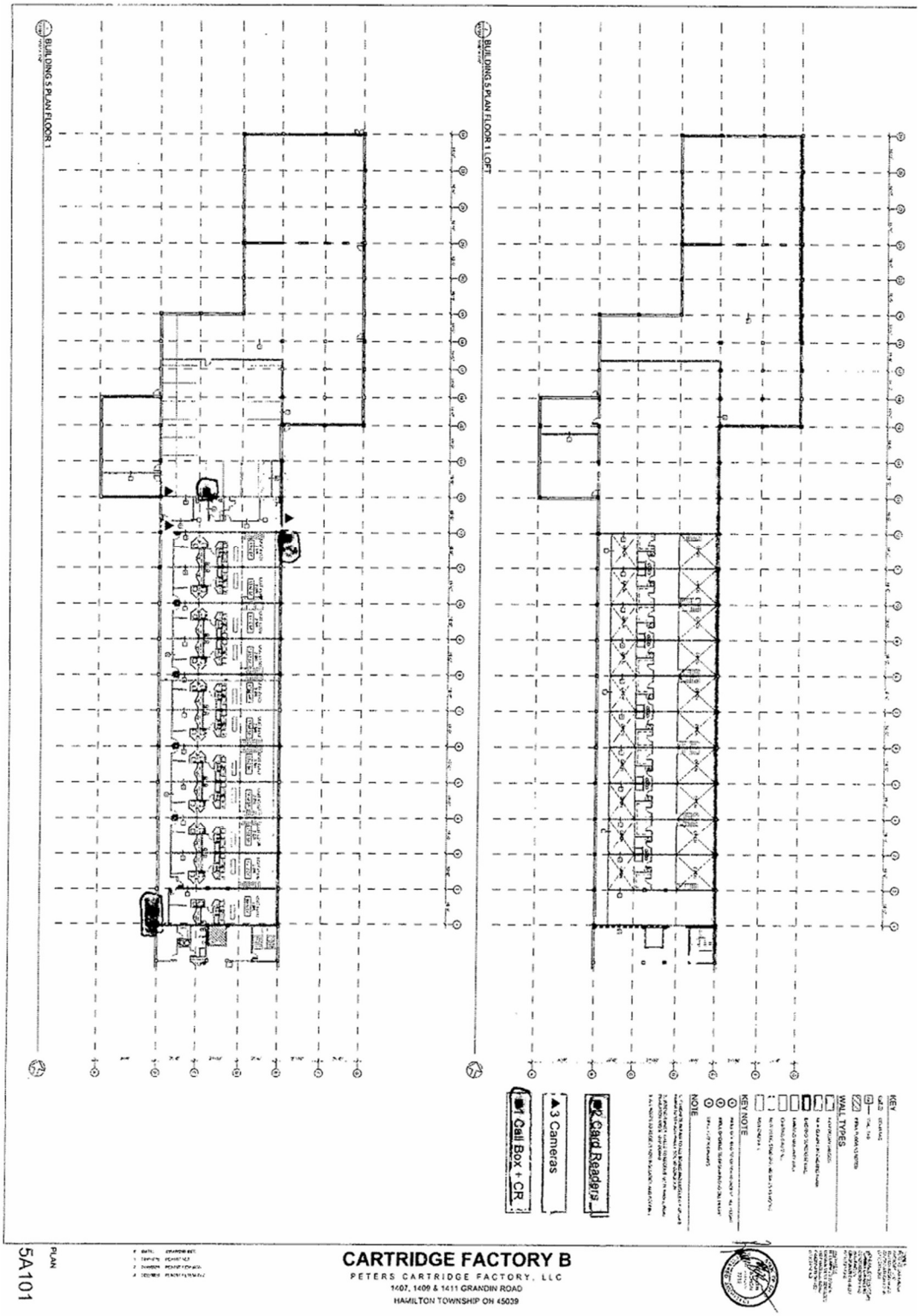


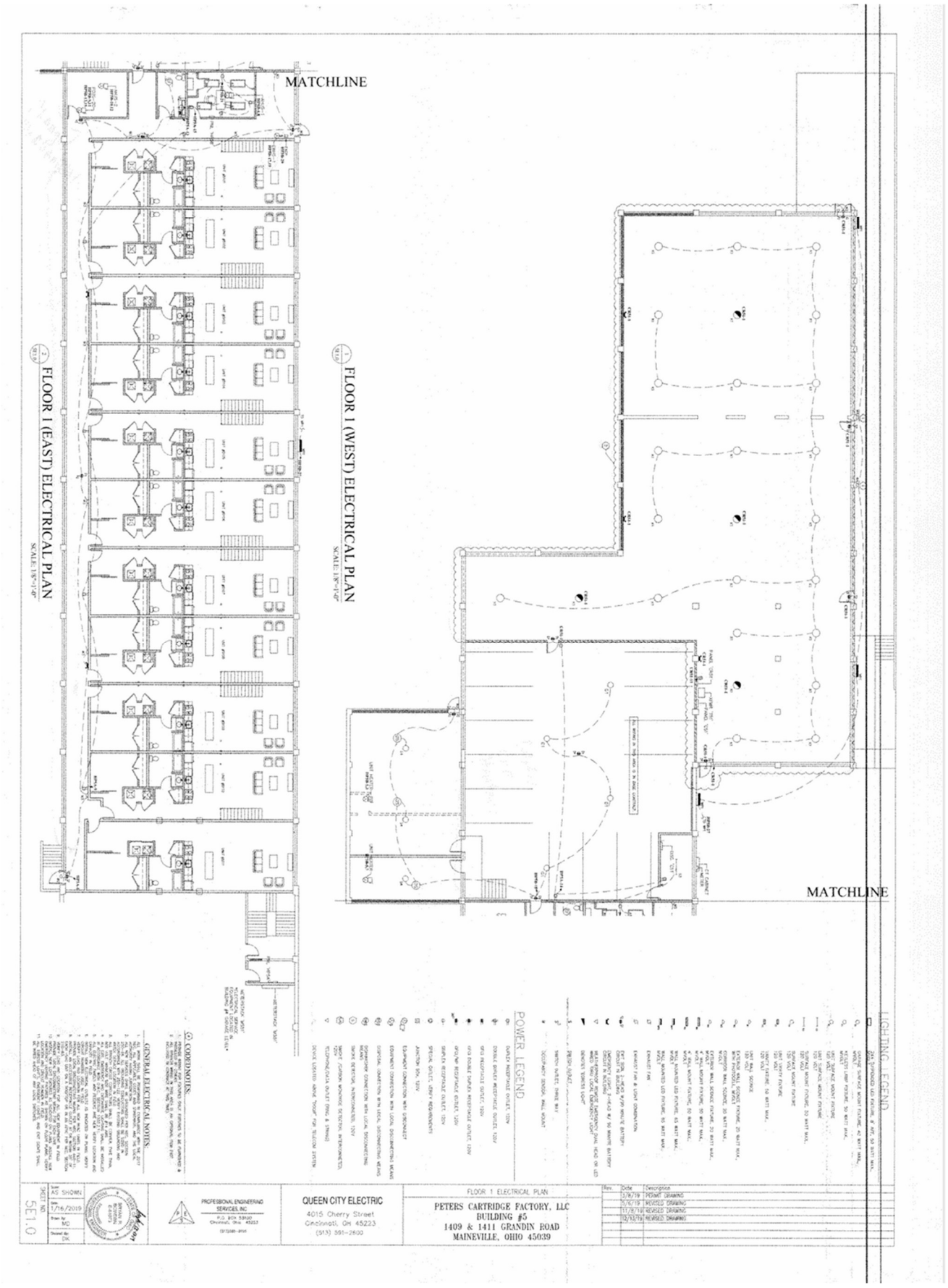


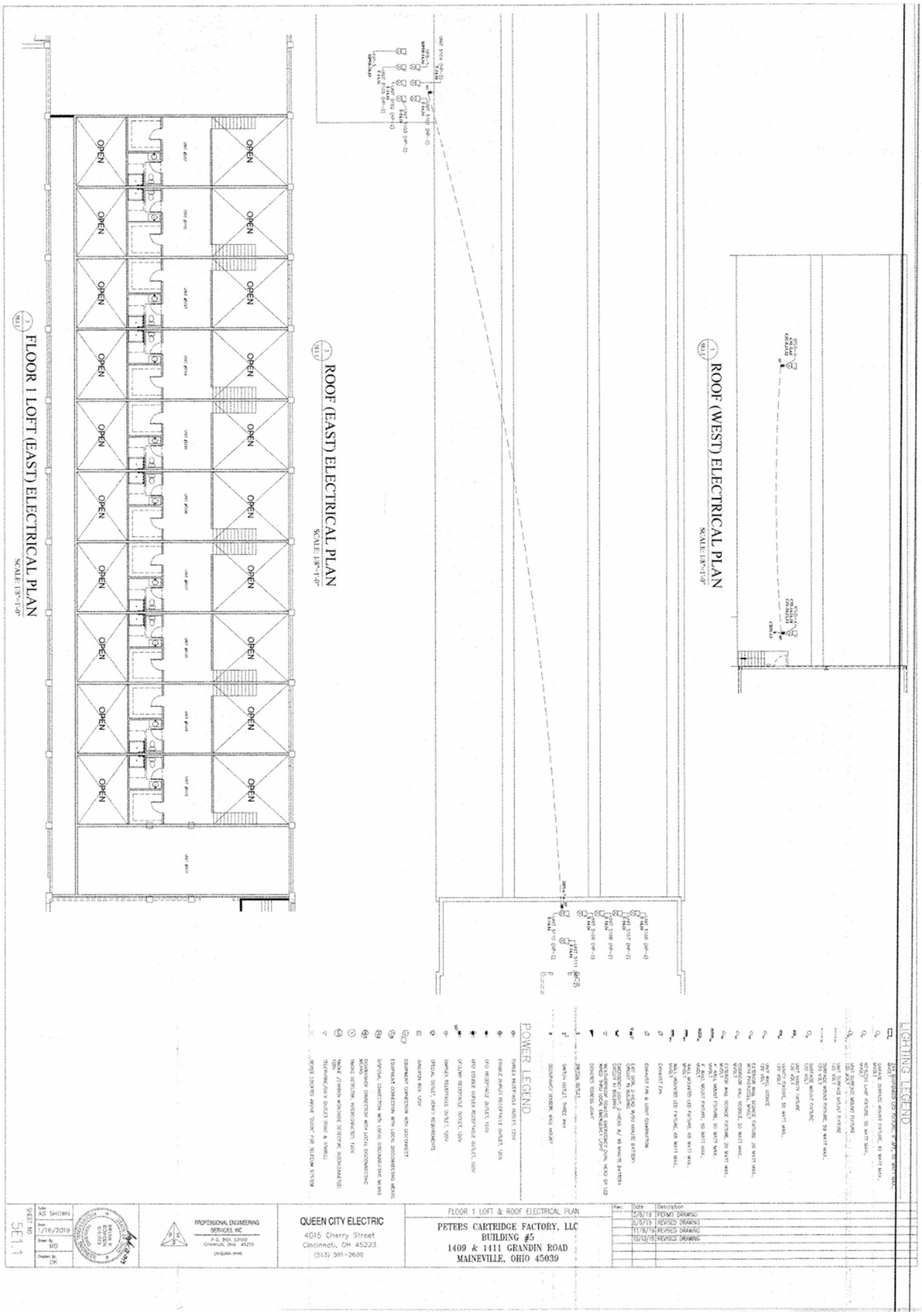




Building E


BUILDING 5 PLAN FLOOR 1
BUILDING 5 PLAN FLOOR 1 LOFT
KEY
WALL TYPES
KEYNOTE
NOTE
Call Box + CR
3 Cameras
Card Readers
CARTRIDGE FACTORY B
PETERS CARTRIDGE FACTORY, LLC
1407, 1409 & 1411 GRANDIN ROAD
HAMILTON TOWNSHIP OH 45039
PLAN
5A101


MATCHLINE
FLOOR 1 (EAST) ELECTRICAL PLAN
SCALE: 1/8"=1'-0"
FLOOR 1 (WEST) ELECTRICAL PLAN
SCALE: 1/8"=1'-0"
MATCHLINE
POWER LEGEND
LIGHTING LEGEND
GENERAL ELECTRICAL NOTES
CODED NOTES
FLOOR 1 ELECTRICAL PLAN
PETERS CARTRIDGE FACTORY, LLC
BUILDING #5
1409 & 1411 GRANDIN ROAD
MAINEVILLE, OHIO 45039
QUEEN CITY ELECTRIC
4015 Cherry Street
Cincinnati, OH 45223
(513) 591-2600
PROFESSIONAL ENGINEERING SERVICES, INC
Rev. Date Description
3/8/19 PERMIT DRAWING
5/6/19 REVISED DRAWING
11/26/19 REVISED DRAWING
12/13/19 REVISED DRAWING
SHEET NO. SE1.0


FLOOR 1 LOFT (EAST) ELECTRICAL PLAN
SCALE: 1/8"=1'-0"
ROOF (EAST) ELECTRICAL PLAN
SCALE: 1/8"=1'-0"
ROOF (WEST) ELECTRICAL PLAN
SCALE: 1/8"=1'-0"
LIGHTING LEGEND
POWER LEGEND
FLOOR 1 LOFT & ROOF ELECTRICAL PLAN
PETERS CARTRIDGE FACTORY, LLC
BUILDING #5
1409 & 1411 GRANDIN ROAD
MAINEVILLE, OHIO 45039
QUEEN CITY ELECTRIC
4015 Cherry Street
Cincinnati, OH 45223
(513) 591-2600
PROFESSIONAL ENGINEERING SERVICES, INC
P.O. BOX 53102
Cincinnati, Ohio 45253
Rev. Date Description
5/8/19 PERMIT DRAWING
7/8/19 REVISED DRAWING
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AS SHOWN
7/16/2019
MD
SHEET NO.
SE1.1







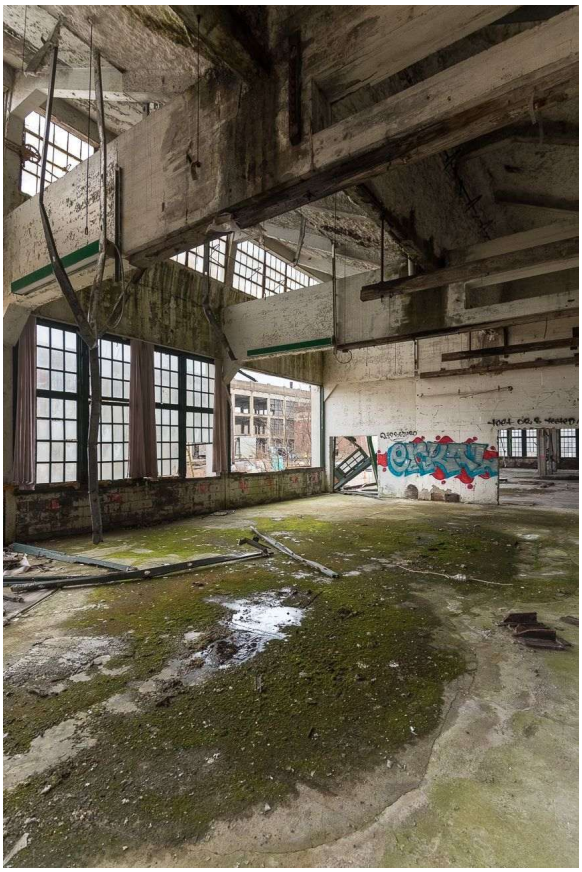






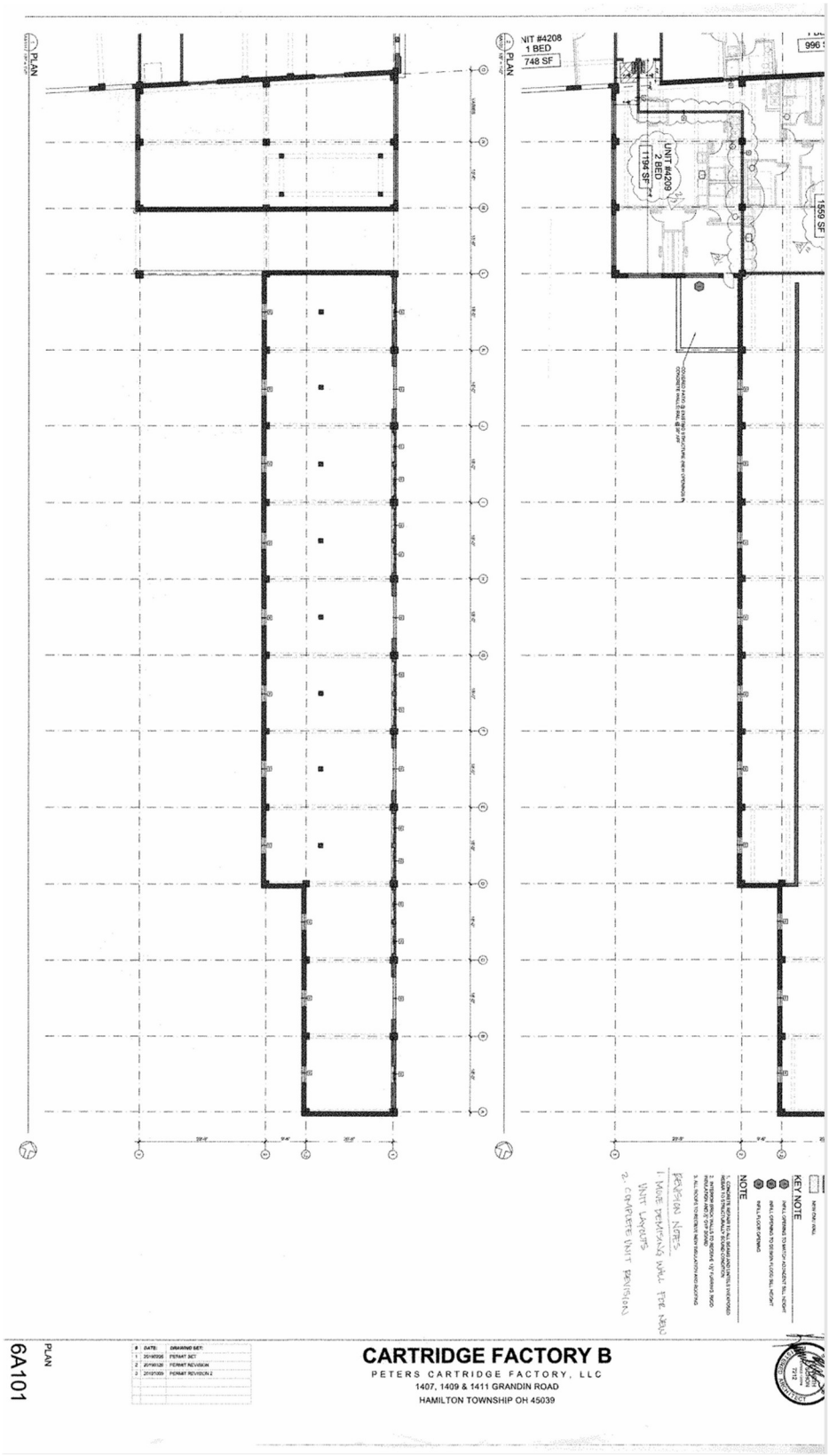







Cartridge

Building F


UNIT #4208
1 BED
748 SF
UNIT #4209
2 BED
1194 SF
1555 SF
KEY NOTE
NOTE
CARTRIDGE FACTORY B
PETERS CARTRIDGE FACTORY, LLC
1407, 1409 & 1411 GRANDIN ROAD
HAMILTON TOWNSHIP OH 45039
6A101



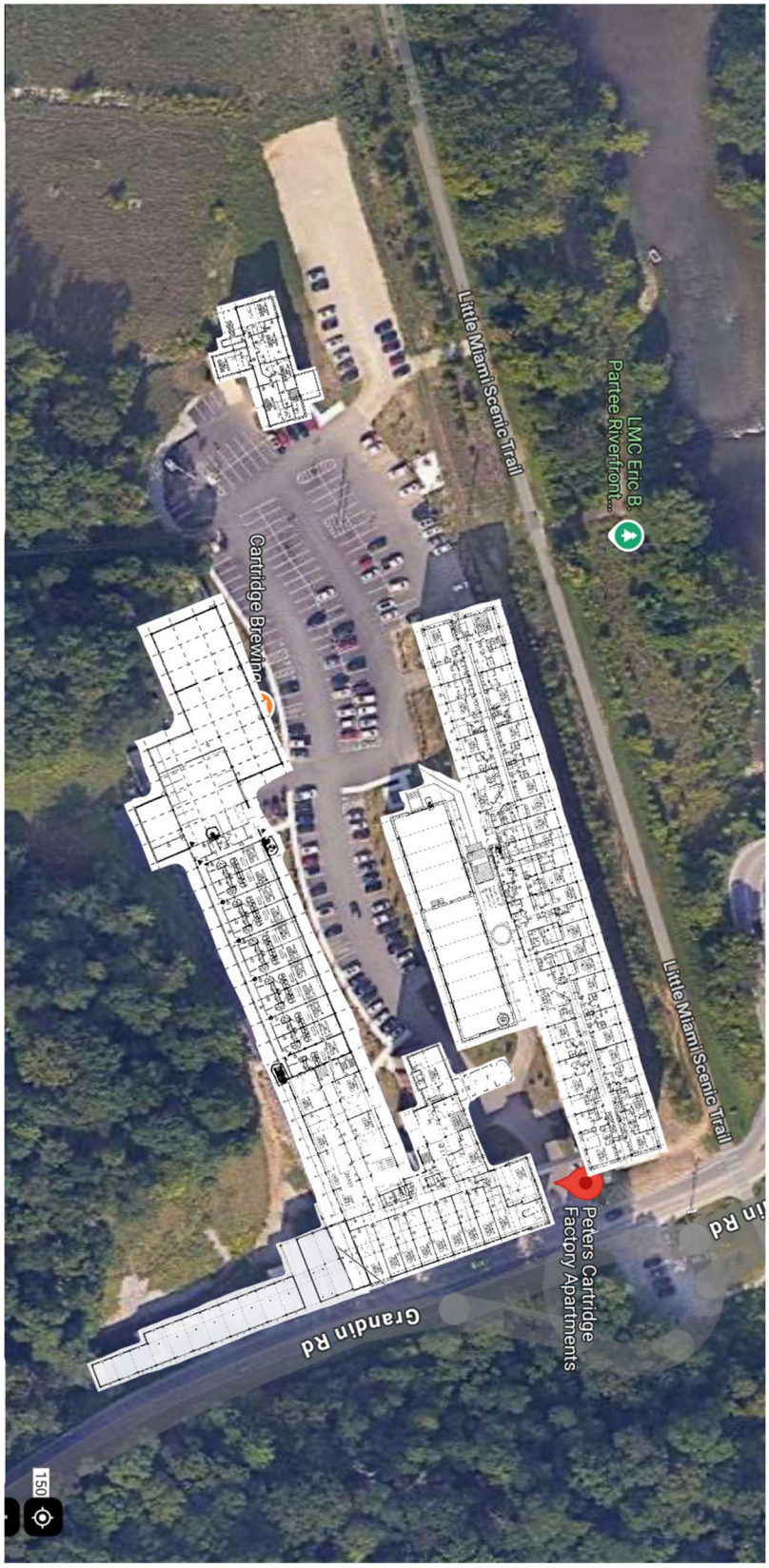








Floor Plans on Google Maps Satellite View



# Materiality




















**Precedent Studies**

# Garden Village Bled

*Location:* Bled, Slovenia

*Architect:* Landscape d.o.o.

*Type:* Hospitality – Resort, Wellness, Landscape

*Year:* 2014

*Area:* 5,000 – 10,000 sf

*Materiality:* natural materials, wood makes up 80% of building materials

*Lighting:* dependence on natural lighting, lanterns, path lights along walkways and 2,500-3,000K lights inside buildings

*Features:*

- Luxury tents, three houses
- Large natural swimming pools, stream from nearby Lake Bled
- Built to feel natural within nature
- Playful nature of space, promoting curiosity



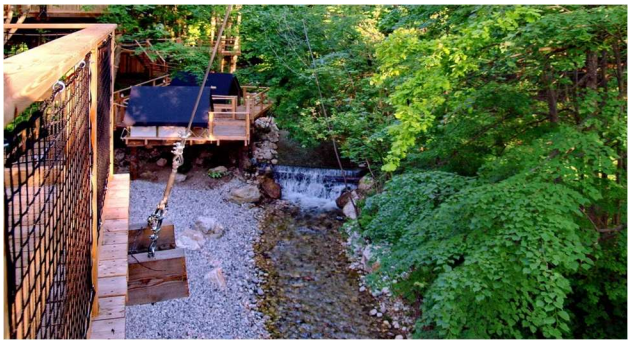




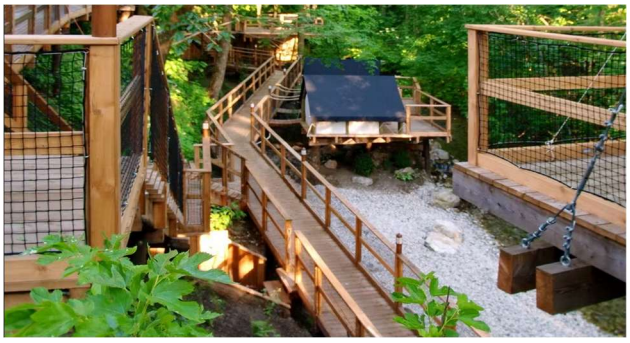
*Elements I'd like to Incorporate:*

- Close proximity to nature
- Natural materials for new construction elements
- Whimsical feeling











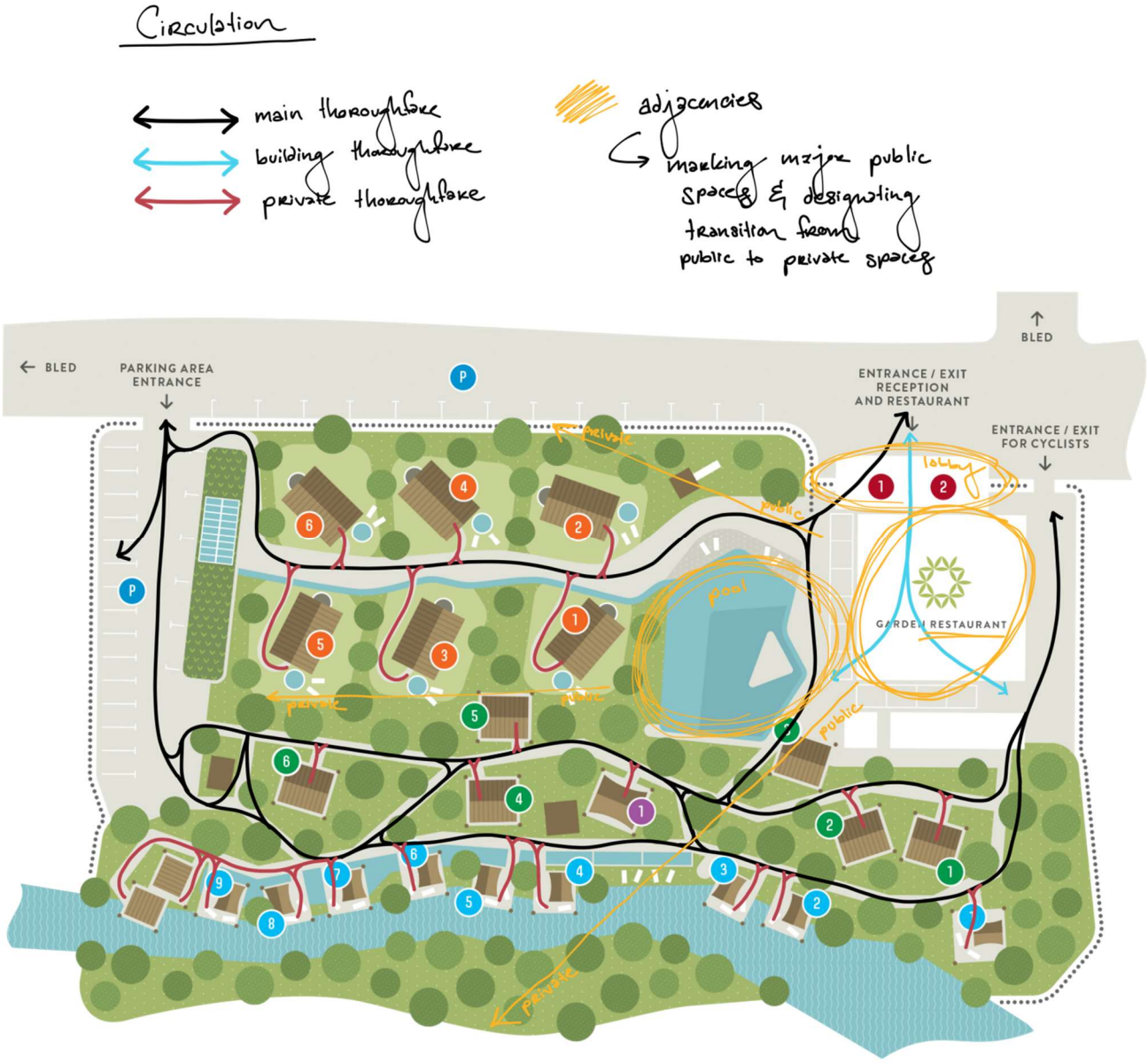







← BLED
PARKING AREA ENTRANCE
P
↑ BLED
ENTRANCE / EXIT RECEPTION AND RESTAURANT
ENTRANCE / EXIT FOR CYCLISTS
GARDEN RESTAURANT


← Bled
Bled


Circulation
main thoroughfare
building thoroughfare
private thoroughfare
adjacencies
marking major public spaces & designating transition from public to private spaces
BLED
BLED
PARKING AREA ENTRANCE
ENTRANCE / EXIT RECEPTION AND RESTAURANT
ENTRANCE / EXIT FOR CYCLISTS
lobby
pool
GARDEN RESTAURANT
private
public

# The Ex of In House

*Location:* Rhinebeck, NY, United States

*Architect:* Stephen Holl Architects

*Type:* Residential – Private House

*Year:* 2016

*Area:* 0 – 1,000 sf

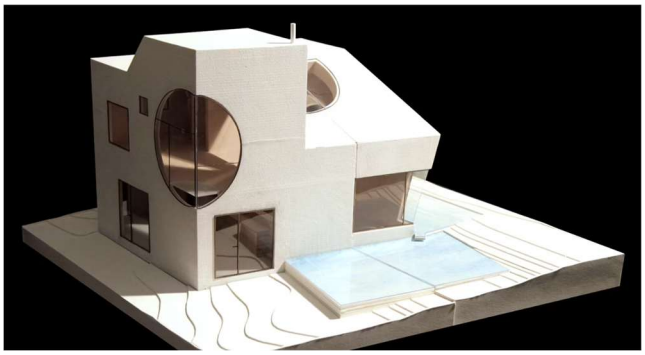
*Materiality:* raw materials: mahogany, birch; no use of sheetrock, natural oiled wood & plywood interior finish

*Lighting:* skylights and large, expansive windows provide natural light,

*Features:*

- House geometry formed from spherical spaces intersecting tesseract trapezoids
- Alternative use patterns—zero bedrooms yet sleeps five
- Heated geothermically, energy independent, 3d printed light fixtures, locally sourced glass & woods
- Curvature of wood to enforce shapes

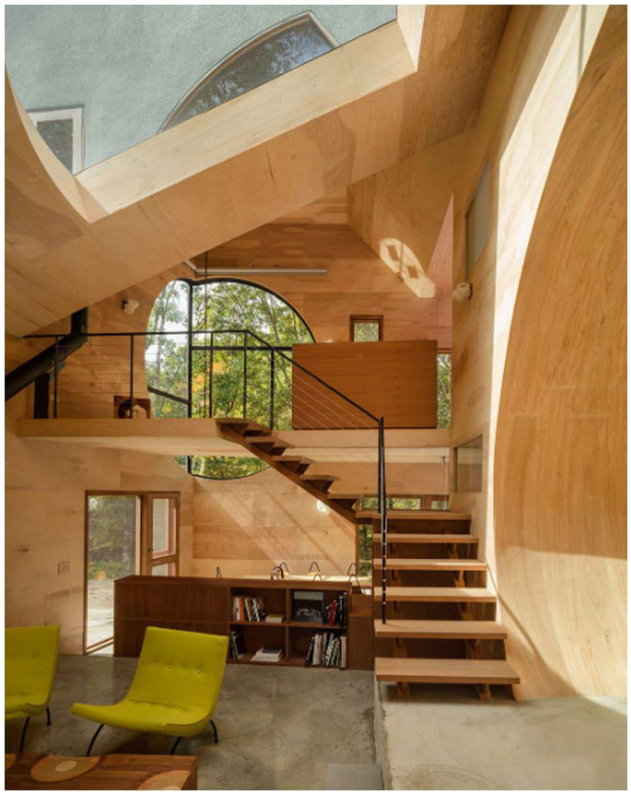




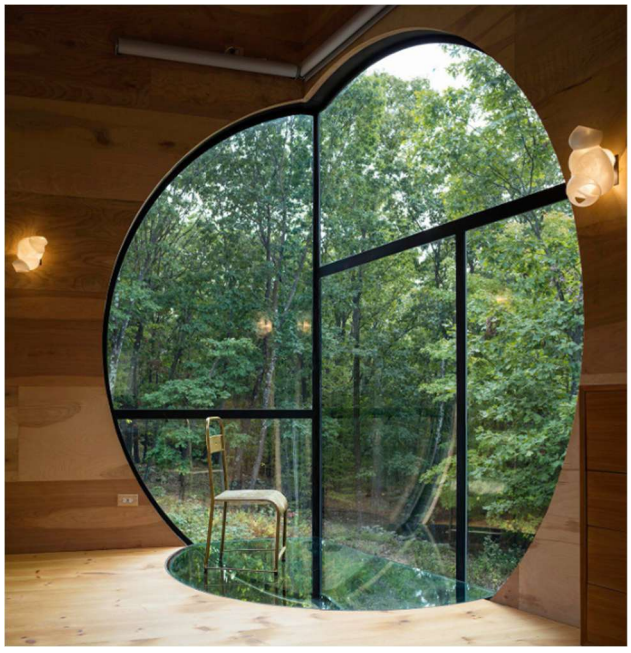


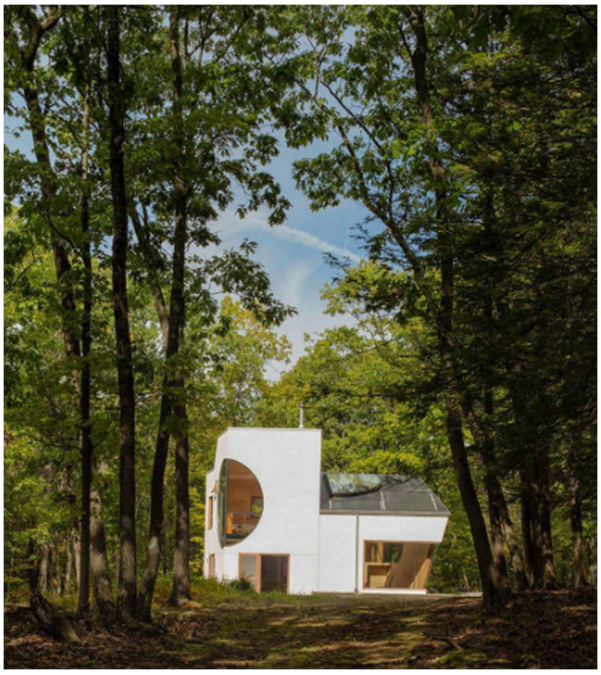
*Elements I'd like to Incorporate:*

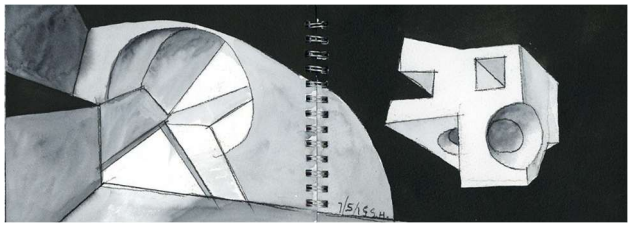
- Playful shapes
- Continuous use of materiality to create immersion
- Simplicity—feels peaceful

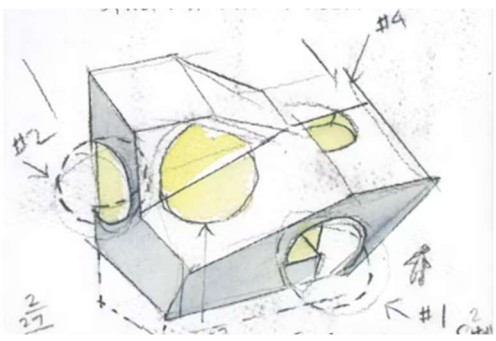


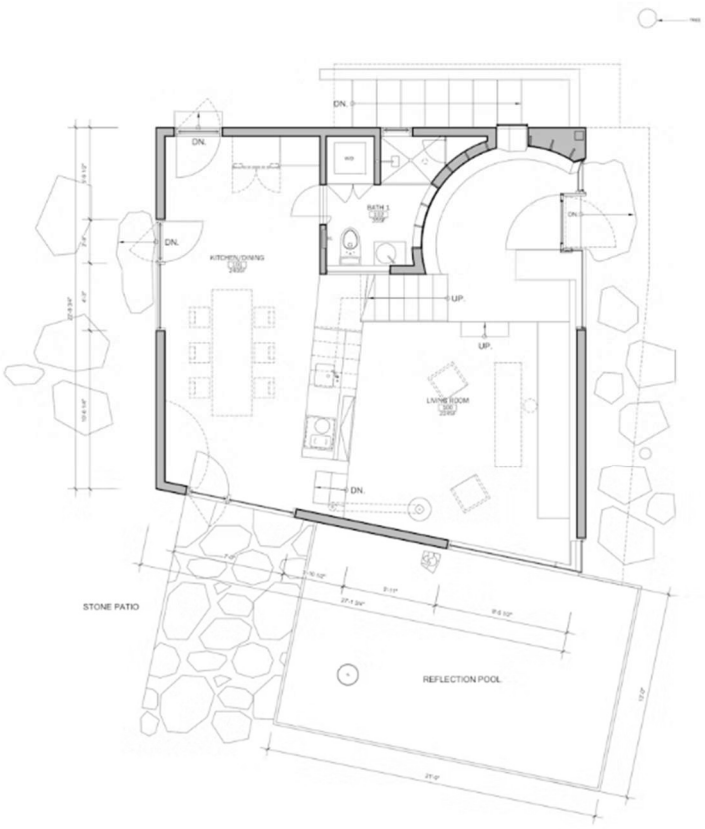






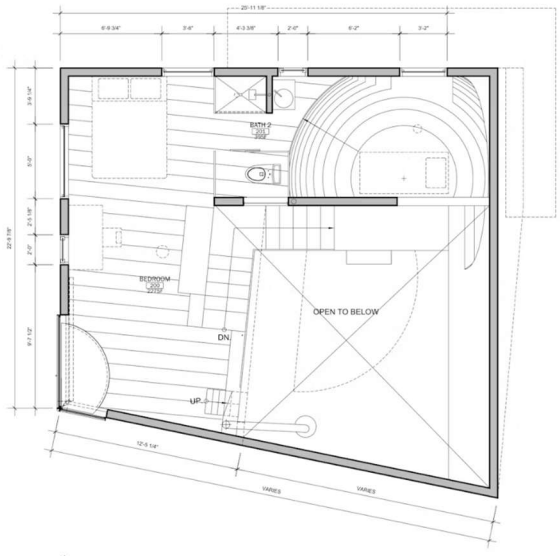



#4
#2
#1



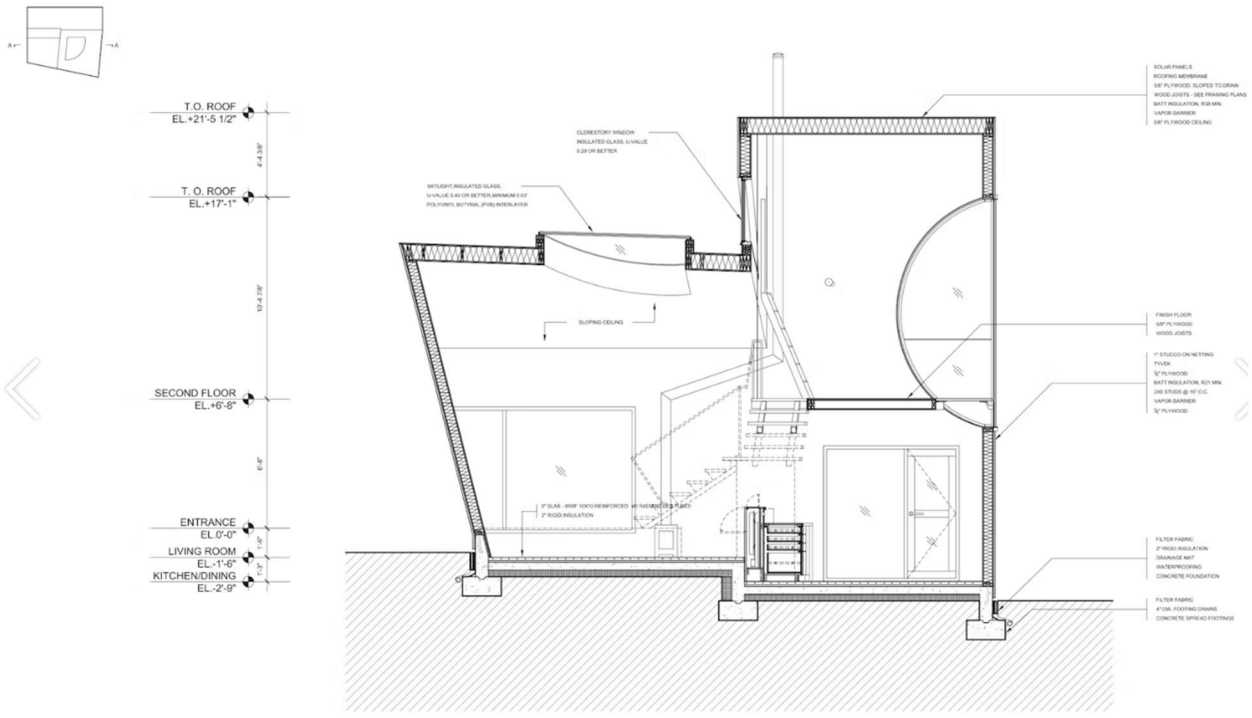

01 GROUND FLOOR PLAN

1/4"=1'-0"

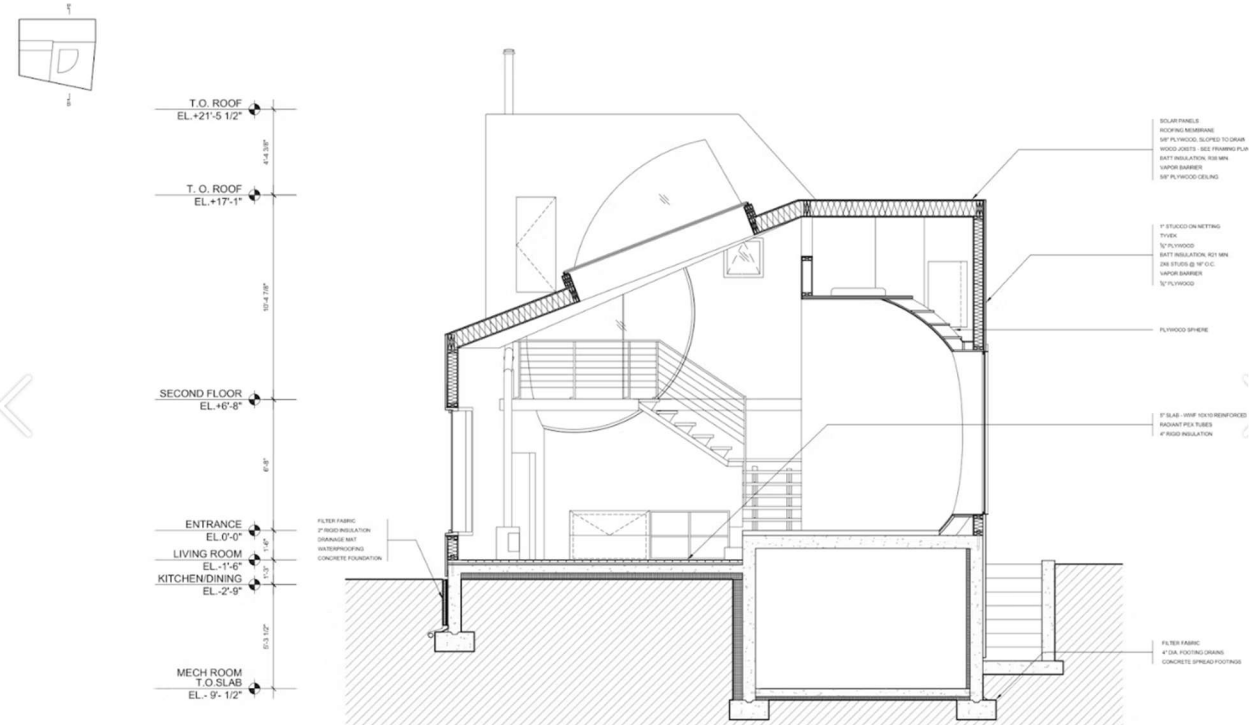



01 SECOND FLOOR PLAN

1/4"=1'-0"




01 A-A SECTION
1/4"=1'-0"

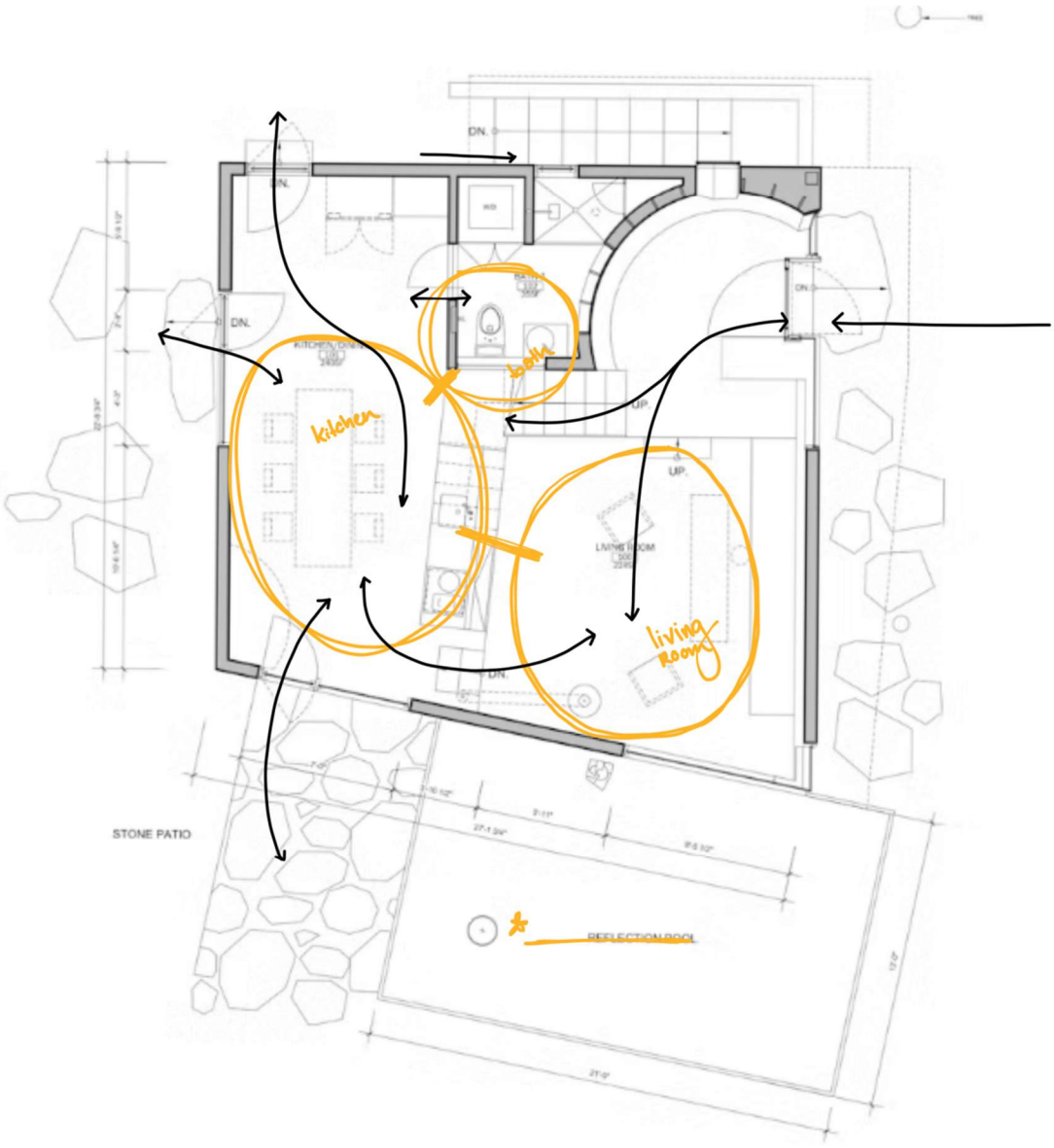



01 B-B SECTION
1/4"=1'-0"

# Circulation

main thoroughfare

adjacencies
↳ marking major public spaces & designating transition from public to private spaces



# Woodland Classroom Belvue School

*Location:* Northolt, United Kingdom

*Architect:* Studio Weave

*Type:* Education – Secondary School

*Year:* 2017

*Area:* 0 – 1,000 sf

*Materiality:* raw materials: wood & plywood

*Lighting:* skylights and large, expansive windows provide natural light, interior lighting provides warm support

*Features:*

- Secondary school for kids with severe learning disabilities
- Curved soffit for clerestory windows and natural ventilation
- Concave ceiling creates lower head height upon entry, domestic scale that opens up towards center
- Private sensory space to calm down
- Architects developed a woodland strategy to ensure good maintenance





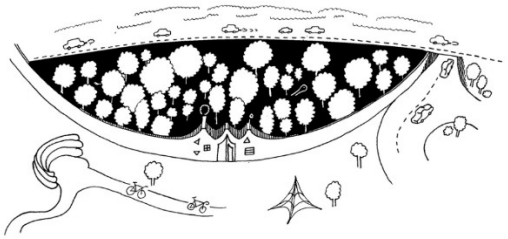


*Elements I'd like to Incorporate:*

- Threshold to "magical, mysterious"
- Continuous use of materiality to create immersion



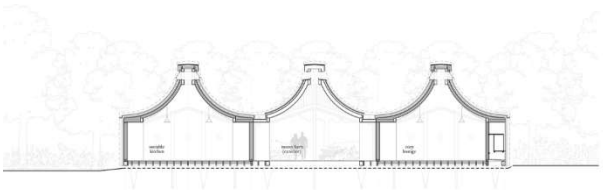


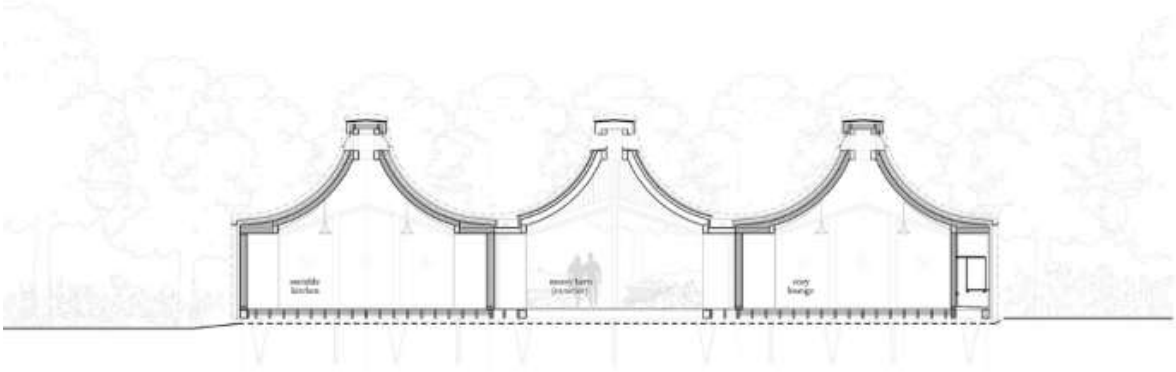


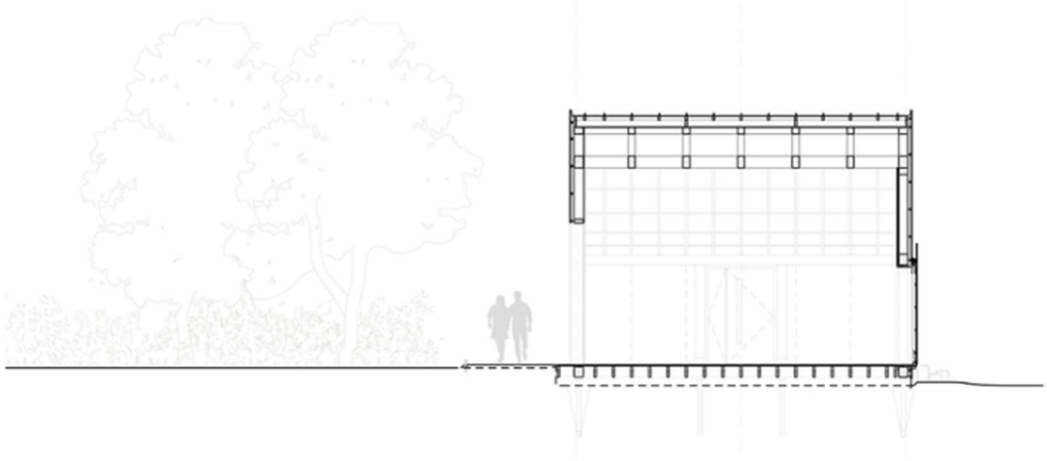


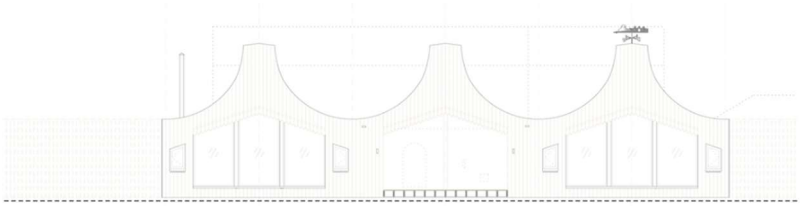




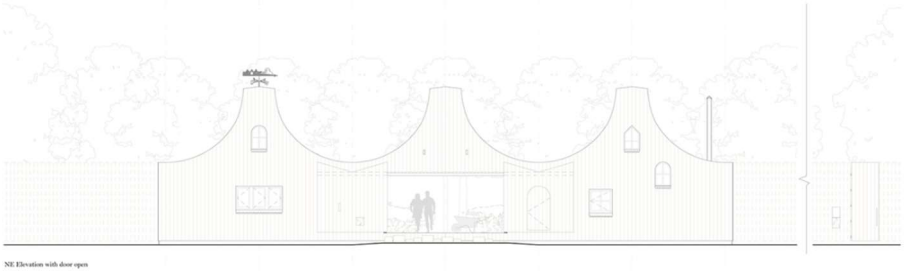








SW Elevation

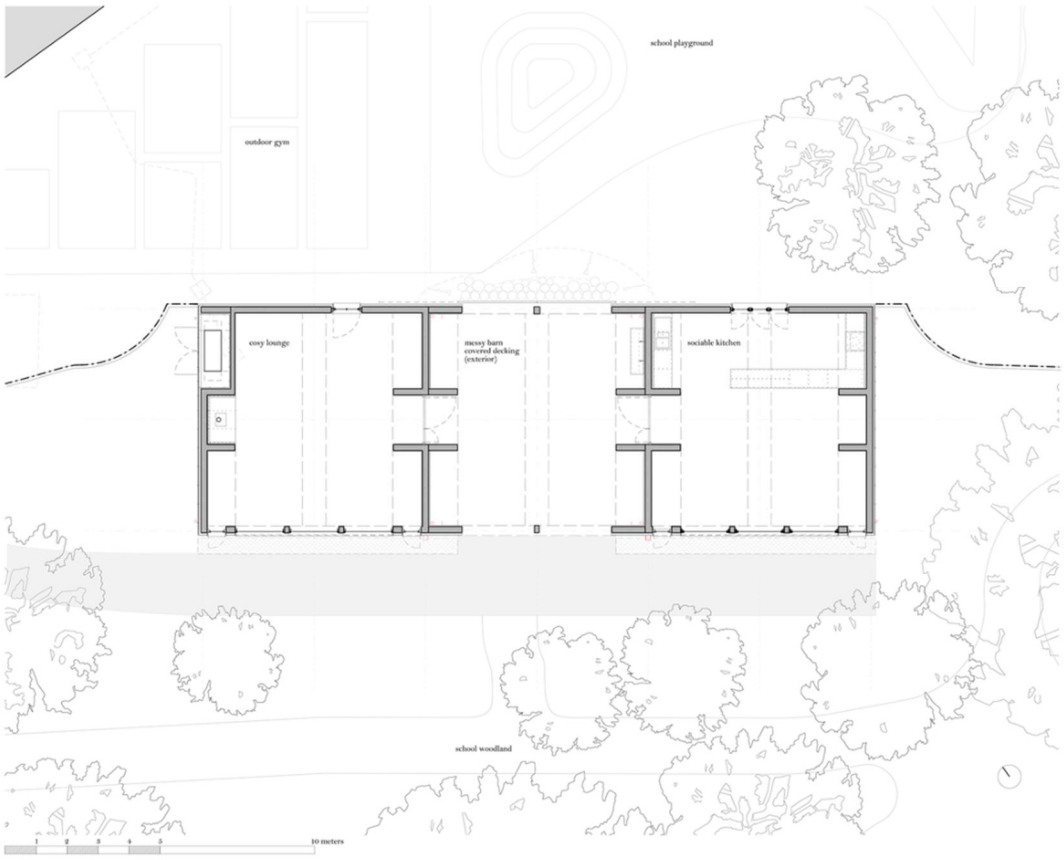


NE Elevation with door open

Woodland Classrooms
*Below High School*

Elevations

0 5 10 meters



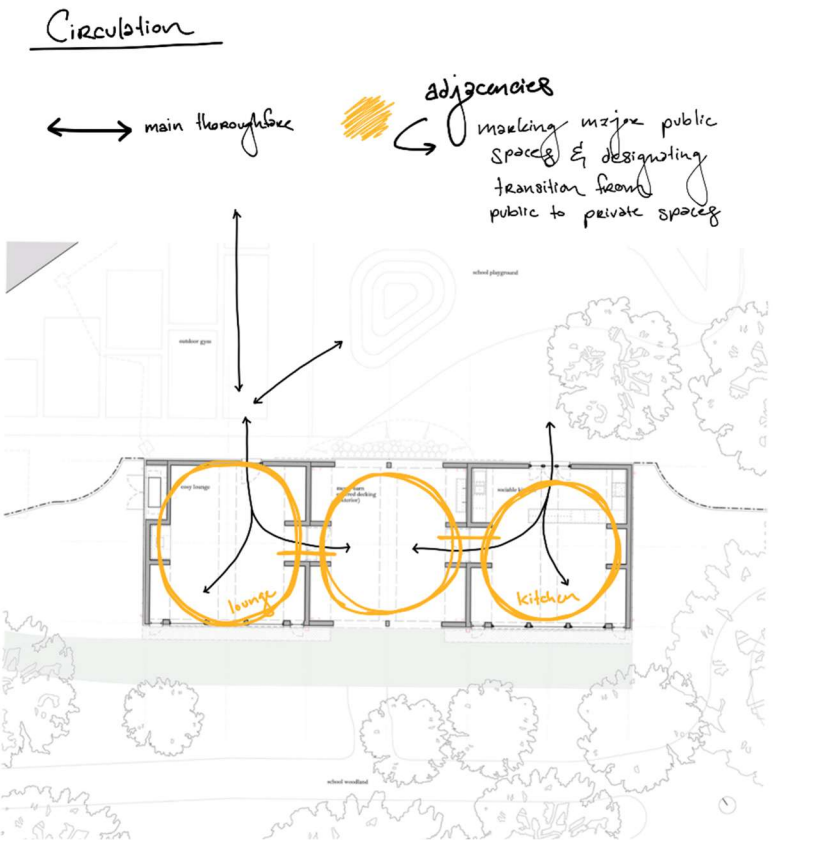

Woodland Classrooms
*Belvue High School*

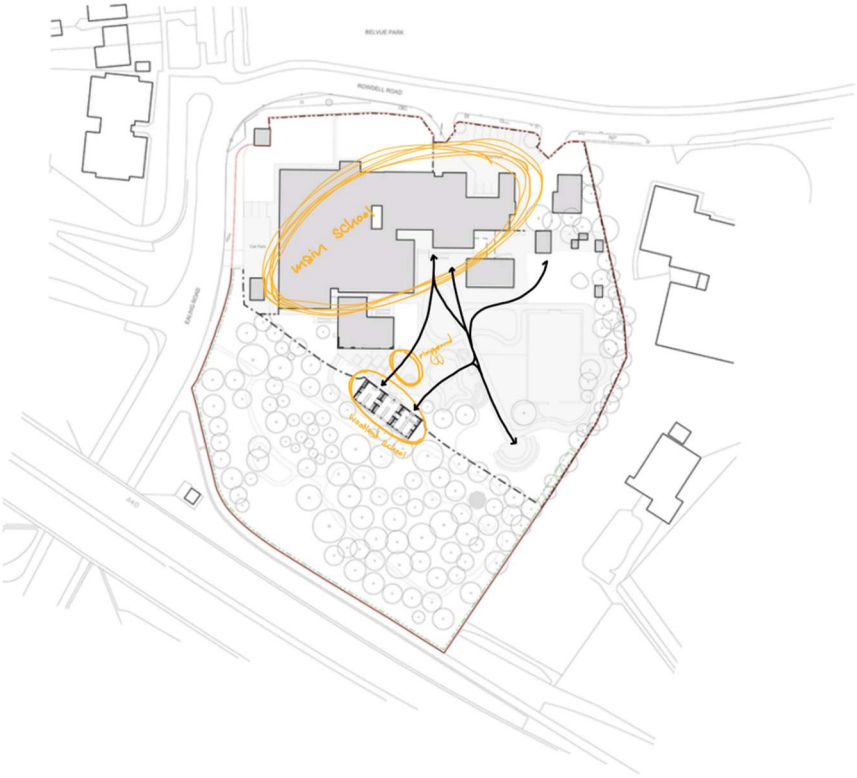
GA Plan




Woodland Classrooms
*Belvue High School*

Proposed Site Plan


Circulation
main thoroughfare
adjacencies
marking major public spaces & designating transition from public to private spaces
lounge
kitchen


main school
playground

# Italy Restaurant

*Location:* Sankt-Peterburg, Russia

*Architect:* PAUM design

*Type:* Restaurant

*Year:* 2019

*Area:* 0 – 1,000 sf

*Materiality:* brick, steel beams, bright colors, white

*Lighting:* large windows, lots of pendant lights throughout, linear wall grazers

*Features:*

- Reuse of old building elements
- Lack of decorative objects to let architectural elements sing
- Light purposely focused on tables
- Open kitchen to mimic an open home format, helps set the atmosphere
- Vaulted ceilings finished with façade tiles
- Landings are zoned with fences and palm trees







*Elements I'd like to Incorporate:*

- atmosphere
- preserve architectural elements of existing building

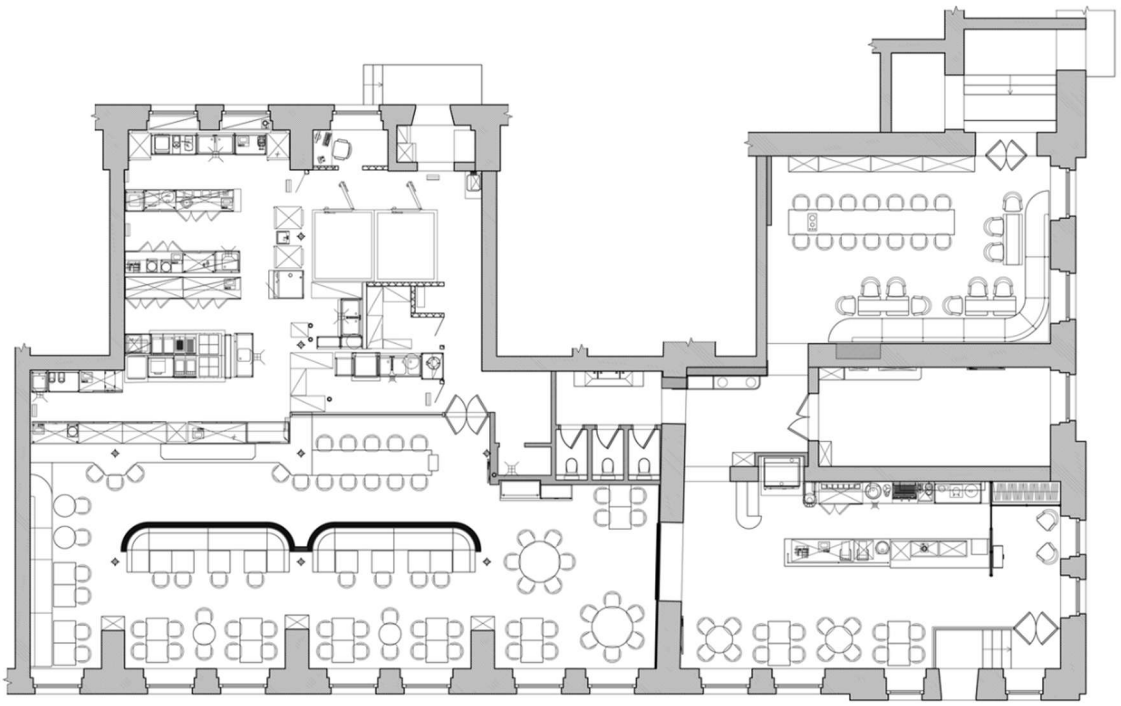








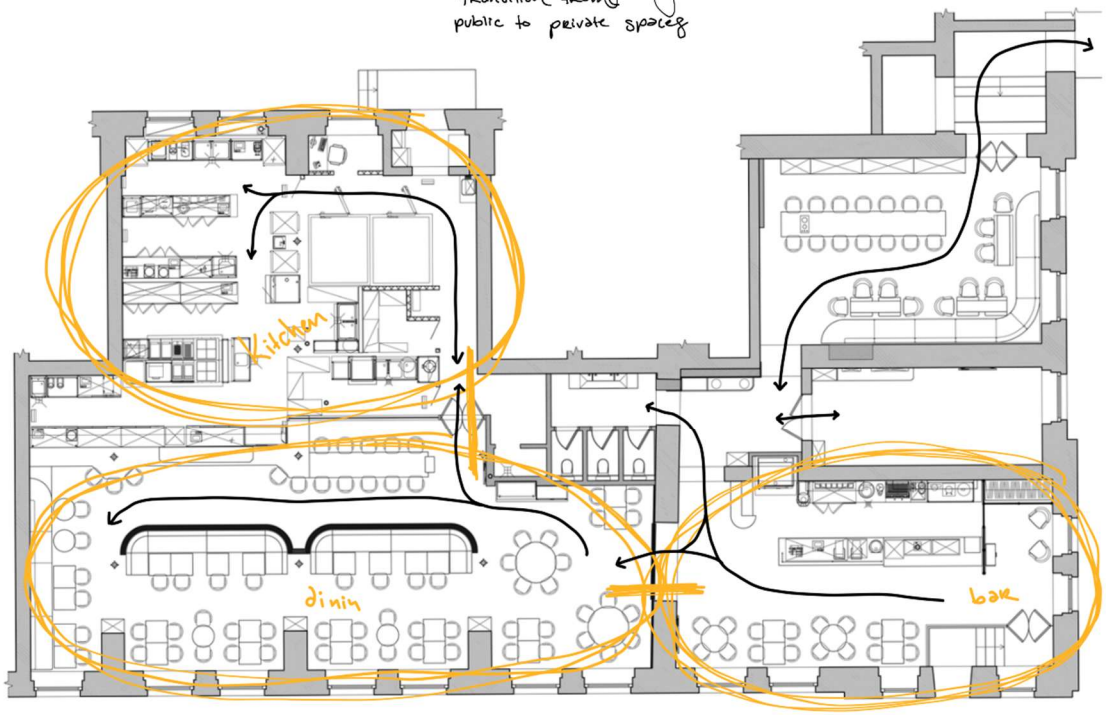




## Circulation

main thoroughfare

adjacencies
marking major public spaces & designating transition from public to private spaces



# The Lakehouse Restaurant

*Location:* Bogor, Indonesia

*Architect:* LUWIST

*Type:* Restaurant

*Year:* 2019

*Area:* 0 – 1,000 sf

*Materiality:* brick, steel, glass, concrete, water

*Lighting:* skylights and large windows bring natural light, heavily populated ceiling grid of downlights throughout main rooms

*Features:*

- Warm terra cotta bricks to provide visual warmth when climate is cool
- Three unique spaces for three unique dining experiences
- Lake provides atmosphere that is enhanced by sunken dining within it
- Artificial lake was originally a basin that flooded in rain—utilizing natural topography in design







*Elements I'd like to Incorporate:*

- Separated dining experience
- Variety of environments for dining

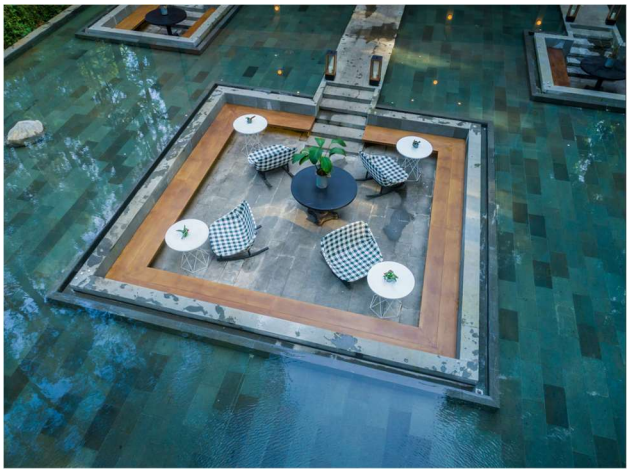




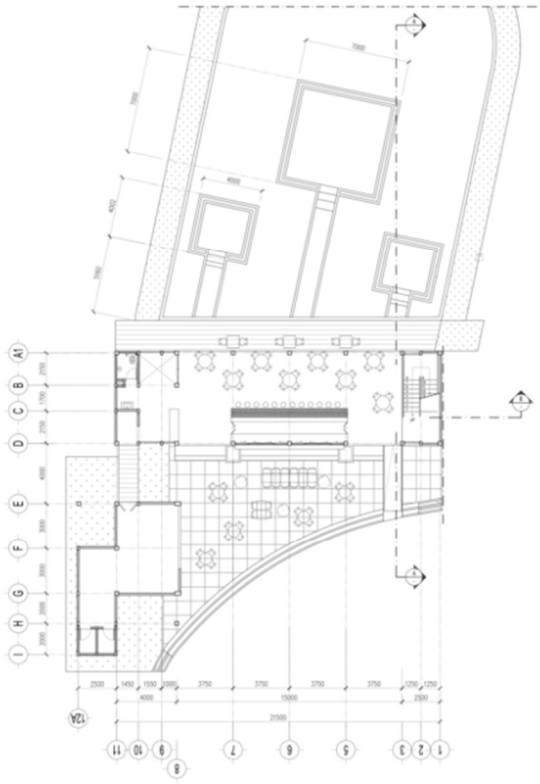

THE LAKE HOUSE
TWN
MANILA HUIS

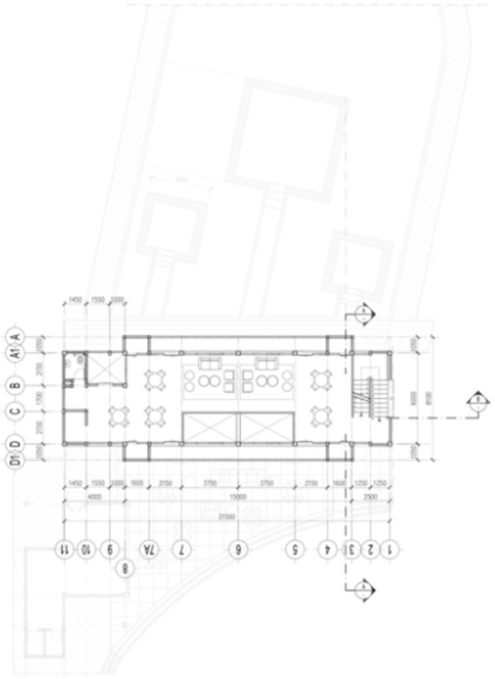


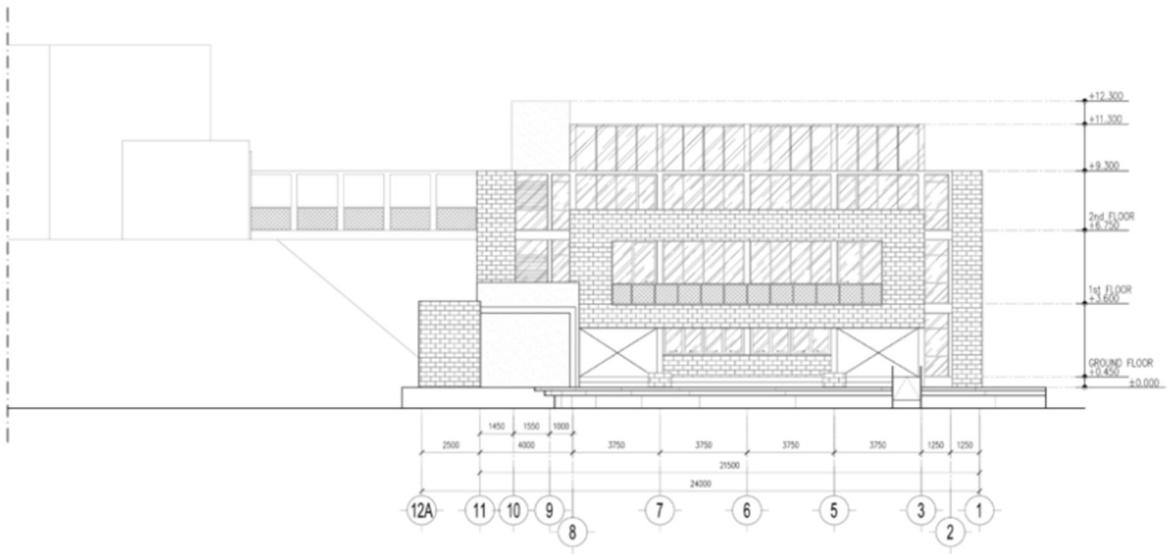


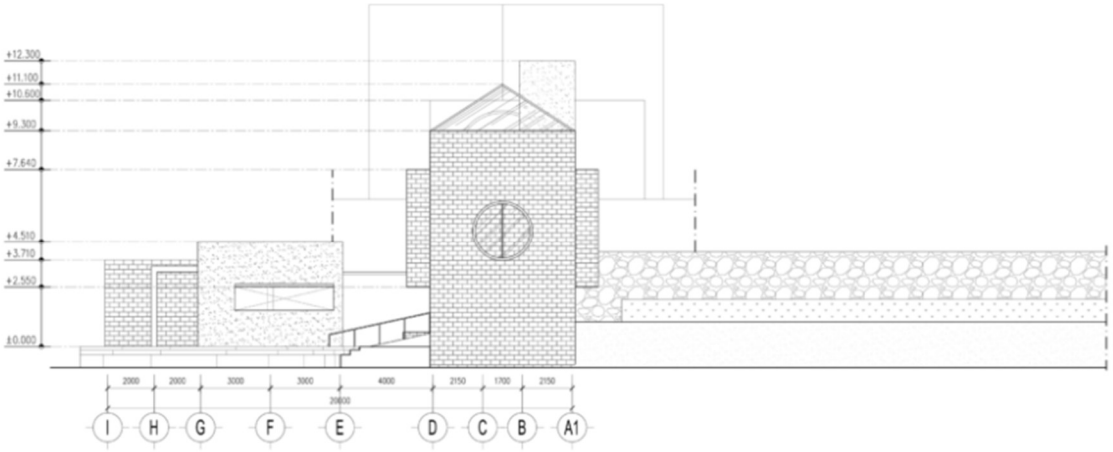


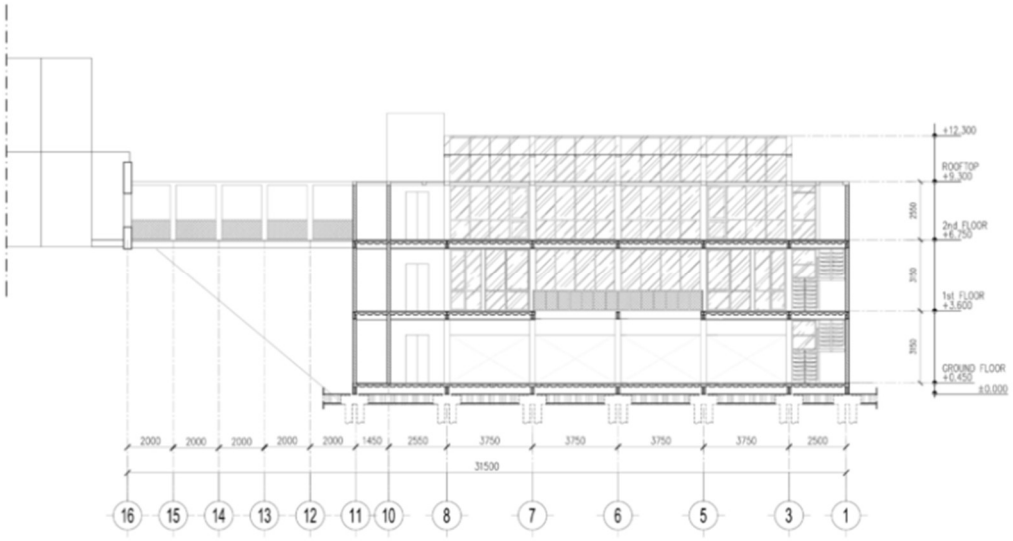


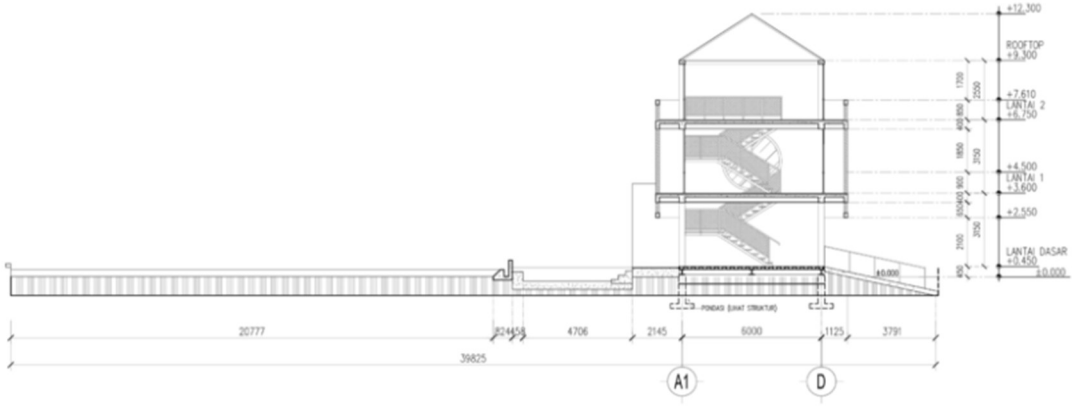





+12.300
+11.300
+9.300
2nd FLOOR
+6.750
1st FLOOR
+3.600
GROUND FLOOR
+0.450
±0.000
12A
11
10
9
8
7
6
5
3
2
1


+12.300
+11.100
+10.600
+9.300
+7.640
+4.510
+3.710
+2.550
±0.000
2000
2000
3000
3000
4000
2150
1700
2150
20800
I
H
G
F
E
D
C
B
A1

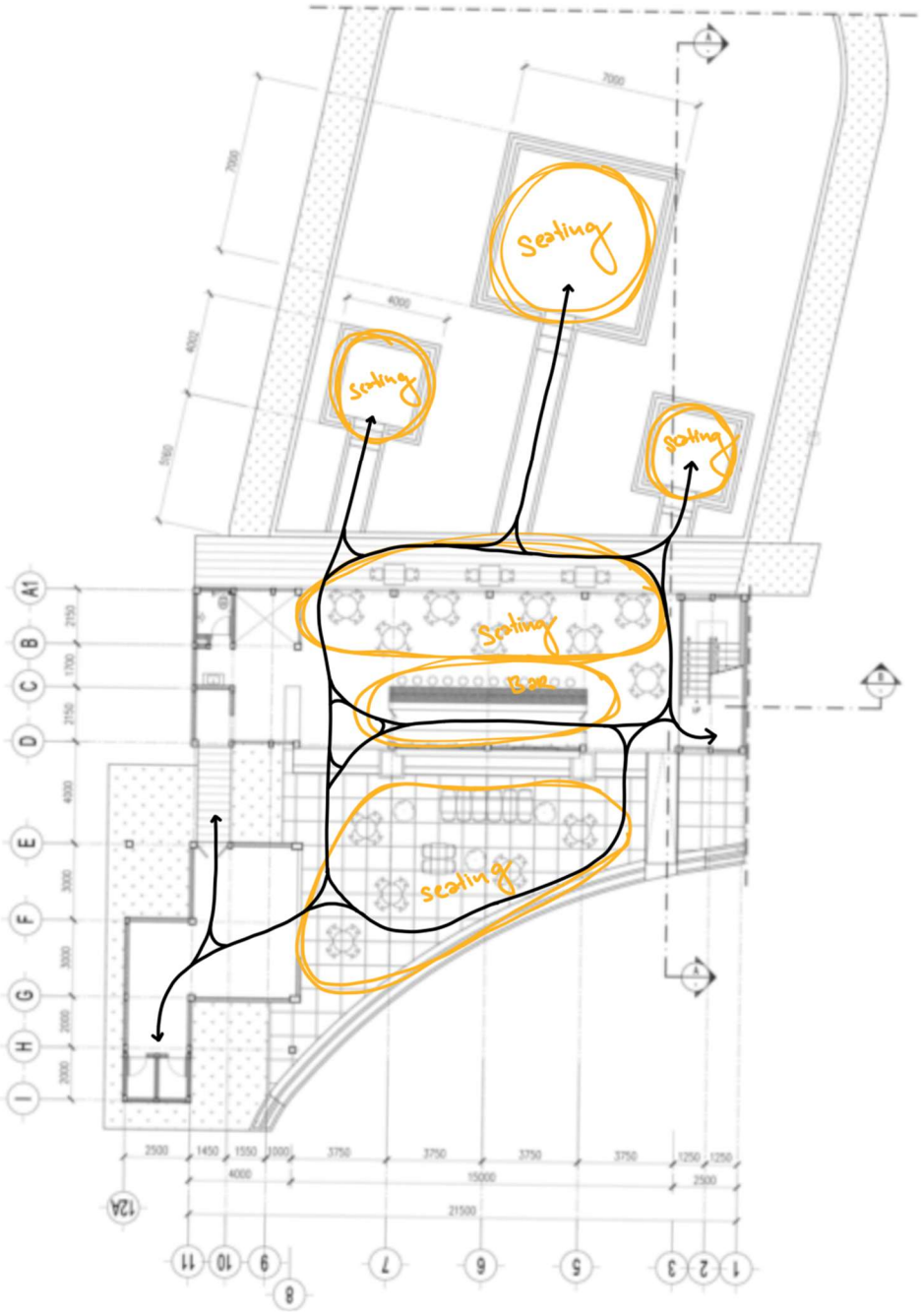

+12.300
ROOFTOP
+9.300
2nd FLOOR
+6.750
1st FLOOR
+3.600
GROUND FLOOR
+0.450
±0.000
2550
3150
3150
2000
2000
2000
2000
2000
1450
2550
3750
3750
3750
3750
2500
31500
16
15
14
13
12
11
10
8
7
6
5
3
1


+12.300
ROOFTOP
+9.300
+7.610
LANTAI 2
+6.750
+4.500
LANTAI 1
+3.600
+2.550
LANTAI DASAR
+0.450
±0.000
1700
2550
450
850
1800
3150
900
850
2700
2550
850
PONDASI (UKAT STRUKTUR)
20777
824
458
4706
2145
6000
1125
3791
39825
A1
D

## Circulation

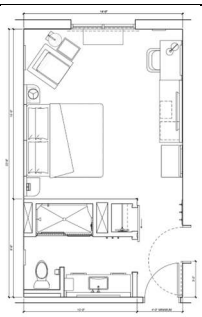
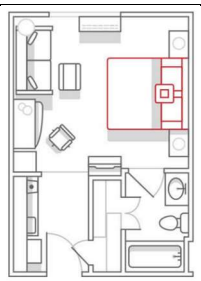
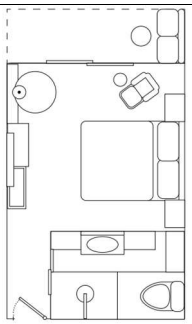
↔ main thoroughfare

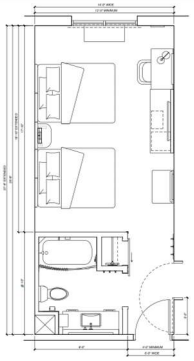
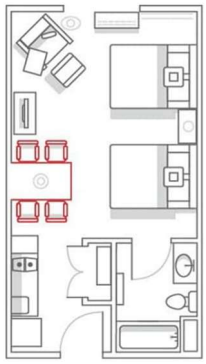
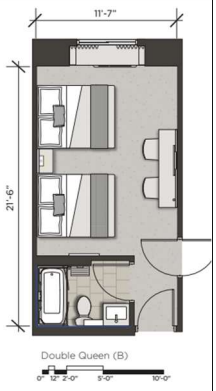
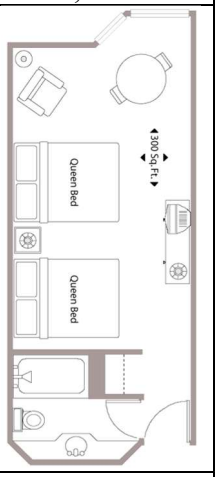
adjacencies
↳ marking major public spaces & designating transition from public to private spaces

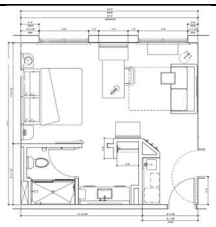
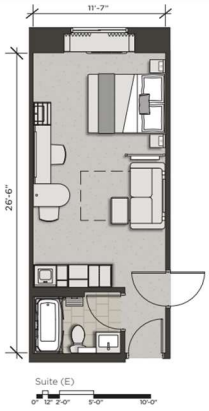
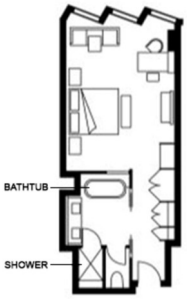


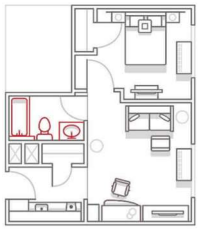
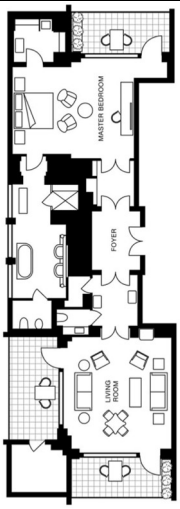
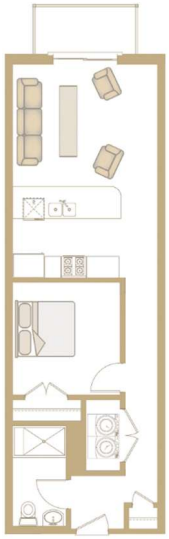
**Typology Studies**

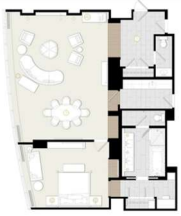
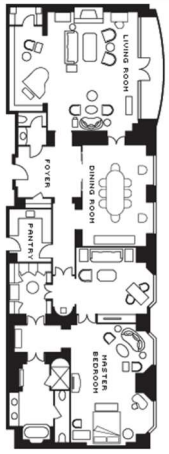
**ROOM TYPES**

| **Standard King Hotel Room Typologies** | | | | | |
|---|---|---|---|---|---|
| | Hampton by Hilton | TownePlace Suites by Marriott | Holiday Inn by IHG | Bali Seminyak Resort, Courtyard by Marriott | The Plaza Hotel, New York |
| **Site** | | | | Dhyana Pura, Seminyak, Bali | New York, NY, USA |
| **Plan** |  |  |  |  |  |
| **SF** | 331 sq. ft. | | | 105 sq. ft. | 294 sq. ft. |
| **Components** | Bed, chair, desk + desk chair, tv and dresser, shower, sink, closet, toilet, window | Bed, couch, desk + desk chair, tv and dresser, shower, sink, closet, toilet, window, coffee bar | Bed, desk, desk chair, chair, dresser, tv, closet, shower, sink, toilet | Bed, table, dresser, tv, patio, chair, shower, toilet, sink | Bed, closet, shower, tub, toilet, sink, bed, chairs, desk and desk chair, dresser, tv |
| **Other Notes** | Connects to adjoining room | Suite influence in room design | | | Soaking tub and separate shower |
| **Source** | https://griffinstaffordcom/wp-content/uploads/2019/02/Hampton-Brochure.pdf | https://towneplacesuites.marriott.com/suites/ | http://design.holidayinn.com/gallery-guest-room.html | https://www.marriott.com/marriottassets/marriott/DPSSM/PDF/DPSSM_FloorPlans_Rooms.pdf | https://www.theplazany.com/rooms-and-suites/deluxe-king-room/ |

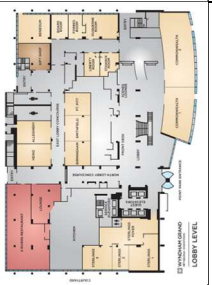
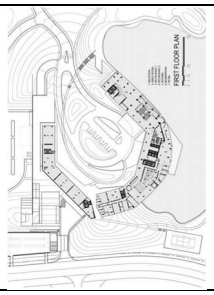
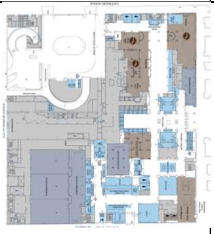
| Standard Queen/Queen Hotel Room Typologies | | | | | |
|---|---|---|---|---|---|
| | Hampton by Hilton | ownePlace Suites by Marriott | Microtel Inn & Suites by Wyndham | Holiday Inn by IHG | The Banff Caribou Lodge & Spa |
| **Site** | | | | | Banff, Canada |
| **Plan** |  |  |  |  |  |
| **SF** | 320 sq. ft. | | 247 sq. ft. | | 300 sq. ft. |
| **Components** | Two Queen beds, nightstand, desk, chair, dresser, tv, shower, closet toilet, sink | Two Queen beds, nightstand, chair and footrest, tv, table and four chairs, coffee bar & cabinets, closet, shower, toilet, sink | Two Queen beds, nightstand, desk | Two Queen beds, nightstand, chair, desk, desk chair, dresser, tv, closet, shower, sink toilet | Two Queen beds, tv, dresser, table with two chairs, chair, shower, toilet, sink, closet |
| **Other Notes** | Connects to adjoining room | Suite influence in room design | Connects to adjoining room | | Boutique hotel, not corporate |
| **Source** | https://griffinstafford.com/wp-content/uploads/2019/02/Hampton-Brochure.pdf | https://towneplacesuites.marriott.com/suites/ | https://development.wyndhamhotels.com/wp-content/uploads/2018/05/Microtel_Prototype_Layout.pdf | http://design.holidayinn.com/gallery-guest-room.html | https://banffcaribouLodge.com/standard-hotel-room/caribou-standard-fp-2q-2/ |

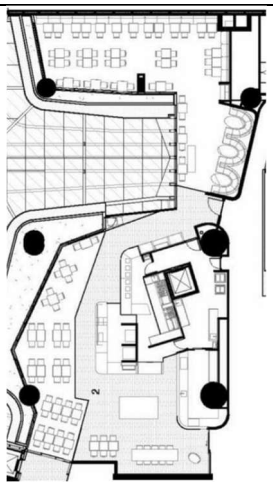
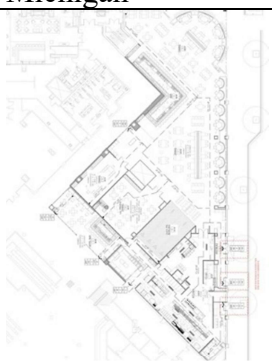
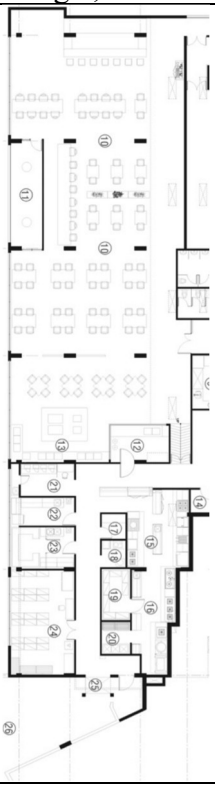
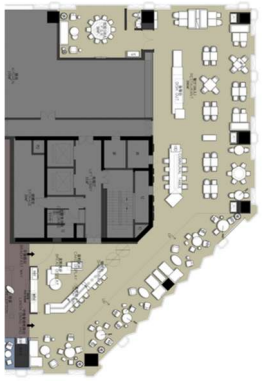
| Standard Bed/Pullout Hotel Room Typologies | | | | | |
|---|---|---|---|---|---|
| | Hampton by Hilton (Inn & Suites only) | Microtel Inn & Suites by Wyndham | Holiday Inn by IHG | Four Seasons Hotel Seoul | Courtyard by Marriott Waterloo St. Jacobs |
| **Site** | | | | Seoul, South Korea | Waterloo, Canada |
| **Plan** |  |  |  |   |  |
| **SF** | 366 sq. ft. | 305 sq. ft. | | 517 sq. ft. | 336 sq. ft. |
| **Components** | Queen bed, pullout couch, desk, desk chair, coffee bar, closet, sink, toilet, shower | Queen bed, pullout couch, desk, tv, table, chairs, kitchenette, sink, toilet, shower | Queen bed, nightstands, chair, table and two chairs, desk, desk chair, dresser, tv, bunk beds, additional tv, closet, shower, sink, toilet | One king bed, one sofa bed, desk, desk chair, closets, bathtub, shower, double sink, toilet, tv, dresser | Bed, wardrobe, desk, chair, tv, couch, shower, toilet, sink, sofa bed |
| **Other Notes** | Connects to adjoining room | Connects to adjoining room | "Kids Suite" | *Some of the floor plans do not contain tubs | |
| **Source** | https://griffinstafford.com/wp-content/uploads/2019/02/Hampton-Brochure.pdf | https://development.wyndhamhotels.com/wp-content/uploads/2018/05/Microtel_Prototype_Layout.pdf | http://design.holidayinn.com/gallery-guest-room.html | https://www.fourseasons.com/seoul/accommodations/guest_rooms/premier_family_room/ | https://www.booking.com/hotel/ca/courtyard-by-marriott-waterloo-st-jacobs.html#RD44053101 |

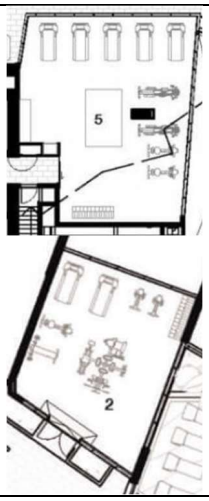
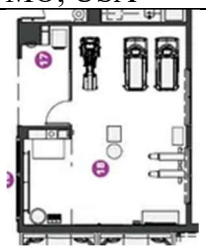
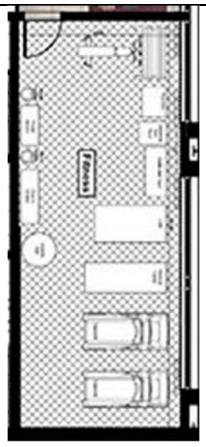
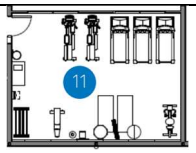
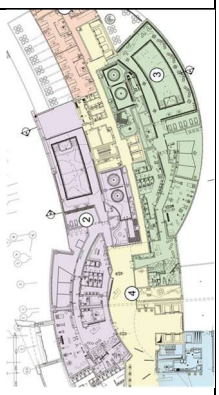
| Suite Style Room Typologies | | | | | |
|---|---|---|---|---|---|
| | TownePlace Suites | Staybridge Suites by IHG | Four Seasons Hotel Ritz Lisbon | Four Seasons Hotel Ritz Lisbon | The Guest House Hotel |
| **Site** | | | Lisbon, Portugal | Lisbon, Portugal | Chicago, IL, USA |
| **Plan** |  |  |  |  |  |
| **SF** | | | 1,224 sq. ft. | 791 sq. ft. | 650 sq. ft. |
| **Components** | Bed in separate room, tv, dresser, living space with additional tv, desk, chair, couch, kitchenette, closet, bathroom with sink, shower, toilet | Fully equipped kitchen, bed, nightstands, couch, chairs, desk with desk chair, tv, closet, bathroom with toilet, shower, sink | One king bed, full marble bathroom, in most suites an additional half bath, outdoor terraces, living room with multiple seating spots, multiple TVs, desk and chair, closets | One King bed, one full marble bathroom, terrace, living space with couch, chairs, tv, closet, half bath. | One bed, laundry, shower, toilet, sink, full kitchen, living space with couch and two chairs, closet, balcony |
| **Other Notes** | | living space in sleeping space | | | Boutique hotel, not corporate |
| **Source** | https://towneplacesuites.marriott.com/suites/ | https://www.ihg.com/staybridge/content/us/en/exp/suites | https://www.fourseasons.com/lisbon/accommodations/suites/four_seasons_one_bedroom_suite/ | https://www.fourseasons.com/lisbon/accommodations/suites/four_seasons_junior_suite/ | https://www.theguesthousehotel.com/floorplans |

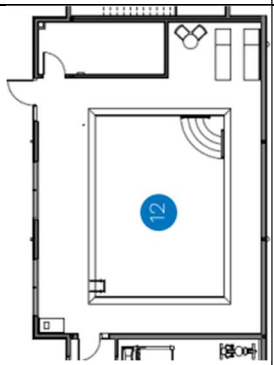
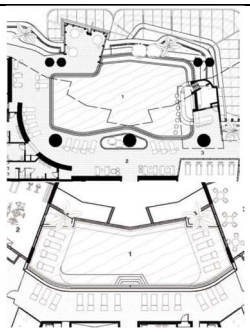
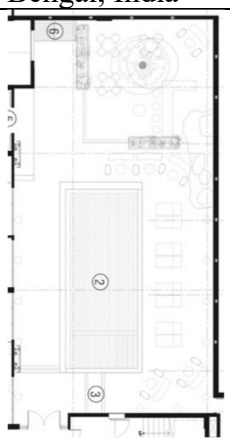
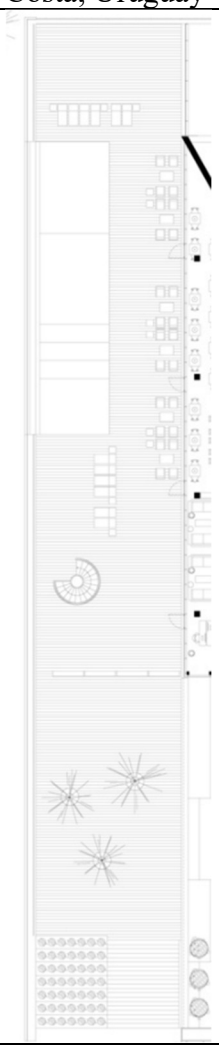
| **Luxury Suite Style Room Typologies** | | | | | |
|---|---|---|---|---|---|
| | Tampa Marriott Water St. | Staybridge Suites by IHG | Four Seasons Hotel Silicon Valley at East Palo Alto | Four Seasons Boston | The Guest House Hotel |
| **Site** | Tampa, FL, USA | | E Palo Alto, CA, USA | Boston, MA, USA | Chicago, IL, USA |
| **Plan** |  |  |  |   |  |
| **SF** | 1,012 sq. ft. | | 1,360 sq. ft. | 2,590 sq. ft. | 1,800 sq. ft. |
| **Components** | Separate hotel room with King Bed, two private balconies, parlor with sitting area, large dining room for 10, sleeper sofa | Fully equipped kitchen, two bedrooms, two closets, two bathrooms, living space, dining table windows | One king bed, one extra large bathroom with shower and soaking tub, guest half bath, formal dining room for 8, private bar, wine fridge, dressing room, | One King Bed, full marble bathroom with separate shower and tub, half bath, balcony with view, piano, living room, dining room, pantry, foyer, additional living room | 3-bedroom, 2-bathroom, ample closet space, full kitchen, dining space for 6 people, living room with couch, chairs, and tv, balcony |
| **Other Notes** | Can be connected to double queen/king rooms | | Lots of additional add-on amenities | Considered the “Royal Suite” | Boutique hotel, not corporate |
| **Source** | https://www.marriott.com/marriottassets/marriott/TPAMC/PDF/TPAMC_Marriott_Suites_Planner_FINAL-ua.pdf | https://www.ihg.com/staybridge/content/us/en/exp/suites | https://www.foureasons.com/siliconvalley/accommodations/specialty-suites/luxury_suite/ | https://www.foureasons.com/boston/accommodations/specialty_suites/royal-suite/ | https://www.theguesthousehotel.com/floorplans |

**HOTELS**

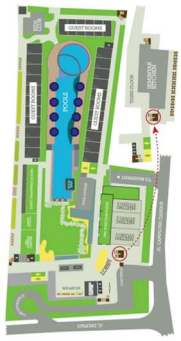
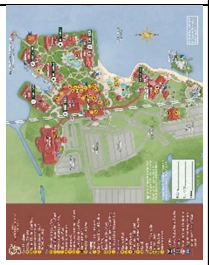
| **Hotel Lobby Typologies** | | | | | |
|---|---|---|---|---|---|
| | Wyndham Grand Pittsburgh Downtown | Microtel by Wyndham | JW Marriot Hotel | Hilton Chicago | Tru by Hilton |
| **Site** | Pittsburgh, PA, USA | | Hanoi, Vietnam | Chicago, IL, USA | Springfield, MO, USA |
| **Plan** |  |  |  |  |  |
| **SF** | | | | | Approx. 2,857 sq. ft. |
| **Components** | Lobby, Front desk, lounges, guest elevators, service elevators, restaurant, lounge, restrooms, grand stair, fire stairs, meeting rooms | Reception, workspace, patio, lounge, fireplace, beverage zone, elevator, market | Reception, Great room, two restaurants, kitchen, boardroom, retail | Reception, office, front desk, restaurants, parking, gift shop, networking, Fedex, ballrooms | Lobby, front desk, market, lounge, game zone, dining area, breakfast bar, work zone, fitness room, outdoor patio |
| **Other Notes** | Many points of entry into building | | The ground floor below features car park, bar, living room, and ballrooms | | |
| **Source** | https://www.wyndhamhotels.com/content/dam/property-assets/en-us/gr/us/pa/pittsburgh/44831/floor-plans/44831-Wyndham-Floor-Plan-Diagrams-Nov2015.pdf | https://development.wyndhamhotels.com/wp-content/uploads/2018/05/Microtel_Prototype_Layout.pdf | https://www.world-architects.com/en/architecture-news/building-of-the-week/jw-marriott-hotel | https://www.hiltonchicagomeetings.com/tools/floorplans/ | https://www.news-leader.com/picture-gallery/news/local/ozarks/2018/06/11/a-tru-by-hilton-hotel-is-coming-to-downtown-springfield/35930509/ |

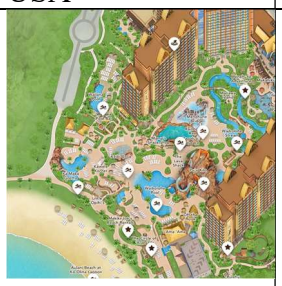
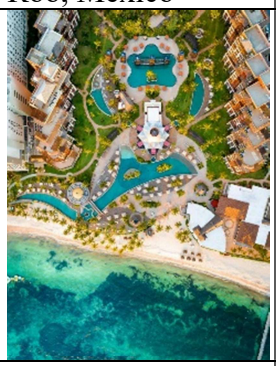
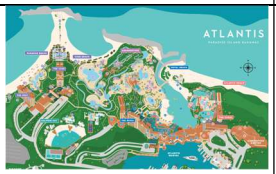
| **Hotel Restaurant Typologies** | | | | |
|---|---|---|---|---|
| | The Westin Hotel | Radisson Plaza Hotel | Ramada Darjeeling by Wyndham | Canopy by Hilton |
| **Site** | Brisbane, Australia | Kalamazoo, Michigan | Darjeeling, West Bengal, India | Chengdu, China |
| **Plan** |  |  |  |  |
| **SF** | . | Approx. 11,000 sq. ft | | |
| **Components** | Bar, seating areas, kitchen, patio spaces | Bar, dining, kitchen, duckpin bowling | Restaurant, dish wash, display kitchen, buffet, cooking, main kitchen, chef, grinding, cold room, hot wash, pantry, room service, storage, dumbwaiter | Seating, communal tables, bread display, cake display, high bar, breakfast bar |
| **Other Notes** | | | | |
| **Source** | https://www.woodsbagot.com/projects/the-westin/ | https://www.mlive.com/news/kalamazoo/2024/07/iconic-kalamazoo-hotel-plans-new-restaurant-bar-concept-with-duckpin-bowling.html | https://architecture.live/ramada-darjeeling-a-boutique-hotel-by-rd-studio/#jp-carousel-28564 | https://www.archdaily.com/921911/canopy-by-hilton-in-chengdu-ccd?ad_source=search&ad_medium=projects_tab |

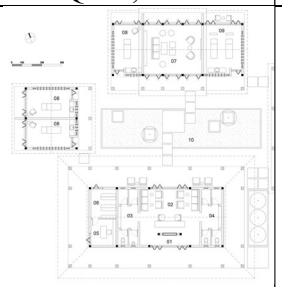
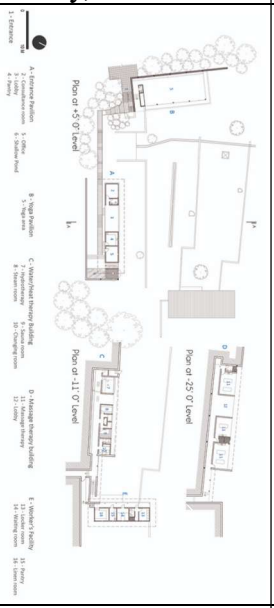
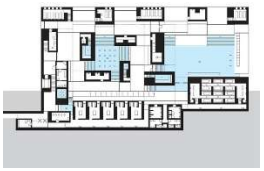
| **Hotel Gym Typologies** | | | | | |
|---|---|---|---|---|---|
| | The Westin Hotel | Tru by Hilton | Hampton by Hilton | Holiday Inn Express | Ibis Novotel IKIA |
| **Site** | Brisbane, Australia | Springfield, MO, USA | York, UK | | Tehran, Iran |
| **Plan** |  |  |  |  |  |
| **SF** | | | | | |
| **Components** | Treadmills, ellipticals, wight rack, exercise bikes. | Treadmills, elliptical, weight rack, etc. | Treadmills, weights, workout machines, mats | Treadmills, ellipticals, exercise bike, yoga mats, weight rack, bench press. | Separated men's and women's gyms, basketball courts, locker rooms, workout rooms |
| **Other Notes** | | | | | Located in Tehran, Iran where Islam and government promote separation of Men & women in intimate settings unless married. |
| **Source** | https://www.woodsbagot.com/projects/the-westin/ | https://www.news-leader.com/picture-gallery/news/local/ozarks/2018/06/11/a-tru-by-hilton-hotel-is-coming-to-downtown-springfield/35930509/ | https://occa-design.com/projects/hampton-by-hilton-york-2/ | https://design.holidayinnexpress.com/downloads/Formula-Blue-2-Prototype-Book-December-2020.pdf | https://www.caoi.ir/en/projects/item/920-ibis-novotel-ikia.html |

| **Hotel Pool Typologies** | | | | |
|---|---|---|---|---|
| | Holiday Inn Express by IHG | The Westin Hotel | Ramada Darjeeling by Wyndham | Hampton by Hilton Carrasco |
| **Site** | | Brisbane, Australia | Darjeeling, West Bengal, India | Ciudad de la Costa, Uruguay |
| **Plan** |  |  |  |  |
| **SF** | | | | |
| **Components** | Pool, chairs, towel storage | Outdoor pool, patio, sun chairs, couches, bar | Pool, chairs, recliners, towel storage, adjacent bathroom | Outdoor pool, chairs, planters, balcony |
| **Other Notes** | | | | |
| **Source** | https://design.holidayinnexpress.com/downloads/Formula-Blue-2-Prototype-Book-December-2020.pdf | https://www.woodsbagot.com/projects/the-westin/ | https://architecture.live/ramada-darjeeling-a-boutique-hotel-by-rd-studio/#jp-carousel-28564 | https://www.archdaily.com/914277/hampton-by-hilton-carrasco-gualano-plus-gualano-arquitectos?ad_source=search&ad_medium=projects_tab |

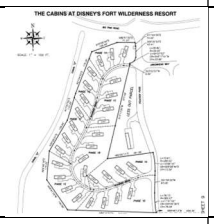
**RESORT**

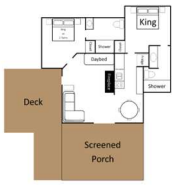
| **Resort Layout Typologies** | | | | | |
|---|---|---|---|---|---|
| | Courtyard by Marriott Bali Seminyak | Ocean Park Marriott Hotel | Walt Disney World: Disney's Grand Floridian Resort & Spa | Hilton Tulum Riviera Maya | Grand Wailea: A Waldorf Astoria Resort |
| **Site** | Dhyana Pura, Seminyak, Bali | Ocean Park, Hong Kong | Bay Lake, Celebration, Lake Buena Vista, FL, USA | Tulum, Quintana Roo, Mexico | Wailea, Maui, HI, USA |
| **Plan** |  |  |  |  |  |
| **Components** | Central pool, bar, lounge, guest rooms, kids club, foyers, fitness center, spa, business center, lobby, meeting spaces, reception | Four central pools, aquarium, lobby, retail, multiple restaurants, wedding garden, BOH spaces, walking paths | Lobby, monorail station, check-in, ten dining locations, retail, multiple pools, spa, fitness center, salon, business center, bus stops, laundry, running trail | Main building: club lounge, restaurants, lobby, pool bar, fitness center Property locations: teens and kids club, splash park, pool bar, restaurants | Rooms & Suites, shopping, lobby, pools/water activities, dining, entertainment, gardens, spa, event spaces |
| **Other Notes** | | | One of many hotels on Disney property, deluxe resort | | |
| **Source** | https://www.marriott.com/marriottassets/marriott/DPSSM/PDF/DPSSM_FloorPlans_Rooms.pdf | https://www.archdaily.com/935222/ocean-park-marriott-aedas | https://www.wdwinfo.com/resortmaps/grand-floridian-resort-map.htm | https://paradiseweddings.com/mx/tulum/conrad-tulum-riviera-maya | https://www.grandwailea.com/resort#propertymap |

| **Resort Pool Typologies** | | | | |
|---|---|---|---|---|
| | Aulani, a Disney Resort & Spa | Villa del Palmar Cancún | Atlantis Paradise Island Bahamas | St. Regis Deer Valley, Marriott |
| **Site** | Kapolei, Oahu, HI, USA | Cancún, Quintana Roo, Mexico | Nassau, Bahamas | Park City, UT, USA |
| **Plan** |  |  |  |  |
| **SF** | | | 141 acres | |
| **Components** | Approximately ten pools, some secluded, calm pools, some waterslides, lazy river, splash pad, reef | Multiple pools, interspersed through outdoor landscaping and bars | 14 swimming pools, a lazy river, slides, 20 million gallons of water to swim in. | One main two level pool and two hot tubs. |
| **Other Notes** | One pool is octopus shaped. Entire resort is aimed at families | Centralized in courtyard that residences surround on three sides | The biggest water park in the Bahamas | In a ski resort, heated for the winter, slopeside. |
| **Source** | https://www.disneyaulani.com/map/activities | https://www.booking.com/hotel/mx/villa-del-palmar-cancun.html | https://www.atlantisbahamas.com/things-to-do/aquaventure-water-park | https://www.marriott.com/en-us/hotels/slcxr-the-st-regis-deer-valley/overview/?nst=paid&hmGUID=a237cdaa-a3b6-4709-1d36-437bb76ae106 |

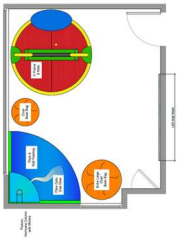
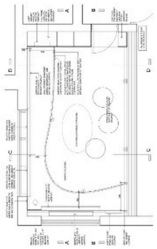
| **Resort Spa Typologies** | | | | |
|---|---|---|---|---|
| | Mango Bay Resort Spa | Radisson Resort and Spa | Santani Wellness Resort & Spa | Therme Vals, Peter Zumthor |
| | Phu Quoc, Vietnam | Lonavala, India | Kandy, Sri Lanka | Vals, Switzerland |
| **Plan** |  |  |  |  |
| **SF** | | | | |
| **Components** | Lobby, reception, changing areas, office, cabana, pond, treatment rooms | Spa therapy rooms, lobby | Consultation room, lobby, pantry, office, pond, yoga pavilion, hydrotherapy, sauna, steam room, changing room, massage therapy, for employees: lockers, waiting room, linen room, pantry | Pools of varying temperatures, changing rooms, |
| **Other Notes** | | | Part of a large wellness resort | Thermal bath vs. traditional spa |
| **Source** | https://www.archdaily.com/946421/mango-bay-resort-spa-pi-architects | https://www.archdaily.com/1022005/radisson-resort-and-spa-malik-architecture | https://www.archdaily.com/906417/santani-wellness-resort-and-spa-thisara-thanapathy-associates?ad_source=search&ad_medium=projects_tab | https://www.architectural-review.com/buildings/thermal-baths-in-vals-switzerland-by-peter-zumthor |

**CABINS**

| **Cabin/Campground Layout Typologies** | | | | | |
|---|---|---|---|---|---|
| | Holland Lake Lodge Expansion | The Cabin's at Disney's Fort Wilderness Resort | Ludlow's Island on Lake Vermillion | Little Arrow Outdoor Resort | AutoCamp Russian River |
| **Site** | Condon, MT, USA | Bay Lake, Celebration, Lake Buena Vista, FL, USA | Cook, MN, USA | Townsend, TN, USA | Guerneville, CA, USA |
| **Plan** |  |   |   |  |  |
| **Components** | Cabins, bunkies, existing manager's residence, lodge, games area, access point to trails, lake, fire pit, patio, restaurant, sports pavilion, dock, employee housing, parking, rv parking, maintenance building | New cabins to be arranged along the road in neighborhood, alongside Bay Lake | 22 Cabins on the shores of Lake Vermillion in Minnesota | RV sites, glamping lodge, primitive luxury tents, tent camping, tiny homes, cottages, airstreams, cabins, vacation homes, cabana, pool, hot tub, splash pad, coffee bar, café, park, store, playground, bathhouse, laundry, spa, | Twenty-four private airstreams, ten luxury tents, clubhouse, indoor and outdoor gathering spaces |
| **Other Notes** | | | | | |
| **Sources** | https://www.mtpr.org/montana-news/2022-09-28/public-comment-period-extended-on-holland-lake-lodge-expansion | https://dvcfan.com/news/new-filings-shed-light-on-the-cabins-at-disneys-fort-wilderness-resort-points/ | https://www.ludlowsresort.com/cabins | https://camplittlearrow.com/ | https://architizer.com/blog/inspiration/collections/architectural-drawings-plans-for-campsites-cabins-and-nomads/ |

| **Cabin Layout Typologies** | | | | | |
|---|---|---|---|---|---|
| | The Cabins at Disney's Fort Wilderness Resort | Sundown Cabin, Ludlow's Island on Lake Vermillion | Hemlock Cabin 54, Mountain Springs Lake Resort | Cabin 14, Iron Springs Resort | Bluebird Cabin, The Ranch at Rock Creek |
| **Site** | Bay Lake, Celebration, Lake Buena Vista, FL, USA | Cook, MN, USA | Reeders, PA, USA | Copalis Beach, WA, USA | Philipsburg, MT, USA |
| **Plan** |  |  |  |  |  |
| **SF** | | | 1,140 sq. ft. | | 950 sq. ft. |
| **Components** | Full kitchen, main bedroom, pull down sofa bed, deck, shower, toilet, sink, walking trails nearby, | Two bedrooms, daybed, two bathrooms with toilet, sink, and shower, full kitchen, dining table, living room, and fireplace | Two bedrooms, two bathrooms with shower/bath tub, toilets, sinks, living space, fireplace, covered front porch, full kitchen | One bedroom, sleeper sofa, full kitchen, living room, kitchen table, bathroom with shower, toilet, and sink, deck with grill and chairs | King canopy bed, twin pull out, tv, cedar sauna, bathtub, shower, enclosed porch, front porch, patio, creek directly adjacent, |
| **Other Notes** | Exclusive to just Disney Vacation Club Members | One of 22 cabins on the property | One of many cabins on property | One of many cabins on property | One of many luxury cabins on property |
| **Source** | https://disneyvacationclub.disney.go.com/dvc-cabins-at-fort-wilderness | https://www.ludlowsresort.com/cabins/sundown | https://www.mslresort.com/compare-cabins/hemlock-54 | https://www.ironspringsreservations.com/vacation-rental-home.asp?PageDataID=41556 | https://theranchatrockcreek.com/accommodation/luxury-cabins/ |

**OTHER**

| **Sensory Room Typologies** | | | | | |
|---|---|---|---|---|---|
| | Tigerplay Co. | Rhino UK | Lakeshore Furniture | Total Sensory Co., UK | Primary School Sensory Room, Pedder & Scampton arc. |
| **Plan** |  |  |  |  |  |
| **SF** | | | | | |
| **Components** | Colorful lights, soft surfaces, floor mats, spaces to be comforted in, things to explore upon | LED wall, sensory swing, fiber optic flow, floor and wall padding, hurricane column, bean bag chairs | Learning spaces, couches, bean bag chairs, carpets, canopy | Rainbow lights, interactive floor, fiber optics, bubble tube, cushioned seating, bean bag, rainbow rhythm sound pads | Cushions, carpet flooring, lighting suspended, acoustic panels, bubble column, activity panel, led lighting |
| **Other Notes** | | Multiple types, calming spaces and engaging spaces | Example of an academic space | Important to engage lots of different senses | https://www.pedderscampton.com/projects/education/primary-school-sensory-room/ |
| **Source** | https://www.tigerplay.co.uk/sensory-room-design | https://www.rhinouk.com/creating-a-sensory-integration-room/ | https://www.lakeshorelearning.com/furniture/resources/learning-layouts/calming-sensory-furniture/ | https://www.totalsensory.co.uk/sensory-rooms/ | https://www.peddersampton.com/projects/education/primary-school-sensory-room/ |

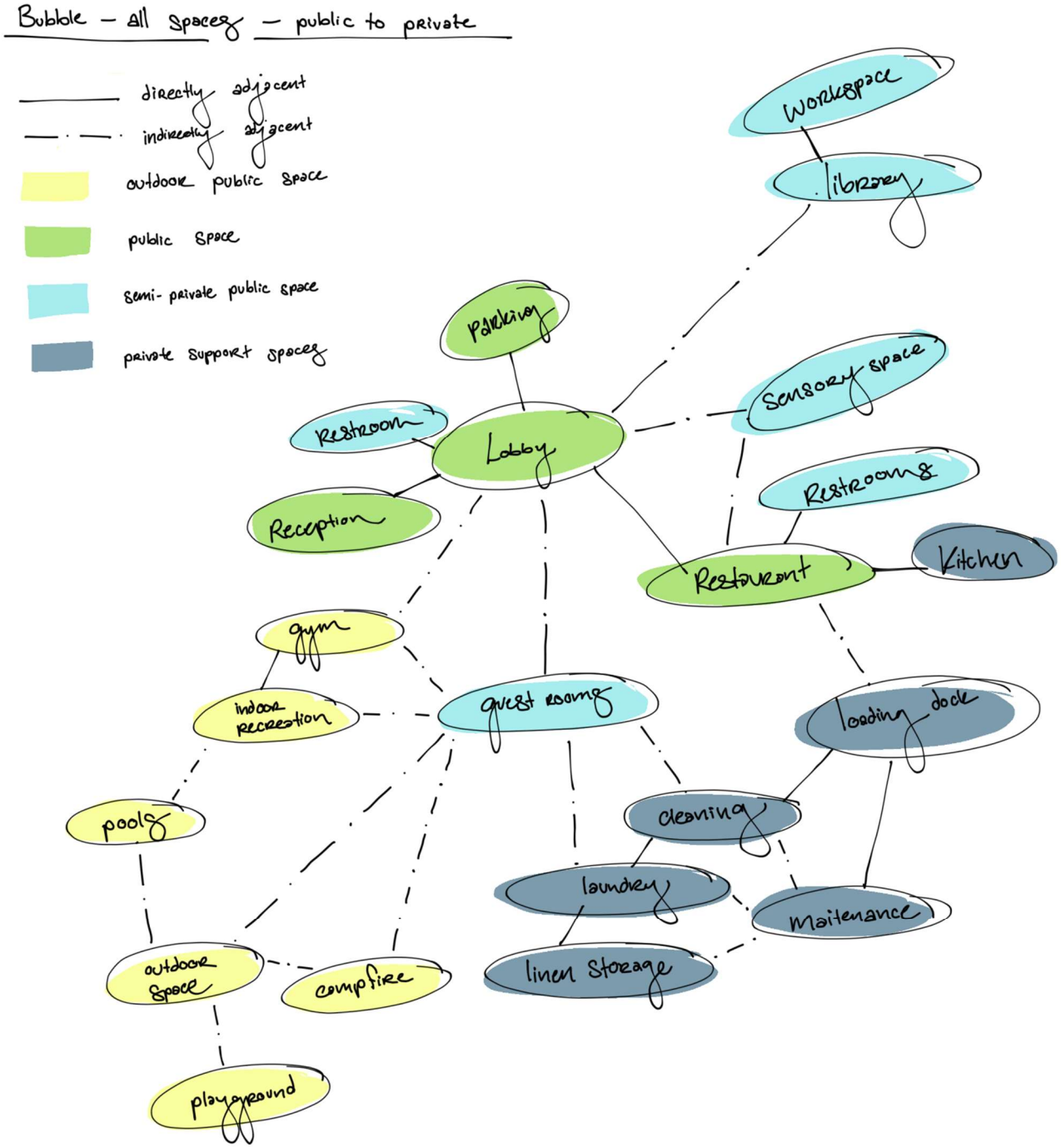
**Project Description**

This capstone project is a resort retreat for neurodiverse individuals, their families, and guests, located in Kings Mill, Ohio, near Cincinnati, Ohio. The resort will focus on creating a welcoming and adaptive environment open to all individuals and families within the community, as well as those who are not neurodiverse. A major aim of the resort is to foster a judgement free-environment and reduce overstimulation and stress that often accompanies travel for neurodiverse individuals. The resort will have a variety of spaces to set each environment apart.

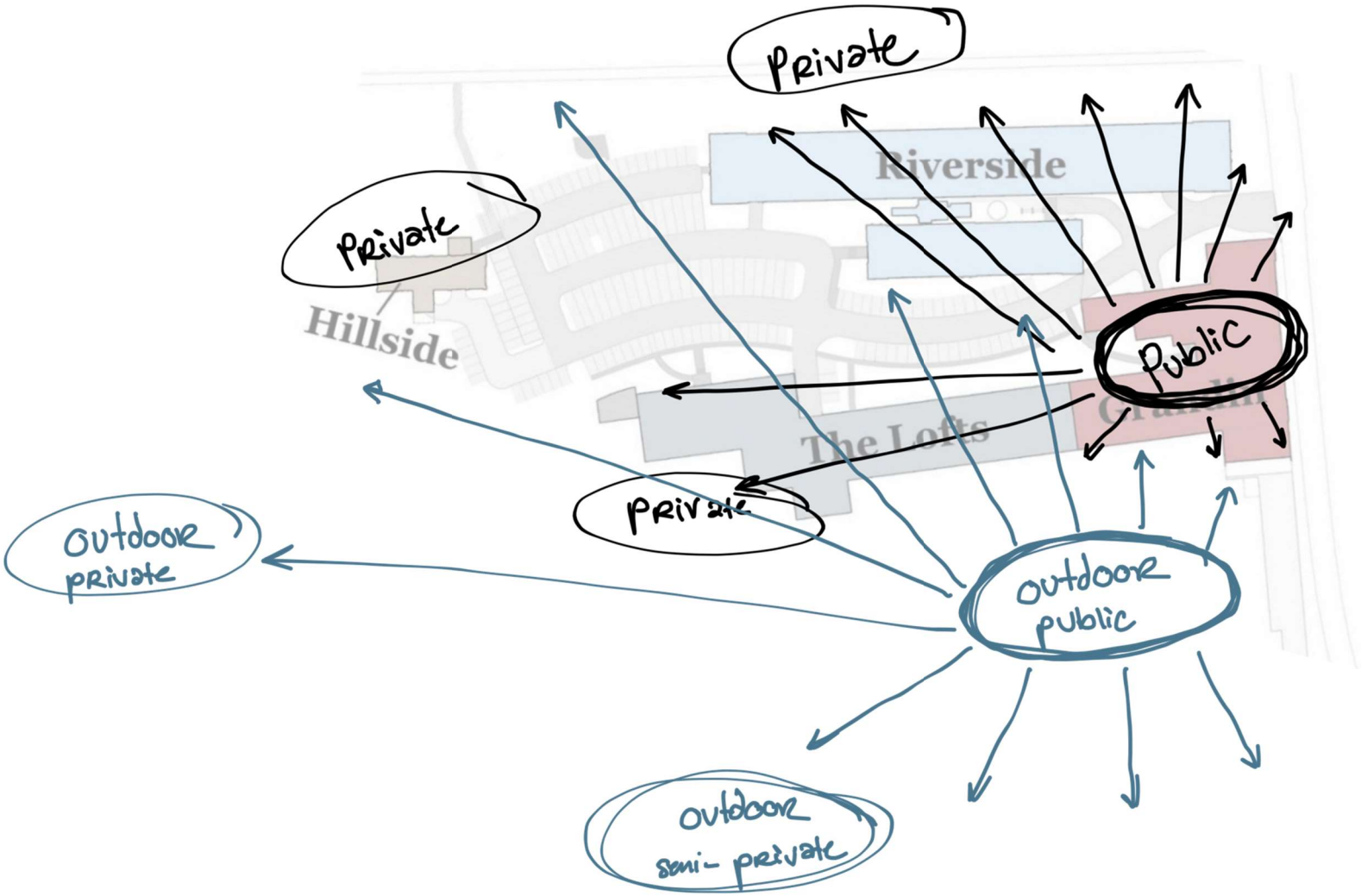
The main building will have the main lobby, reception and all the resources associated with check-in. The goal is to have all the highest traffic spaces—lobby, restaurants, in the central nucleus of the property. As you get farther from this nucleus, the spaces will become more private, including some of the guest-exclusive amenities such as recreational spaces like a gym, pool, and some sensory rooms. Various guest rooms and quiet guest amenities such as a library will be found in the most private part of the shared spaces of the building, with only the staff-exclusive support spaces being the most private spaces throughout the building. On the property in new freestanding structures will be small cabins for additional privacy for families who are interested in a more private and more immersive experience.

The site for this hotel was carefully selected—it is in an urban environment, making it nearby airports and major transportation networks, opening availability for ridesharing services from these transportation hubs. This site is also surrounded by nature, creating a pocket of peace and privacy within the urban fold. It is located along the Little Miami Scenic Trail, a 78.1-mile paved trail throughout southwestern Ohio. Maineville, Ohio is a suburb of Cincinnati, Ohio, and as such it is within an approximately four-hour drive from eight states—Michigan, Pennsylvania, Indiana, Illinois, Kentucky, Tennessee, West Virginia and Virginia. Cincinnati/Northern

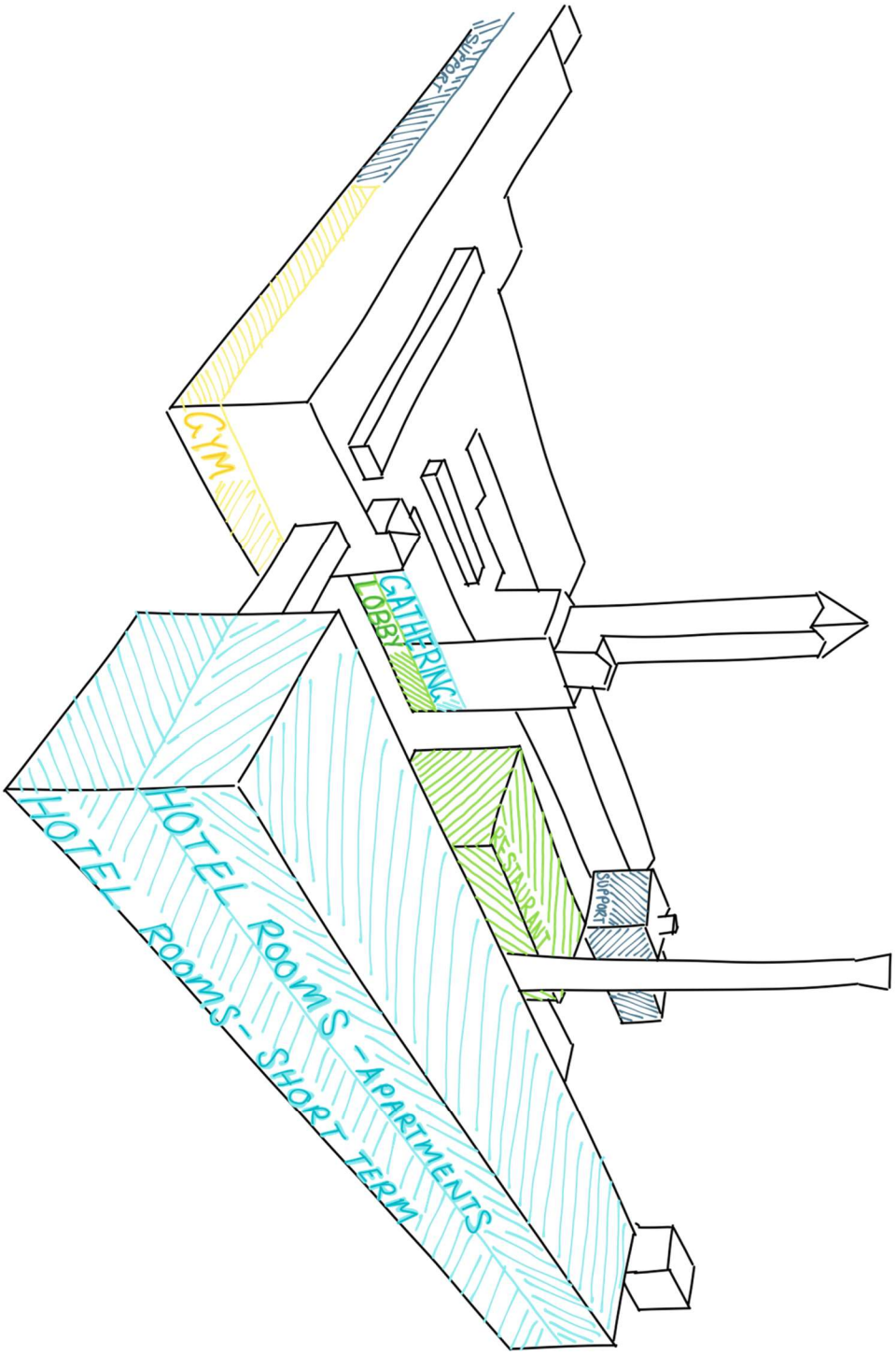
Kentucky International Airport (CVG) is nearby as well as Dayton International Airport (DAY), and it is a roughly two-hour drive from Louisville Muhammad Ali International Airport (SDF), and Indianapolis International Airport (IND). One of the properties neighbors include Kings Island, an amusement park encompassing 364 acres, owned and operated by the Six Flags Entertainment Corporation, one of the largest amusement park corporations in the United States. Kings Island has over 3 million guests annually, making it a large tourist destination and another amenity for guests of this resort. Another reason the site was chosen was its size. The quantity of buildings on the property allows for a wide scope of spaces that can be included within the resort program.


Bubble – all spaces – public to private
directly adjacent
indirectly adjacent
outdoor public space
public space
semi-private public space
private support spaces
Workspace
Library
Parking
Sensory space
Restroom
Lobby
Restrooms
Reception
Restaurant
Kitchen
gym
Indoor recreation
guest rooms
loading dock
pools
cleaning
laundry
Maitenance
outdoor space
campfire
linen storage
playground

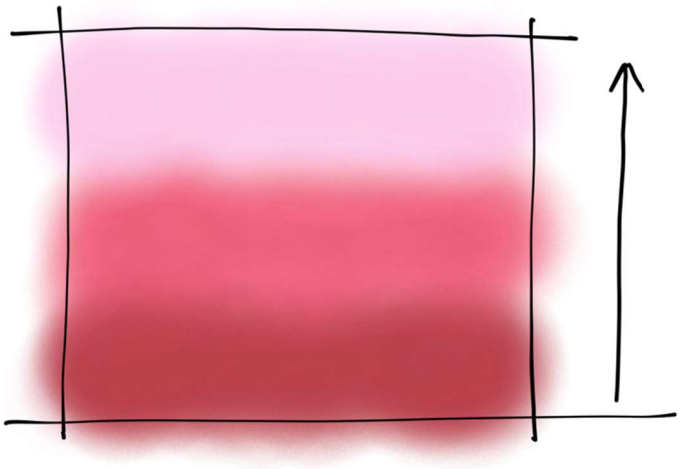
Bubble Diagram – overlay Site Plan



Programmatic Zoning

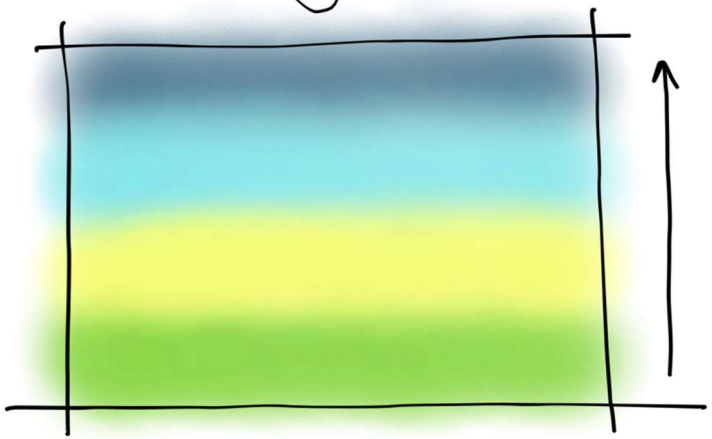


# Acoustics



in general, noise level will go down when going up floors

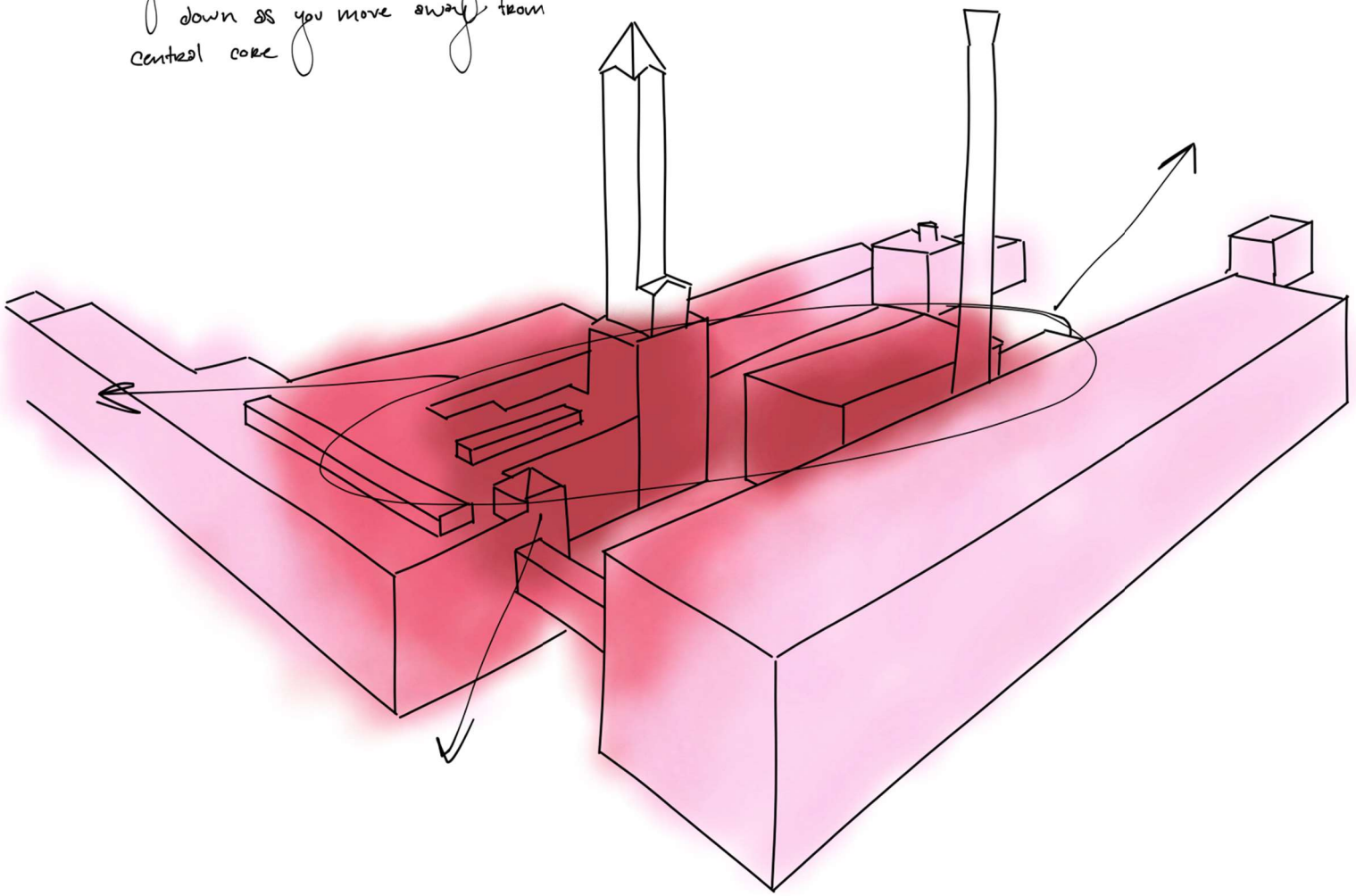
# Privacy



in general, privacy levels will increase when going up floors

# Acoustic Zoning

in general, noise levels will go down as you move away from central core



## SPATIAL REQUIREMENTS

| | # | DIMENSIONS | AREA | TOTAL AREA | ADJACENCIES, FF&E, OTHER NOTES |
|---|---|---|---|---|---|
| **SITE** | | | | | May out-source some of the building space |
| STAFF PARKING | 25 | 10' x 20' | 200 $ft^2$ | 5,000 $ft^2$ | |
| GUEST PARKING | 45 | 10' x 20' | 200 $ft^2$ | 9,000 $ft^2$ | Accommodate most guests, assuming some will have more than one room reserved. |
| LOADING DOCK/DELIVERY DOCK | 1 | Loading dock: 8' x 10'<br>Apron space: 150' x 15' | Loading dock: 80 $ft^2$<br>Apron space: 2, 250 $ft^2$ | 2,330 $ft^2$ | Nearby storage, maintenance, and kitchen, pulled away from front entry |
| **OUTDOOR SPACES** | | | | | |
| PLAYGROUND | 1 | - | 2,500 $ft^2$ | 2,500 $ft^2$ | Nearby pool & gathering spaces, bright colors that go with rest of aesthetic. |
| POOL | 1-3 | 10' x 20' | 200 $ft^2$ | 600 $ft^2$ | Varying sizes, interspersed through program. |
| GATHERING | 2 | - | 150 $ft^2$ | 300 $ft^2$ | Adjacent to restaurant/lobby spaces, coordinate patio space, interspersed through landscaping. |
| CAMPFIRES | 2 | - | 600 $ft^2$ | 1200 $ft^2$ | Nearby cabin spaces, with accessible, comfortable furniture. |
| **SHARED SPACES** | | | | | |
| LOBBY | 1 | Approx. 30' x 30' | 900 $ft^2$ | 900 $ft^2$ | Central hub of hotel space; comfortable FFE; comfortably lit, adjacent to reception, restaurant, accessible by rooms; directly adjacent to reception |
| RECEPTION | 1 | Approx. 10'x 8' | 80 $ft^2$ | 80 $ft^2$ | Directly adjacent to lobby; nearby entrance and parking; well lit, space for 1-3 employees behind counter, adjacent to offices. |
| RESTAURANT | 1 | Approx. 30' x 100' | 3,000 $ft^2$ | 3,000 $ft^2$ | Accessible from lobby, removed acoustically from both rooms and lobby spaces. FFE and layout to accommodate sensory sensitivities. |
| SENSORY ROOM | 3 | Approx. 10' x 13' | 130 $ft^2$ | 390 $ft^2$ | Nearby most public spaces, but acoustically separate, providing no visibility to busy public spaces. |
| WORKSPACE | 1 | Approx. 10' x 10' | 100 $ft^2$ | 100 $ft^2$ | Directly adjacent to library; FFE to support focused environment. |
| ASSEMBLY | 1 | Approx. 15' x 30' | 450 $ft^2$ | 450 $ft^2$ | Easily accessible from lobby, doesn't require direct adjacency |
| GYM | 1 | Approx. 18' x 19' | 350 $ft^2$ | 350 $ft^2$ | Easily accessible from guest rooms; potentially close to one of the pools; direct adjacency to the indoor recreation space. |
| INDOOR RECREATION | 1 | Approx. 18' x 20' | 360 $ft^2$ | 360 $ft^2$ | Easily accessible from guest rooms; potentially close to one of the pools; direct adjacency to gym. |
| LIBRARY | 1 | Approx. 20' x 20' | 200 $ft^2$ | 200 $ft^2$ | Directly adjacent to office; FFE to support focused environment. |
| RESTROOMS | 4 | Approx. 10' x 5' | 50 $ft^2$ | 200 $ft^2$ | Spread throughout project; at least 1 men's & 1 women's directly adjacent to lobby; emphasis on equity and accessibility |
| **PRIVATE LIVING SPACES** | | | | | |
| CABINS | 10 | Approx. 25' x 36' | 900 $ft^2$ | 9,000 $ft^2$ | Private rooms scattered throughout property, nearby to green spaces including campfire, gathering, playground; accessible by both footpath and driveway; FFE emphasis on sensory stimulation. |
| 2 QUEENS | 25 | | 450 $ft^2$ | 11,250 $ft^2$ | Elevator & stair accessible from lobby; consider acoustics and sensory with FFE. |
| APARTMENT-STYLE ROOMS | 10 | | 400 $ft^2$ | 4,000 $ft^2$ | Elevator & stair accessible from lobby; consider acoustics and sensory with FFE. |
| 1 KING | 10 | | 300 $ft^2$ | 3,000 $ft^2$ | Elevator & stair accessible from lobby; consider acoustics and sensory with FFE. |
| 2 QUEENS + EXTRA | 15 | | 500 $ft^2$ | 7,500 $ft^2$ | Elevator & stair accessible from lobby; consider acoustics and sensory with FFE. |

| **PRIVATE SUPPORT SPACES** | | | | | |
|---|---|---|---|---|---|
| MAINTENANCE | 1 | Approx. 10’ x 15’ | 150 $ft^2$ | 150 $ft^2$ | Adjacent to other support spaces; near loading dock |
| LINEN STORAGE | 1 | Approx. 3’ x 4’ | 12 $ft^2$ | 12 $ft^2$ | Adjacent to other support spaces; near laundry, easy access to guest rooms. |
| CLEANING | 1 | Approx. 25’ x 13’ | 325 $ft^2$ | 325 $ft^2$ | Adjacent to other support spaces; easy access to guest rooms. |
| LAUNDRY | 1 | Approx. 10’ x 10’ | 100 $ft^2$ | 100 $ft^2$ | Adjacent to other support spaces; near linen storage, easy access to guest rooms. |
| FOOD SERVICE OFFICE | 1 | Approx. 5’ x 7’ | 35 $ft^2$ | 35 $ft^2$ | Adjacent to other support spaces; near kitchen, easy access to restaurant and staff offices |
| **RESTAURANT** | 1 | Approx. 30’ x 100’ | 3,000 $ft^2$ | 3,000 $ft^2$ | |
| DINING AREA | | - | - | - | FFE and layout to support independent experiences and provide sensory and acoustical support. |
| RESTROOMS | 2 | 13’ x 7’ | 91 $ft^2$ | 182 $ft^2$ | Near adjacency but out of sight from guests dining; FFE to reduce acoustics. |
| **KITCHEN** | 1 | 31’ x 32’ | 1,000 $ft^2$ | 1,000 $ft^2$ | Adjacent to dining space; access to loading dock and cleaning. |
| MEAT PREPARATION | 1 | 10’ x 10’ | 100 $ft^2$ | 100 $ft^2$ | |
| VEGETABLE PREPARATION | 1 | | | | SQUARE FOOTAGE TO BE DETERMINED BY FLOORPLAN, BUT WILL BE PART OF KITCHEN’S APPROXIMATED SF. |
| PREP LINE | 1 | | | | SQUARE FOOTAGE TO BE DETERMINED BY FLOORPLAN, BUT WILL BE PART OF KITCHEN’S APPROXIMATED SF. |
| RANGE/GRILL | 1 | | | | SQUARE FOOTAGE TO BE DETERMINED BY FLOORPLAN, BUT WILL BE PART OF KITCHEN’S APPROXIMATED SF. |
| DRY STORAGE | 1 | | | | SQUARE FOOTAGE TO BE DETERMINED BY FLOORPLAN, BUT WILL BE PART OF KITCHEN’S APPROXIMATED SF. |
| REFRIGERATED STORAGE | 1 | | | | SQUARE FOOTAGE TO BE DETERMINED BY FLOORPLAN, BUT WILL BE PART OF KITCHEN’S APPROXIMATED SF. |
| FREEZER STORAGE | 1 | | | | SQUARE FOOTAGE TO BE DETERMINED BY FLOORPLAN, BUT WILL BE PART OF KITCHEN’S APPROXIMATED SF. |
| DISH WASH | 1 | | | | SQUARE FOOTAGE TO BE DETERMINED BY FLOORPLAN, BUT WILL BE PART OF KITCHEN’S APPROXIMATED SF. |
| TRASH | 1 | | | | SQUARE FOOTAGE TO BE DETERMINED BY FLOORPLAN, BUT WILL BE PART OF KITCHEN’S APPROXIMATED SF. |

## Design Considerations for Resorts

When developing a resort or hospitality property in the current socio-cultural context, sustainability has a large impact. Considerations to keep in mind when designing can be wide ranging, because sustainable practices have been developed in various ways for just about every space type. Some research-backed recommendations include:

- **Pre-Construction**

- Study the local ecosystem and climate, and consider environmentally sensitive areas that will be affected by the proposed activities. Location should avoid protected ecosystems and reduce disturbance.[275]

- **Site Preparation**
  - Before any planning or design takes place, create a study of the existing ecological site context. Consider environmental impacts upon protected environmental areas as well as native growth, local watersheds, etc.[276] One of the main environmental impacts when building is vegetation clearance, as it impacts site conditions, causing erosion and destruction of wildlife habitats.[277]

- **Design**
  - Keep in mind climatic factors to provide thermal comfort and lower environmental and financial impacts. Consider sun orientation when selecting program for spaces and consider room arrangement according to function. Rooms on the East of the building are heated by morning sun and are cooler in the afternoons, these are considered night rooms. Rooms on the West are cooler throughout the morning and then heated by afternoon sun, these are considered day rooms. Night rooms make good bedrooms, and day rooms make good workspaces. Spaces that are utilized during all hours of the day shouldn't be located on either the East or the

[275] Desai, Gayatri., and Parag Narkhede, "Formulation of Guidelines for Environmentally Considerate Execution of Beach Resort Design Project; Case of Maharashtra Coastline," *Rabindra Bharati University Journal of Economics* 18, no. 16 (2024), Accessed December 8, 2024.
[276] Ibid. Accessed December 8, 2024.
[277] El-Barmelgy, Hesham M., and Abdelkhalek A. Ibrahim, "Eco-Efficient Resort Planning and Design," *Journal of Urban Research* 13, no. 1 (2014), Accessed December 7, 2024.

West side. Large openings provide maximum ventilation and air movement. Ventilation should also be considered outside, when planning spaces like courtyards. Vertical shading devices on Western walls provide maximum protection from the light. Landscape elements can also provide passive thermal protection. Deciduous trees planted on West and South-western sides of buildings provide shade and are tall enough to have a passage for airflow below the canopy of the tree, allowing air to move through shaded, cooler spaces during warm summer months. When thinking about lighting, it is important to ensure that all buildings receive enough natural light to not be reliant on artificial light on nice days.[278] Light and air are some of the most important elements for interior illumination, and creating efficient energy consumption strategies.[279]

- **Construction**
  - Consider construction waste, septic waste, and water waste during all phases of construction.[280] Materials that are used to build can have an impact on environmental sustainability, as well as efficiency and energy consumption. Utilizing wood, glass, and other renewable materials are important for overall design sustainability.[281]

[278] Desai, Gayatri., and Parag Narkhede, "Formulation of Guidelines for Environmentally Considerate Execution of Beach Resort Design Project; Case of Maharashtra Coastline," *Rabindra Bharati University Journal of Economics* 18, no. 16 (2024), Accessed December 8, 2024.
[279] Wasilah, Wasilah., Andi Hildayanti, and Hamzah Hamzah, "Green Building with Nature Concept on Lakeside Resort Design," *Environmental Science and Sustainable Development* 4, no. 1 (2019), Accessed December 7, 2024.
[280] Desai, Gayatri., and Parag Narkhede, "Formulation of Guidelines for Environmentally Considerate Execution of Beach Resort Design Project; Case of Maharashtra Coastline," *Rabindra Bharati University Journal of Economics* 18, no. 16 (2024), Accessed December 8, 2024.
[281] Wasilah, Wasilah., Andi Hildayanti, and Hamzah Hamzah, "Green Building with Nature Concept on Lakeside Resort Design," *Environmental Science and Sustainable Development* 4, no. 1 (2019), Accessed December 7, 2024.

- **Post Construction**
  - Consider water use and collection—especially when designing spaces with pools and large quantity of water usage and production of greywater. Systems to reduce water consumption and recycle water can be incredibly sustainable and efficient.[282] Water management systems are an important application of green building concepts because water is a renewable resource, but it must be used sustainably.[283]

Sustainable design practices can be incorporated in every phase of design development and construction. These practices can help reduce environmental impacts and provide economic benefits as well as wellness benefits.

**Design Considerations for Neurodiversity**

When considering the element of neurodiversity as a driving force, design considerations are ways to encourage autonomy and choice for autistic individuals within a space. Various research has pinpointed a handful of criteria to be mindful of when designing a space for autistic or neurodiverse users.

In their research, an architect named Magda Mostafa developed a model to design for architecture called the Autism ASPECTSS Design Index.[284] This index is based on experimental

[282] Desai, Gayatri., and Parag Narkhede, "Formulation of Guidelines for Environmentally Considerate Execution of Beach Resort Design Project; Case of Maharashtra Coastline," *Rabindra Bharati University Journal of Economics* 18, no. 16 (2024), Accessed December 8, 2024.
[283] Wasilah, Wasilah., Andi Hildayanti, and Hamzah Hamzah, "Green Building with Nature Concept on Lakeside Resort Design," *Environmental Science and Sustainable Development* 4, no. 1 (2019), Accessed December 7, 2024.; El-Barmelgy, Hesham M., and Abdelkhalek A. Ibrahim, "Eco-Efficient Resort Planning and Design," *Journal of Urban Research* 13, no. 1 (2014), Accessed December 7, 2024.
[284] Mostafa, Magda, "Architecture for Autism: Built Environment Performance in Accordance to the Autism ASPECTSS™ Design Index," *Design Principles & Practices: An International Journal* 8, no. 1 (2015): 55-71, Accessed December 6, 2024.; Clouse, Joslin R., Jeanneane Wood-Nartker, and Franklyn A. Rice, "Designing Beyond the American With Disabilities Act (ADA): Creating an Autism-Friendly Vocational Center," *Health*

testing of the built environment for autistic users and measured attention span, response time, and behavioral temperament as indicators to quantify what stakeholders valued. The approach is broken into three general design strategies: general reduction of sensory input through manipulation of the built environment, the organization of space to allow for predictability, and the provision of space to mitigate sensory overload.[285] Within these categories, there are seven design criteria that will be considered for this design.

- **Acoustics**
  - Acoustics were the highest priority feature in preliminary research. This criterion emphasizes internal and external noise reduction within spaces, but not the complete soundproofing of spaces. This is done through the addition of thicker, more sound absorbent wall types, and sound absorbing materials.[286] Individuals with autism may have a hyper-sensitive auditory system and can be distracted by even the smallest noise.[287] Other suggestions include pink noise and biophilic background noise to create privacy and mental relaxation.[288]
- **Spatial Sequencing**

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*Environments Research and Design Journal* 13, no. 3 (2020): 215-229, Accessed December 7, 2024.; Mostafa, Magda, "Architecture for Autism: Autism ASPECTSS™ in School Design," *International Journal of Architectural Research* 8, no. 1 (2014): 143-158, Accessed December 6, 2024.

[285] Mostafa, Magda, "Architecture for Autism: Built Environment Performance in Accordance to the Autism ASPECTSS™ Design Index," *Design Principles & Practices: An International Journal* 8, no. 1 (2015): 55-71, Accessed December 6, 2024.

[286] Mostafa, Magda, "Architecture for Autism: Autism ASPECTSS™ in School Design," *International Journal of Architectural Research* 8, no. 1 (2014): 143-158, Accessed December 6, 2024.

[287] Clouse, Joslin R., Jeanneane Wood-Nartker, and Franklyn A. Rice, "Designing Beyond the American With Disabilities Act (ADA): Creating an Autism-Friendly Vocational Center," *Health Environments Research and Design Journal* 13, no. 3 (2020): 215-229, Accessed December 7, 2024.

[288] Sánchez, Pilar Arnaiz, Francisco Segado Vazquez, and Laureano Albaladejo Serrano, "Chapter Nineteen– Autism and the Built Environment" in *Autism Spectrum Disorders – From Genes to Environment,* ed. Timothy Ivor Williams (2011).

- This criterion emphasizes the alignment of spaces to support the daily routine of the users. There is a distinct need for personal space amongst people with ASD, and consideration of proxemics within design will contribute to the perception of safety and control within a space.[289] Smooth transitions between spaces allow for the minimization of disruptions to sensory flow.[290] Providing spaces that encourage adaption and mobility help provide some flexibility into programming and spatial sequencing.

- **Escape Space**
  - An escape space is a purpose-built designated sensory neutral environment. These small spaces are built throughout the building to be easily accessible to autistic users and are intimate in scale to provide a place to escape sensory overload.[291] When integrating escape places, ensure that they allow individuals to select their own level of privacy and provide opportunities for rest and for motion.[292]

- **Compartmentalization**
  - This criteria encourages organizing spaces into compartments. This allows for more spaces to do single activities, in opposition to the traditional

[289] Sánchez, Pilar Arnaiz, Francisco Segado Vazquez, and Laureano Albaladejo Serrano, "Chapter Nineteen– Autism and the Built Environment" in *Autism Spectrum Disorders – From Genes to Environment,* ed. Timothy Ivor Williams (2011).
[290] Mostafa, Magda, "Architecture for Autism: Autism ASPECTSS™ in School Design," *International Journal of Architectural Research* 8, no. 1 (2014): 143-158, Accessed December 6, 2024.
[291] Ibid. Accessed December 6, 2024.
[292] Clouse, Joslin R., Jeanneane Wood-Nartker, and Franklyn A. Rice, "Designing Beyond the American With Disabilities Act (ADA): Creating an Autism-Friendly Vocational Center," *Health Environments Research and Design Journal* 13, no. 3 (2020): 215-229, Accessed December 7, 2024.

open-plan space.[293] The intention behind this is to limit the sensory environment of each activity, creating different sensory cues to designate what is expected of the user within each compartmentalized space.[294] These compartments can be literal or metaphorical; what is important is that an autistic user feels like they can complete an activity with the minimum level of social input required.[295]

- **Transition Zones**
  - The sensory shift between spaces can be jarring to autistic individuals, so creating spaces within the built environment that are zoned to the level of sensory stimulation required.[296] Recommendations for these zones include opportunities to see entrances and exits to each space in advance, and include transitional nodes to allow social transitions.[297]
- **Sensory Zoning**
  - Sensory Zoning groups activities and their associated spaces by function, creating high, moderate, and low stimulation zones. These are used in concurrence with spatial sequencing and transition zones to create

[293] Mostafa, Magda, "Architecture for Autism: Autism ASPECTSS™ in School Design," *International Journal of Architectural Research* 8, no. 1 (2014): 143-158, Accessed December 6, 2024.
[294] Clouse, Joslin R., Jeanneane Wood-Nartker, and Franklyn A. Rice, "Designing Beyond the American With Disabilities Act (ADA): Creating an Autism-Friendly Vocational Center," *Health Environments Research and Design Journal* 13, no. 3 (2020): 215-229, Accessed December 7, 2024.
[295] Mostafa, Magda, "Architecture for Autism: Built Environment Performance in Accordance to the Autism ASPECTSS™ Design Index," *Design Principles & Practices: An International Journal* 8, no. 1 (2015): 55-71, Accessed December 6, 2024.
[296] Mostafa, Magda, "Architecture for Autism: Autism ASPECTSS™ in School Design," *International Journal of Architectural Research* 8, no. 1 (2014): 143-158, Accessed December 6, 2024.
[297] Clouse, Joslin R., Jeanneane Wood-Nartker, and Franklyn A. Rice, "Designing Beyond the American With Disabilities Act (ADA): Creating an Autism-Friendly Vocational Center," *Health Environments Research and Design Journal* 13, no. 3 (2020): 215-229, Accessed December 7, 2024.

circulation following a routine.[298] Sensory zones are intended to create spaces that are non-institutional and modular.[299]

- **Safety**
  - "Children with autism commonly have an altered sense of spatial orientation, depth perception and general proprioception, making them prone to injury."[300] Sensory stimulation may also be sought out in ways that are dangerous, so keeping safety considerations in mind for all systems, surfaces, and materials is important to encourage safety among users and clear visibility for monitoring of users.[301] Some of these potential safety considerations include, but are not limited to, regulating water temperatures to prevent burns, utilizing soft edges, specifying thicker drywall to prevent damages, mounting objects securely to walls, and anchoring large furniture.[302]

Other design considerations were found to be important in analysis's of Mostafa's studies. Design strategies like "the use of transitions; the use of subdued colours; partition of space; the reduction of distractions; the use of natural lighting, ventilation and materials; access to outdoor play spaces; controlled acoustics; adjustability; organization; and independence" are crucial to

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[298]Mostafa, Magda, "Architecture for Autism: Autism ASPECTSS™ in School Design," *International Journal of Architectural Research* 8, no. 1 (2014): 143-158, Accessed December 6, 2024.
[299] Sánchez, Pilar Arnaiz, Francisco Segado Vazquez, and Laureano Albaladejo Serrano, "Chapter Nineteen– Autism and the Built Environment" in *Autism Spectrum Disorders – From Genes to Environment,* ed. Timothy Ivor Williams (2011).
[300]Mostafa, Magda, "Architecture for Autism: Built Environment Performance in Accordance to the Autism ASPECTSS™ Design Index," *Design Principles & Practices: An International Journal* 8, no. 1 (2015): 55-71, Accessed December 6, 2024.
[301] Mostafa, Magda, "Architecture for Autism: Autism ASPECTSS™ in School Design," *International Journal of Architectural Research* 8, no. 1 (2014): 143-158, Accessed December 6, 2024.
[302] Clouse, Joslin R., Jeanneane Wood-Nartker, and Franklyn A. Rice, "Designing Beyond the American With Disabilities Act (ADA): Creating an Autism-Friendly Vocational Center," *Health Environments Research and Design Journal* 13, no. 3 (2020): 215-229, Accessed December 7, 2024.

creating a built environment ideal for users with autism.[303] Other research emphasizes the importance of light within the built environment. Habbak and Khodeir discuss sensitivities and spatial design in their research, finding that children with autism were more sensitive to light than any other design element within an interior space, and that within multisensory rooms, light is one of the most important elements utilized to develop skills.[304] Across the board in research, sound and light have been noted as some of the most crucial elements when developing the built environment for users with autism and other neurodiverse conditions.

**Building Codes: Mixed Use**

Warren County:

OBC (Ohio Building Code) – 2017
NEC (National Electrical Code) – 2017

Ohio:

OBC (Ohio Building Code) – 2024
Ohio Plumbing Code – 2024
Ohio Mechanical Code – 2024
Ohio Existing Building Code – 2024
Ohio Energy Code: Energy Efficiency Provisions of the Ohio Building Code – 2017
Ohio Fire Code – 2017 with January 2018 Errata
2015 International Existing Building Code (IEBC)

**Occupancy Types**

Lobby

Occupancy classification: B

[303] Mostafa, Magda, "Architecture for Autism: Built Environment Performance in Accordance to the Autism ASPECTSS™ Design Index," *Design Principles & Practices: An International Journal* 8, no. 1 (2015): 55-71, Accessed December 6, 2024.
[304] Habbak, Aya Lofty Zakarya., and Laila Khodeir, "Multi-Sensory Interactive Interior Design for Enhancing Skills in Children with Autism," *Ain Shams Engineering Journal* 14, no. 8 (2023): 102039, Accessed December 8, 2024.

Occupancy Loads: 100 gross

Guest Rooms

Occupancy classification: R-1

Occupancy Loads: 200 gross

Guest Cabin/Tent

Occupancy classification: R-1

Occupancy Loads: 200 gross

Fitness/Pool

Occupancy classification: A-3

Occupancy Loads:

- Pool: 50 gross
- Exercise rooms: 50 gross

Restaurant

Occupancy classification: A-2

Occupancy Loads:

- Kitchen, commercial: 200 gross
- Assembly without fixed seats:
  - Concentrated: 7 net
  - Concentrated (chairs only-not fixed): 5 net
  - Standing space: 15 net
  - Un-concentrated (tables and chairs): 15 net

Sensory Spaces

Occupancy classification: B

Occupancy Loads: 100 gross

Storage, Stock, Shipping areas

Occupancy classification:

Occupancy Loads: 300 gross

**Means of Egress**

All data following about means of egress is directly from OBC (Ohio Building Code) – 2017

**1006.2.1 Egress based on occupant load and common path of egress travel distance.**

Two exits or exit access doorways from any space shall be provided where the design occupant load or the common path of egress travel distance exceeds the values listed in Table 1006.2.1.

**Exceptions:**

1. In Group R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and the common path of egress travel does not exceed 125 feet (38 100 mm).
2. Care suites in Group I-2 occupancies complying with Section 407.4.

**TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

| OCCUPANCY | MAXIMUM OCCUPANT LOAD OF SPACE | MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet) | | |
|---|---|---|---|---|
| | | Without Sprinkler System (feet) | | With Sprinkler System (feet) |
| | | Occupant Load | | |
| | | OL ≤ 30 | OL > 30 | |
| A[c], E, M | 49 | 75 | 75 | 75[a] |
| B | 49 | 100 | 75 | 100[a] |
| F | 49 | 75 | 75 | 100[a] |
| H-1, H-2, H-3 | 3 | NP | NP | 25[b] |
| H-4, H-5 | 10 | NP | NP | 75[b] |
| I-1, I-2[d], I-4 | 10 | NP | NP | 75[a] |
| I-3 | 10 | NP | NP | 100[a] |
| R-1 | 10 | NP | NP | 75[a] |
| R-2 | 10 | NP | NP | 125[a] |
| R-3[e] | 10 | NP | NP | 125[a, g] |
| R-4[e] | 10 | NP | NP | 125[a, g] |
| S[f] | 29 | 100 | 75 | 100[a] |
| U | 49 | 100 | 75 | 75[a] |

For SI: 1 foot = 304.8 mm.
NP = Not Permitted.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
b. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.
c. For a room or space used for assembly purposes having fixed seating, see Section 1029.8.
d. For the travel distance limitations in Group I-2, see Section 407.4.
e. The length of common path of egress travel distance in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 congregate living facility.
f. The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.
g. *For the travel distance limitations in Group R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.*

### 1006.2.2.3 Refrigerated rooms or spaces.

Rooms or spaces having a floor area larger than 1,000 square feet (93 $m^2$), containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two exits or exit access doorways.

Exit access travel distance shall be determined as specified in Section 1017.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access doorway where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigerated rooms or spaces.

**Exception:** Where using refrigerants in quantities limited to the amounts based on the volume set forth in the *mechanical code*.

### 1006.3.1 Egress based on occupant load.

Each story and occupied roof shall have the minimum number of independent exits, or access to exits, as specified in Table 1006.3.1. A single exit or access to a single exit shall be permitted in accordance with Section 1006.3.2. The required number of exits, or exit access stairways or ramps providing access to exits, from any story or occupied roof shall be maintained until arrival at the exit discharge or a public way.

**TABLE 1006.3.1**
**MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY**

| OCCUPANT LOAD PER STORY | MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS FROM STORY |
|---|---|
| 1-500 | 2 |
| 501-1,000 | 3 |
| More than 1,000 | 4 |

### 1006.3.2 Single exits.

A single exit or access to a single exit shall be permitted from any story or occupied roof where one of the following conditions exists:

1. The occupant load, number of dwelling units and common path of egress travel distance does not exceed the values in Table 1006.3.2(1) or 1006.3.2(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit or access to a single exit.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one exit or access to a single exit.
4. Group R-3 and R-4 occupancies shall be permitted to have one exit or access to a single exit.
5. Individual single-story or multistory dwelling units shall be permitted to have a single exit or access to a single exit from the dwelling unit provided that both of the following criteria are met:
   5.1. The dwelling unit complies with Section 1006.2.1 as a space with one means of egress.
   5.2. Either the exit from the dwelling unit discharges directly to the exterior at the level of exit discharge, or the exit access outside the dwelling unit's entrance door provides access to not less than two approved independent exits.

### 1006.3.2.1 Mixed occupancies.

Where one exit, or exit access stairway or ramp providing access to exits at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1006.3.2(1) or 1006.3.2(2) for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.2(2) for each occupancy does not exceed one. Where dwelling units are located on a story with other occupancies, the actual number of dwelling units divided by four plus the ratio from the other occupancy does not exceed one.

**Excerpts**

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# Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisure or Work

## *Percutian Keluarga bersama Kanak-kanak Autisme: Riadah atau Kerja*

Fauzunnasirah Fazil, Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana tambi & Hamzah Jusoh

ABSTRACT

*The goal of the travel and tourism industry is to make all travellers happy. The activities in the sector consistently promote multitudinous benefits, such as wellness, rejoicing, and recuperation. The motivation for family tourists is to indulge in tourism activities that can instil family and social values through a family vacation. However, the vacation experience usually differs for families of children diagnosed with autism spectrum disorder (ASD) compared to regular families of regular children. The development difficulties in the intellectual and social communication of children with ASD involving a spectrum of emotion, namely happy, frustrated, distressed, and restlessness require special attention from their caregivers during vacation. The purpose of this paper was to analyse vacation experiences in families of children with ASD based on the literature of previous studies. The findings indicated that family vacation promotes self-improvement and opens room for learning about the real world in these targeted children. Nonetheless, the meaning of vacation to the parents of these children exudes notions of conflict and complication that locate mixed feelings. The study aimed at increasing the understanding on family tourists with children of special needs with different characteristics that may benefit the tourism providers and the autism therapists to collaborate on various innovative partnerships, producing platforms to facilitate a safe and enjoyable vacation experience to the targeted family as they travel together. Consequently, this effort can help dispel neglect in the social inclusion aspects regardless of the tourists' physical or developmental conditions.*

*Keywords*: *Tourism; family vacation; autism spectrum disorder (ASD); developmental difficulty; children.*

ABSTRAK

*Matlamat industri pelancongan adalah memastikan semua pelancong bergembira. Aktiviti-aktiviti yang terkandung di dalam sektor ini secara konsisten membentuk pelbagai faedah, seperti, kesejahteraan, kegembiraan, danpemulihan. Motivasi bagi para pelancong keluarga adalah untuk menikmati aktiviti-aktiviti pelanconganyang dapat membentuk nilai kekeluargaan dan sosialmelalui percutian keluarga. Walaubagaimanapun, pengalaman bercuti kebiasaannya berbeza di kalangan keluarga-keluarga yang mempunyai kanak-kanak yang didiagnosisdengan gangguan spektrum autisme (ASD) berbanding dengan keluarga-keluarga yang mempunyai kanak-kanak tumbesaran normal. Kesukaran perkembangan dalam intelektual dan komunikasi sosial yang dihadapi oleh kanak-kanak ASD melibatkan spektrum emosi, iaitu gembira, kecewa, tertekan, dan kegelishanmemerlukan perhatian yang khusus daripada para penjaga mereka semasa bercuti. Matlamat artikel ini adalah untuk menganalisa pengalaman-pengalaman bercuti di kalangan keluarga yang mempunyai kanak-kanak ASD berdasarkan literatur kajian-kajian yang lalu. Hasil kajian mendapati bahawa pelancongan keluarga dapat mendorong peningkatan diri dan membuka ruang untuk belajar mengenai dunia sebenar kepada kanak-kanak yang disasarkan ini. Walaupun begitu, erti percutian kepada ibu bapa anak-anak ini adalah suatu konflik dan rumit yang menunjukkan perasaan bercampur-baur. Kajian ini diharapkan dapat meningkatkan pengetahuan keperluan khas kumpulan pelancong keluarga yang mempunyai ciri-ciri berbeza yang dapat memberi manfaat kepada pihak penyedia dan ahli terapi carakerja untuk berkolaborasi dalam pelbagai platform inovasi perkongsian, menyediakan platform untuk memudahkan percutian yang selamat dan menyeronokkan kepada keluarga yang disasarkan semasa mereka melancong bersama. Oleh itu, usaha ini dapat membantu membendungpengabaian dalam aspek penyertaan sosial tanpa mengira keadaan fizikal atau keadaan perkembangan pelancong.*

*Kata kunci: Pelancongan; percutian keluarga; gangguan spektrum autisme; kesukaran perkembangan; kanak-kanak.*

## INTRODUCTION

The travel and tourism industry promotes travelling to and staying in an unusual environment that offers a good time through relaxation, leisure, sight-seeing, visitation of friends and relatives (VFR), meeting participation, incentive, convention and exhibition (M.I.C.E), and other kinds of business activities. The promotion of good time is analogous to the definition of the term 'tourism' by Goeldner & Ritchie (2012) as the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes. The emphasis is clear that the tourism process allows the tourists or visitors to enjoy various forms of transportation, range of accommodation, variety of foods and beverages, an assortment of attractions, and copious entertainments and activities.

In the new globalisation era, with increasing travelling capability and disposable income, people are pursuing a better standard of living and quality of life. Travelling is seen as the perfect way to reach the goals commonly defined by a list of motivations, namely to escape or to break from mundane routines, to recuperate, and to reach for emotional and psychological well-being. Meanwhile, for a family institution, participating in a vacation is the best way to promote social values, enrich familial memories, and strengthen the bond among family members. The common family structure consists of a married couple and their children known as the nuclear family (He 2005). When this familial group embark on a vacation, their activity refers to the term 'family vacation'. Schänzel et al. (2005) elucidated the definition further that a family vacation involves leisure travel away from home for more than one day undertaken by a group of family, in that it involves at least one child and one adult. From the parents' perspective, family vacation involves work as well as fun and is characterised as a 'determined vacation' where the focus is on planning and facilitating leisure for health, developmental, and educational benefits of the children and the family as one unit.

For tourism marketers, family tourism makes up a substantial proportion of the tourism market, representing a major aspect of all leisure travel. Moreover, family tourism is one of the most important sectors of the tourism industry around the world, with prominent growth that will shape the forthcoming tourism demand (Schänzel & Yeoman 2015). This tourism subsector is predicted to grow at a faster rate than all other forms of travel (Schänzel & Yeoman 2014). Most vacation researchers have devoted considerable attention to the subject of family vacation driven by the popular sentiment that a family that plays together stays together, in that most family members establish, maintain, and develop relationships with each other through family vacation activities (Habibah et al. 2019; Capistrano & Bernardo 2018particularly Filipino mothers in New Zealand, with their visiting relatives (VRs; Lehto et al. 2017; Schänzel & Jenkins 2017New Zealand. Our findings reveal the importance of family holidays to family leisure for separated families and for non-resident fathers' relationships with their children. Leisure-based holidays shared with their children are special times for these non-resident fathers to have fun, to teach skills and negotiate values, to explore the meanings of their lives, to (re; Schänzel & Lynch 2016; Habibah et al. 2015).

Even though there is a bright future for family tourism, families with children with disabilities such as children with ASD face complexity in managing their children during a family vacation. Unlike people with physical disabilities, the physical appearance of children with ASD does not usually portray and encapsulate their disability corporeally. Instead, their disabilities can be observed through their behaviours, communication and social interaction, and motor skills differences when compared with the peers of their age group (Sarol & Çimen 2015; American Psychiatric Association 2013).

The Centers for Disease Control and Prevention (CDC) based in the United States announced that the ratio of prevalence of children with autism was at 1 in 54 in 2016, an increase from 1 in 59 in 2014 (ADDM 2020). In Malaysia, there were almost 9,000 children born with autism every year (NASOM 2019). An increase in the number of children with ASD will indirectly imply a change in the profiles and characteristics of the family institutions. Consequently, it is critical for the tourism providers and marketers to know the questions of what and how to cater to the needs and wants of the families with autistic children during a vacation. Thus, may encourage participation of families withchildren with autism to take a family vacation and enjoy various benefits from the tourism activities and experiences.

Despite the increase in discussions on autism lately, which administered a sudden, growing

interest among scholars, very little is known about the travel barriers of this significantly large and growing population persons with ASD (Deka et al. 2016) other than the limited literature on recreational participation for those with ASD (Potvin et al. 2013). In view of these gaps, this study aimed to review the literature on the vacation experiences of families (the parents and caregivers included) with autistic children to unfold relevant questions for these targeted families and tourism providers pertaining to the advantages and challenges of a family vacation.

This study employed secondary sources from previously established empirical articles related to tourism-autism studies to analyse the experience of taking a family vacation among families with children with ASD. The empirical samples, which dated from 2010 to 2019, were analysed. Only the targeted parental perspectives and opinions upon vacation were included in the analysis. A combination of several search keywords used were 'family tourism', 'family holiday', 'family vacation', 'family holiday', 'family travel' or 'family leisure', 'autis*', 'autism spectrum disorder', 'intellectual disorder*', 'learning difficult*', and 'development* disorder*'. The articles that did not meet the research scope, such as parents' view upon vacation experience in adult with ASD, the adult with ASD vacation experience, and other articles out of the tourism-autism areas, were removed from the analysis phase.

## LITERATURE REVIEW

### THE CONCEPT OF FAMILY TOURISM

Tourism can induce well-being and quality of life (QoL) with happiness and satisfaction with family and social lives (Kay Smith & Diekmann 2017). The activities in the tourism ring must contend with the broad range of tourist behaviours as it is a vibrant industry that includes myriads of activities, such as leisure, VFR, and performing pilgrimage among others(Yousaf et al. 2018). Compared to any other forms of tourism, family tourism is less about a break from routine to unwind than it is more about devoting time together with family (Backer & Schänzel 2013).

The success of family tourism lies in good tourism outcomes and positive family values that benefit humanity and society (Schänzel & Yeoman 2015). The way children are brought up today determines the shape of the future adultsreflected as family 'culture', the culture that denotes a progressing way of life (Whittington 2014; Hassan et al. 2012). Moreover, research conducted by Park et al. (2020) showed that children who took more vacation trips acquired better academic achievements.

Vacation has become an important yearly agenda for most family institutions, therefore, the planning process is curated in advance. Factors such as the values of the offers and services provided at the destination have an impact on the decision-making of choice of destination (Srnec et al. 2016). The important areas of family vacation decision-making as suggested by Jenkins (1978) include the search for information, selecting destinations, confirming whether to take the children, duration of stay, travel date, mode of transportation, vacation budgets, activities, and the type of accommodation.

Parents' holiday-related choices are driven by their desire to provide the best experiences for their young children, a stark contrast in those parents of older children–the latter tend to seek for an effective compromise for their own needs that take precedence (Therkelsen 2010). Additionally, most studies on family vacation suggested that the mother plays a prominent role in the decision-making process (Barlés-Arizón et al. 2013), especially in choosing the travel destination (Rojas-de-Gracia et al. 2018). However, the initiators, ones who express the desire to go for a vacation, are usually the children who influence their parents' decision on vacation activities (Jamal et al. 2019; Demirdelen et al. 2019Turkey, this study aims to intend to understand children's vacation perceptions and preferences. Design/methodology/approach: Students were asked to write a short composition describing where they would love to go for vacation (either in Turkey or abroad; Kozak & Karadag 2012). Moreover, these parents would be willing to add additional budgets to activities to ensure the contentment of their children (Curtale 2018).

Contemporary family vacation studies discovered that there was an increasing power in children's role upon vacation decision-making (Khoo-Lattimore et al. 2018). Despite that, children cannot be considered as a homogenous group, particularly those with ASD (Sedgley et al. 2017), and still, in many families with dependent children, decision-making is usually based on the concept of 'helicopter parenting' where parents 'hover' above the lives of their children (Schänzel & Yeoman 2015).

## THE CHALLENGES OF VACATIONING WITH CHILDREN WITH ASD

In general, persons with disabilities (PWDs) represent a significant segment of the tourism market (Zenko & Sardi 2014even in the advanced societies. The paper aims to discuss these issues. Design/methodology/approach: With a requisitely holistic approach in dialectical systems theory and an overview of relevant literature, the common characteristics of tourists with disabilities are briefly described. A dialectical systemic analysis was used to determine whether people with disabilities want to travel and what their requirements are. A questionnaire was used to identify their recent travelling experiences; tourism organizations were interviewed about their experiences, too. A model of a travel agency, specialized for people with disabilities, is presented. Findings: The usual approach to people with special needs is too one-sided. A more requisitely holistic approach to understanding their needs in tourism, based on existing literature and an empirical analysis, is presented. A more innovative management of tourism organizations is proposed, increasing social responsibility (SR; Agovino et al. 2017). In the social context, there is a need to include the PWDs in future tourism research to provide a better understanding in assessing their needs and combating isolation and loneliness in providing inclusive tourism (McCabe 2020). To date, the PWDs rights to access and take part in tourism in a particular country depend on the government priorities and cannot be met without enforcement of the legislation and policy (Cloquet et al. 2018).

Current researches on the inclusion and accessibilities of PWDs in leisure, recreation, and tourism focus on the aspects of infrastructure facets such as accessibility to the lavatory, parking, footpath, ramp, lift, and wayfinding and signs that cater for the individuals with physical impairment (Hooi & Yaacob 2019; Connell & Page 2019). Besides, the hotel accessibility assessment focuses on the accessibility of public spaces, guest rooms including the bathrooms, recreational areas, and food and beverage areas (Tutuncu 2017).

Past studies indicated that the PWDs' intention to take vacation were driven by their desire to escape for relaxation and enjoyment, but unfortunately, travelling imposed requirements that were beyond the PWDs' ability (Allan 2015). In understanding the perceptions of trust in the families on accessing leisure services for the children with disabilities, the discovery denotes the fact that the families have very few winning experiences with the disabled structural provision (Emira & Thompson 2011).

In PWDs, the growing population of the persons living with ASD cannot be ignored (Hasnah et al. 2013). According to the American Psychiatric Association, ASD is a lifelong, pervasive developmental disability that affects an individual's neurological and biological systems. The ASD symptoms based on the fifth edition of the Diagnostic and Statistical Manual (DSM-5) have two domains: social communication skills impairment and restrictive and repetitive behaviours and interests (Maye et al. 2017; O'Brien 2016). Studies indicated that the ASD condition developed during prenatal whilst the symptoms usually appeared at the age of 12 months. Many individuals, however, experienced significant delays in diagnosis, which had indirectly caused the delays in access to autism-related support services. Some of them became asymptomaticbetween the age of 18 and 36 months old (Weir et al. 2020; Ozonoff et al. 2010).

Due to the difficulties in children with autism or intellectual disability, they showed a tendency to participate less in social and recreational activities in comparison with their non-ASD peers (Solish et al. 2010). Evidently, vacation experiences that involve out-of-routine activities at unusual environments can be distressing to the children with ASD. Auditory overload, crowds, queuing, and high-security check at the airport can provoke a significant level of anxiety, potentially overwhelming and leading to a meltdown (Neo & Flaherty 2018).Persons with autism pose a great variation, yet there are a few common challenges usually exhibit in the daily life of almost all autistic persons (see Table 1).

TABLE 1. The Challenges of Autistic Tourists to be Considered in Vacation Determinants

| Challenge | Concern | Possible affect during vacation |
|---|---|---|
| Sensory demands | Vision, hearing, smell, taste, touch, balance, muscular feedback. | May be overwhelming during the trip, at different level depending one's level of stress. |
| Stereotyped or repetitive behaviour | Repeatedly flap arms, flick fingers, grind teeth, walk on toes, rock their body back and forth while sitting, lining up objects. | Extremely interested in detailed information on 'how-it-works' and this stereotyped or repetitive behaviour challenge may increase during trip due to change in custom and surroundings. |
| Change in routine | Consistency in their environment. | Change in their daily custom during vacation can be disturbing. |
| Communication challenges | Mute, very slow language development. | Difficulty to express their preferences, needs and wants. |
| | Good in visual information rather than audio input. | |
| Social interaction | No/less eye contact with others. | Increase desire to be isolated or be alone. |
| | Resist attention and avoid people. | Increase in repetitive behaviour to escape from confusion. |
| | Not understand social cues, gestures and facial expression. | |
| Sleeping problems | Difficulty in getting sleep/sleep through night. | Lead to bad mood due to lack of sleep during the trip. |
| Medical problems | Seizures and gastrointestinal disorders – chronic constipation, diarrhea or vomiting. | Can jeopardies daily and social activities during the vacation. |
| | Mental health – depression, bipolar disorder, anxiety and schizophrenia. | |

## TOWARDS A FAMILY-FRIENDLY VACATION

In family vacation, the stress often relates to the inadequate accommodation facilities at the visited destination (Backer & Schänzel 2013). This destination needs to be family-friendly. A family-friendly concept delineates a place where designated facilities are in place with a focus on the family's safety and leisure. This concept is also operative in meeting and satisfying the family members' needs during their vacation with good hotel facilities including family rooms, swimming pool, babysitting rooms, playground and children club, fun and recreational places such as theme parks, children menus availability, and changing rooms for babies, other than babysitting facility at shopping malls (Habibah et al. 2015).

The Person with Disability Act 2008 outlined the requirement of mainstream development in Malaysia to accommodate accessibility needs for persons with impairment so that inclusive and barrier-free tourism activities can support social equality (Hooi & Yaacob 2019). However, for the family tourists who travel together with their autistic children, they need a manageable attraction space, commodious environment, interactive kiosks or screens at the attraction venues to catch the attention of the special children, safe environments to allow the children some independence, and a quiet space or calming room (Langa et al. 2013).

The future obstacle to accommodating an inclusive accessibility needs for every family with special needs children includes the glaring projection of family-friendly vacation as the norm in 2050, which will be exclusively for the wealthy family groups. As a consequence, there will be a wide disparity between the wealthy and the poor and between the divisions of travel services in future family tourism (Whittington 2014). Despite that, accessible tourism is expected to be a promising industry (Naniopoulos et al. 2016). Beyond the negative impact with the disparity, it will serve a golden opportunity for tour operators to being niche players with a competitive edge in the market by offering specialised tourism products and services to the special need tourists (Özogul & Baran 2016)this paper describes the circumstances, social, politic, economic consequences and key decisions that thereby Turkey would be recognized, preferring, establishing on the intention of purchased and suggested positive word of mouth among people. FindingsAccording to European Commission (EU.

## FINDINGS AND DISCUSSION

Past studies on tourism and disability too often assumed that the obstacles, barriers, and constraints that the disabled children faced were representative

across all people with disabilities. This study, however, observed the developmental impairment specifically from the lens of their caregivers, their parents through their first-hand experiences in handling and dealing with specific behaviours of children with ASD during avacation. Family plays a critical role during the early lives of children with disabilities (Aizan Sofia et al. 2016), especially their mothers. The mothers were found optimistic in facing life challenges, controlling their emotions, and positively accepting the conditions of their children with disabilities. Such mothers with positive-minded upon the children's disabilities put a higher priority on the life and well-being of the children (Sivabalan et al. 2018).

Children with ASD deserve social inclusion. All children from all walks of life deserve and have the rights to participate in recreational activities to promote a quality life, offering the individual a sense of freedom, pleasure, and intellectual transformation (Stacey et al. 2018)standard deviation = 0.75. Plus, it is important to note that recreational participation in structured and unstructured activities such as play, sports, watch theatre, crafts, and tourism is one of the domains in the assessment tools of occupational therapy in autism (Bumin et al. 2015). The recreational participation among the children with autism, such as in museum visits, can improve life quality (e.g. having fun and relaxation), develop social communications and interactions, reduce inappropriate behaviours, create interest to engage and participate in activities, and improve fine and gross motor skills (Lussenhop et al. 2016; Amet 2013).

The families with children with ASD might not be able to optimise the advantage of vacation due to their autistic children's response towards an unusual environment. However, their effort in trying to open the doors to mental development and social improvements for their special ones is commendable. The perceptions of others towards these autistic children's behaviour at tourism sites and public areas for not knowing the state of impairment, as well as the inaccessible accommodation and other issues with the tourism facilities, pressure the vacationing parents.

The tourism experience usually exhibits the opportunities to seek for novelty in exploring the natural landscape and man-made fascinations, indulging in local foods, cultures, traditions, events, festivals, and visits to historical buildings and monuments. In family tourism, VFR (Habibah & Hamzah 2012; Backer & King 2017), frequenting theme parks, participating in beach activities, climbing and hiking, and boating and fishing are among the popular choice of activities (Wu & Wall 2016). On the other hand, behind all these activities underlie unpleasantness and discomfort for children with ASD whilst the other siblings with typical development are not negatively impacted. Such is the dilemma for the parents in designing a wholesome family vacation experience.

The challenging behaviours of children with ASD signify the aspects of the physical environment, social environment, communication difficulty, and co-existing mental or physical disorders (Buckley 2017) and, in that regard, the tourism experience may act as a trigger to these children's unpredictable behaviours. The followingTable 2 highlights several studies observing the scenarios in having a family vacation with autistic children. It outlines both the fulfilling and challenging experiences that these families experienced. Knowledge on the state of children with ASD and the best approach in forming efficient tourism products and services delivery is important in solving these targeted families' discomfort issues during vacation as it provides a basis for designing a pleasant tourism environment and experience for all, regardless of the tourists' impairment category.

TABLE 2. Vacation Experiences of the Families Travel Together with their Children with Autism

| Source | Advantage | Disadvantage |
|---|---|---|
| Freund et al. (2019) | Desire to take vacation if accommodation is accessible to the CWA families. | Fear of complaints and uneasy feelings of other guests upon autistic child behaviour. |
| | | Interactive constraints of staffs and other guests towards the CWA families. |
| | | Environmental constrain include activities, dietary needs, check-in and out process, que at restaurant, level of noise at a place (hotel and restaurant). |
| Walton (2019) | Leisure activities are fruitful setting for home-based intervention. | Unsatisfied with quality of leisure activities. |
| | | Prefer to do leisure activities at home and in their communities. |
| Fletcher et al. (2018) | Children with ASD able to stay longer at articular attraction when using the sensory guides. | No specific confirmation in duration of visit the attraction because highly depend on the children with ASD's ability to endure in the activities. |
| | Improve the children with ASD's ability to learn during the visit or family outings rather than only sensory components. | |
| Kim et al. (2018) | Family leisure improve family functioning and quality of life for the family. | Mothers have lack of time for themselves since they are busy with coordinating and monitoring the children with ASD. |
| | The children with ASD's leisure interest guide the mothers choice of leisure preference. | Constant commitment to pay attention to the children with ASD prevents mothers' personal preferred activities. |
| | Mothers enjoy observing the children with ASD's participation in recreational activities. | Difficulty in finding a helper to sit the children with ASD that would give mothers some time to enjoy their own preferred leisure activities. |
| | Mothers of children with ASD equipped themselves with skills and resources related to leisure in order to provide a safe and healthy leisure environment. | |
| Sedgley et al. (2017) | Opportunity for children with ASD to broaden their experiences. | Frustrating, going to nice place but no able to enjoy the view because autistic child could not cope with different environment. |
| | Opportunity for the mothers to provide rooms for autistic child learning proses. | Airport security checks, flight delays and noisy airport environment make CWA and their parent feel insecure. |
| | Autistic child embarks well and have fun on vacation when mothers do take them with save and supportive environment such as family and friends. | Public opinion seen does not approve the difficult child behaviour and the way mothers deal with it. |
| | | Distress to take vacation immediately. Mothers need few weeks planning the vacation. |
| | | A vacation is never relaxed to the mothers, it is sort of extra work to do. |
| Deng (2017) | The children with ASD's behaviour had changed since the participation in museum program. | Not discuss. |
| | Increase the interaction skills of the children with ASD. | |
| | Increase social communication skills in the children with ASD, overcome their shyness and answer questions more frequently. | |
| | Contribute to happiness in the children with ASD. | |
| | Museum environment served better learning experience than classroom environment. | |

*continue ...*

*... continued*

| | | |
|---|---|---|
| Lussenhop et al. (2016) | Fun social family outings. | Pre-visit barriers like cost of entrance fee for a very short visit due to unpleasant behaviour (meltdown) of the children with ASD. |
| | Opportunity for hands-on learning experiences. | Loud noises and crowd areas like theatre, could stimulate anxiety and stress for the children with ASD. |
| | New or challenging experience for the children with ASD. | Difficulties with other visitors who have negative public judgement upon the children with ASD's behaviour. |
| | Promote children with ASD's engagement in interactive activities. | Difficulties within group members e.g. siblings fight with each other during the trip. |
| Sarol & Çimen (2015) | Reduce in stereotype behaviours. | |
| | Quality levels of life improved in terms of physical and emotional functionality of children with ASD. | |
| Amet (2013) | Good vacation quality (among families those have good financial). | Families faced more challenges linked to the autistic child behaviour. |
| | | Poor vacation quality in ASD family group. |
| Potvin et al. (2013) | Recreational activities may contribute to health and fitness of ASD children. | Autism with high functioning autism (HFA) children took part in recreational activities more frequently alone or with families and closer to home. |
| | ASD children show interest in variety of recreational activities. | Very small percentage of autism (HFA) children "active physical" and "skill-based" activities – they have less interest in such activities. |
| Langa et al. (2013) | Have positive experience with manageable and safe environments at museum. | Crowds and long lines contribute discomfort when child with ASD's unpredictable behaviour emerged. |
| | Museum visit contribute enjoyment time devoted with family members. | Discomfort feeling in children with ASD upon loud noises, bright lights, long queue, crowds. |
| | Create interest in the child with ASD to explore new things and promote communication throughout the exploration. | Unpredictable behaviour of child with ASD in public spaces and around new stimuli. |
| Rizk et al. (2011) | Not discuss. | Leisure became burdensome and to be another demand on mothers' time. |
| | | Mothers experienced feelings such as guilt, exhaustion, and limited availability of resources. |
| Solish et al. (2010) | Not discuss. | Children with ASD participate least in social and recreational activities. |
| | | Require more assistant to participate in leisure activities. |

## CONCLUSION

This study on the family vacation experiences among families with autistic children primarily investigated the advantages and the disadvantages that the targeted families dealt with when they travelled together for a family vacation. The findings would be able to provide an avenue for tourism professionals to examine the social inclusion aspects further. By including the current researches of this area from leading experts in family tourism and autism, this study would anticipate an addition to an underdeveloped knowledge on the considerations of difficulties to travel with special needs children. There is a need for esteemed scholars to consider researching on the inclusion of the children with autism in the tourism settings in Malaysia. This need is primarily because, to date, there were only a handful of researches on autism topics conducted in Malaysia. These researches' focal inspection did not give attention to issues of inclusion of children with ASD in tourism but mainly focused on parental challenges upon the upbringing of the autistic child (Chu et al. 2018; Ilias et al. 2018; Kamaralzaman et al. 2018; Ilias et al. 2017; Sitimin et al. 2017), the treatment (Fikry & Hassan 2016)the existence of center that provides varieties of treatments is crucial to reduce numerous aberrant behaviors of children with Autism. This paper aims to explore the characteristics of autism centers in Malaysia. Based on phone interviews conducted with the staff of 22 Autism centers, it was found that majority of Autism centers in Malaysia requires children to undergo a

diagnostic test, offered a combination of classes and charged classes fees in the range of RM356 to RM600 per month.© 2016. The Authors. Published for AMER ABRA by e-International Publishing House, Ltd., UK. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/, spiritual intervention through Islamic psychotherapy approach (Abidin et al. 2018), and the learning settings (Zulkanain et al. 2019).

Tourism is for all. Without the exclusion of the special need tourists, tourism can be accessible and beneficial to everyone. Family leisure was seen as a fruitful setting for family-based (Walton 2019), out-of-classroom intervention and unstructured programme such as a visit to cultural heritage sites create more relax and comfort environment to the children with ASD (Deng 2017). In the case that the quality of life of an individual with autism is likely to reduce in physical and well-being (Roy & Dillo 2018), thus, the intervention from the tourism industry players to serve the tourists with special needs is vital especially in planning the tourism trips (Hamed 2013).

The tourism providers can innovatively collaborate with local autism association and institutions to understand the growing community better. It would help to provide improved vacation opportunities through better planning and theminimising of inconveniences and conflicts during the vacation process. For the tour operators, there is a call to set up autism-friendly packages and travel agreements that meet and gratify the special needs of the developmentally impaired and their families. Future studies may need to look into the readiness of the travel agencies in planning and arranging special trips for the families with autistic children and the rest of the autistic tourists.

The inability for the children with ASD to fully engage in a play-based activity would channel an unpleasant effect on the parents and the children's well-being. Therefore, the parents need to understand and incorporate playfulness as the environmental and interactional components(Román-Oyola et al. 2018). Furthermore, occupational therapists can provide coaching strategies to help these parents improve their understanding of how to manage the vacation itinerary and activities accordingly. This improvement will help to maximise the benefits from the experience in their children.

The effort to provide inclusive and equal tourism experience to all people regardless of the disabilities can support the Sustainable Development Goals (SDG) 2030 Agenda, specifically in reducing inequalities based on disabilities. Most importantly, paying attention to the human rights of the PWDs and their family members would facilitate a harmony living and inevitably empower the societies.

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## REFERENCES

Abidin, M.S.Z., Sa'ari, C.Z. & Rahman, S.M.H.S.A. 2018. Islamic psychotherapy approach for muslim autistic children. *Akademika* 88(1): 65-73.

ADDM. 2020. Community Report on Autism 2020. Autism and Developmental Disabilities Monitoring (ADDM) Network. https://www.cdc.gov/ncbddd/autism/addm-community-report/index.html.

Agovino, M., Casaccia, M., Garofalo, A. & Marchesano, K. 2017. Tourism and disability in Italy. Limits and opportunities. *Tourism Management Perspectives* 23: 58-67. http://dx.doi.org/10.1016/j.tmp.2017.05.001.

Aizan Sofia, A., Jamiah, M.& Noremy, M.A. 2016. The role of family in the lives of disabled Malaysian children. *Akademika* 86(1): 21-30.

Allan, M. 2015. Accessible tourism in Jordan: Travel constrains and motivations. *European Journal of Tourism Research10*: 109-119.

American Psychiatric Association. 2013. Autism Spectrum Disorder. DSM-5 Autism Spectrum Disorder Fact Sheet.

Amet, L. 2013. Holiday, what holiday? Vacation experiences of children with autism and their families. *Autism-Open Access* 3(03).

Backer, E. & King, B. 2017. VFR traveller demographics: The social tourism dimension. *Journal of Vacation Marketing* 23(3): 191-204.

Backer, E. & Schänzel, H. 2013. Family Holidays — Vacation or Obli-cation ? Family Holidays -Vacation or Obli-cation ? 38(April): 37-41.

Barlés-Arizón, M.J., Fraj-Andrés, E. & Martínez-Salinas, E. 2013. Family vacation decision making: The role of woman. *Journal of Travel and Tourism Marketing* 30(8): 873-890.

Buckley, C. 2017. Autism in adults. *Autism Research 10*(6): 319-326.

Bumin, G., Huri, M., Salar, S. & Kayihan, H. 2015. Occupational therapy in autism. *Autism Spectrum Disorder - Recent Advances.*

Capistrano, R.C. & Bernardo, M.A.C. 2018. Mother knows best: Exploring the matrilineal influence in family tourism among Filipinos living in New Zealand. *Young Consumers* 19(2): 218-236.

Chu, S.Y., Mohd Normal, S.N.S.A. binti, McConnell, G.E., Tan, J.S. & Joginder Singh, S.K.D. 2018. Challenges faced by parents of children with autism spectrum disorder in Malaysia. *Speech, Language and Hearing* 1-11. https://doi.org/10.1080/2050571X.2018.1548678.

Cloquet, I., Palomino, M., Shaw, G., Stephen, G. & Taylor, T. 2018. Disability, social inclusion and the marketing of tourist attractions. *Journal of Sustainable Tourism* 26(2): 221-237. http://dx.doi.org/10.1080/09669582.2017.1339710.

Connell, J. & Page, S.J. 2019. Case study: Destination readiness for dementia-friendly visitor experiences: A scoping study. *Tourism Management* 70(May 2018): 29-41.

Curtale, R. 2018. Analyzing children's impact on parents' tourist choices. *Young Consumers* 19(2): 172-184.

Deka, D., Feeley, C. & Lubin, A. 2016. Travel patterns, needs, and barriers of adults with autism spectrum disorder: Report from a survey. *Transportation Research Record* 2542: 9–16. https://doi.org/10.3141/2542-02.

Demirdelen, D., Alrawadieh, Z., Zareer, A. & Kizilirmak, I. 2019. Delving into children's travel dreams: A qualitative investigation. *International Journal of Culture, Tourism, and Hospitality Research* 13(3): 359-367.

Deng, L. 2017. Equity of access to cultural heritage: Museum experience as a facilitator of learning and socialization in children with autism. *Curator: The Museum Journal* 60(4): 411-426.

Emira, M. & Thompson, D. 2011. In the quest for their trust: The perceptions of families on accessing leisure services for disabled children. *Leisure Studies* 30(1): 33-48.

Fikry, A. & Hassan, H. 2016. Characteristics of autism center in Malaysia. *Environment-Behaviour Proceedings Journal* 1(4): 75. http://dx.doi.org/10.21834/e-bpj.v1i4.173.

Fletcher, T.S., Blake, A.B. & Shelffo, K.E. 2018. Can sensory gallery guides for children with sensory processing challenges improve their museum experience? *Journal of Museum Education* 43(1): 66-77.

Freund, D., Cerdan Chiscano, M., Hernandez-Maskivker, G., Guix, M., Iñesta, A. & Castelló, M. 2019. Enhancing the hospitality customer experience of families with children on the autism spectrum disorder. *International Journal of Tourism Research* 21(5): 606-614.

Goeldner, C. & Ritchie, B. 2012. *Tourism: Principles, Practices, Philosophies*. Edisi ke-12th. New Jersey: John Wiley & Sons, Inc.

Habibah, A., Hamzah, J., Er, A.C., Buang, A. & Selvadurai, S. 2015. Appraisal of family-friendly tourism in Malaysia. *Tourismos* 10(1): 37-62.

Habibah, A.& Hamzah, J. 2012. Percutian Famili Bandar di Malaysia: Mengimbas Amalan Era British hingga akhir 1960an. *Akademika* 82(3): 93-108.

Habibah, A., Hamzah, J., Noradila, A., Kadaruddin, A., Nurul Fadhiah, M. & Mohd Fuad, M.J. 2019. Pantai pelancongan mesra keluarga dan tuntutan persekitaran fizikal semulajadi daripada lensa pelancong tempatan. *Malaysian Journal of Society and Space* 15(4): 321-335.

Hamed, H.M. 2013. Tourism and autism: An initiative study for how travel companies can plan tourism trips for autistic people. *American Journal of Tourism Management* 2(1): 1–14. http://journal.sapub.org/tourism.

Hasnah, T., Salmiah, B. & Fadliana, C. 2013. *Siri Pendidikan Autisme: Pengajaran Berstruktur*. Bangi, Malaysia: Penerbit Universiti Kebangsaan Malaysia.

Hassan, A., Yusooff, F. & Alavi, K. 2012. Keluarga sihat melahirkan komuniti sejahtera: Satu ulasan (A healty family generates prosperous community: An overview). *Geografia - Malaysian Journal of Society and Space* 8(5): 51-63.

He, W. 2005. Introduction: Kinship and family in international context. *International Journal of Sociology and Social Policy* 25(3): 1-8.

Hooi, P.M. & Yaacob, N.M. 2019. Accessibility for physically challenged persons in heritage buildings. *Journal of Design and Built Environment* 19(1): 24-39.

Ilias, K., Cornish, K., Kummar, A.S., Park, M.S.A. & Golden, K.J. 2018. Parenting stress and resilience in parents of children with autism spectrum disorder (ASD) in Southeast Asia: A systematic review. *Frontiers in Psychology* 9: 280.

Ilias, K., Liaw, J.H.J., Cornish, K., Park, M.S.A. & Golden, K.J. 2017. Wellbeing of mothers of children with "A-U-T-I-S-M" in Malaysia: An interpretative phenomenological analysis study. *Journal of Intellectual and Developmental Disability* 42(1): 74-89. http://dx.doi.org/10.3109/13668250.2016.1196657.

Jamal, S.A., Aminudin, N. & Kausar, D.R. 2019. Family adventure tourism motives and decision-making: A case of whitewater rafting. *Journal of Outdoor Recreation and Tourism* 25(November 2018): 10–15. https://doi.org/10.1016/j.jort.2018.11.005.

Jenkins, R.L. 1978. Family vacation decision-making. *Journal of Travel Research* 16(4): 2-7.

Kamaralzaman, S., Toran, H., Mohamed, S. & Abdullah, N.B. 2018. The economic burden of families with autism spectrum disorders (ASD) children in Malaysia. *Journal of ICSAR* 2(1): 71-77.

Kay Smith, M. & Diekmann, A. 2017. Tourism and wellbeing. *Annals of Tourism Research* 66: 1–13. http://dx.doi.org/10.1016/j.annals.2017.05.006.

Khoo-Lattimore, C., delChiappa, G. & Yang, M.J. 2018. A family for the holidays: delineating the hospitality needs of European parents with young children. *Young Consumers* 19(2): 159-171.

Kim, K., Kim, J., Voight, A. & Ji, M. 2018. Listening to the screaming whisper: a voice of mother caregivers of children with autistic spectrum disorder (ASD). *International Journal of Qualitative Studies on Health and Well-being* 13(1): 1-8.

Kozak, M. & Karadag, L. 2012. Who influences aspects of family decision making?. *International Journal of Culture, Tourism and Hospitality Research* 6(1): 8-20.

Langa, L.A., Monaco, P., Subramaniam, M., Jaeger, P.T., Shanahan, K. & Ziebarth, B. 2013. Improving the museum experiences of children with autism spectrum disorders and their families: An exploratory examination of their motivations and needs and using web-based resources to meet them. *Curator: The Museum Journal* 56(3): 323-335.

Lehto, X.Y., Fu, X., Li, H. & Zhou, L. 2017. Vacation benefits and activities: Understanding Chinese family travelers. *Journal of Hospitality and Tourism Research* 41(3): 301-328.

Lussenhop, A., Mesiti, L.A., Cohn, E.S., Orsmond, G.I., Goss, J., Reich, C., Osipow, A., Pirri, K. & Lindgren-Streicher, A. 2016. Social participation of families with children with autism spectrum disorder in a science museum. *Museums and Social Issues* 11(2): 122-137. http://dx.doi.org/10.1080/15596893.2016.1214806.

Maye, M. P., Kiss, I., & Carter, A. S. 2017. Definitions and classification of autism spectrum disorders. *Autism spectrum disorders: Identification, education, and treatment*, 1-23.

McCabe, S. 2020. "Tourism for all?" Considering social tourism: A perspective paper. *Tourism Review* 75(1): 61-64.

Naniopoulos, A., Tsalis, P. & Nalmpantis, D. 2016. An effort to develop accessible tourism in Greece and Turkey: the MEDRA project approach. *Journal of Tourism Futures* 2(1): 56-70.

NASOM. 2020. Our Services. The National Society of Autism Malaysia. Retrieved on 6th March 2020 http://www.nasom.org.my/.

Neo, W.X. & Flaherty, G.T. 2018. Autism spectrum disorder and international travel. *International Journal of Travel Medicine and Global Health* 7(1): 1-3.

O'Brien, S. 2016. Families of adolescents with autism: Facing the future. *Journal of Pediatric Nursing* 31(2): 204–213. http://dx.doi.org/10.1016/j.pedn.2015.10.019.

Özogul, G. & Baran, G.G. 2016. Accessible tourism: the golden key in the future for the specialized travel agencies. *Journal of Tourism Futures* 2(1): 79-87.

Ozonoff, S., Iosif, A.-M., Baguio, F., Cook, I.C., Hill, M.M., Hutman, T., Rogers, S.J., Rozga, A., Sangha, S., Sigman, M., Steinfeld, M.B. & Young, G.S. 2010. A prospective study of the emergence of early behavioral signs of autism. *Journal of the American Academy of Child & Adolescent Psychiatry* 49(3): 256-266.e2. http://dx.doi.org/10.1016/j.jaac.2009.11.009.

Park, S.Y., Pan, B. & Ahn, J. Bin. 2020. Family trip and academic achievement in early childhood. *Annals of Tourism Research* 80: 102795. https://doi.org/10.1016/j.annals.2019.102795.

Potvin, M.C., Snider, L., Prelock, P., Kehayia, E. & Wood-Dauphinee, S. 2013. Recreational participation of children with high functioning autism. *Journal of Autism and Developmental Disorders* 43(2): 445-457.

Rizk, S., Pizur-Barnekow, K. & Darragh, A.R. 2011. Leisure and social participation and health-related quality of life in caregivers of children with autism. *OTJR Occupation, Participation and Health* 31(4): 164-171.

Rojas-de-Gracia, M.M., Alarcón-Urbistondo, P. & González Robles, E.M. 2018. Couple dynamics in family holidays decision-making process. *International Journal of Contemporary Hospitality Management* 30(1): 601-617.

Román-Oyola, R., Figueroa-Feliciano, V., Torres-Martínez, Y., Torres-Vélez, J., Encarnación-Pizarro, K., Fragoso-Pagán, S. & Torres-Colón, L. 2018. Play, playfulness, and self-efficacy: Parental experiences with children on the autism spectrum. *Occupational Therapy International2018*

Roy, M. & Dillo, W. 2018. Quality of life in autism spectrum disorder. *Journal of Autism* 5(1): 2.

Sarol, H. & Çimen, Z. 2015. The effects of adapted recreational physical activity on the life quality of individuals with autism. *Anthropologist* 21(3): 522-527.

Schänzel, H. & Jenkins, J. 2017. Non-resident fathers' holidays alone with their children: experiences, meanings and fatherhood. *World Leisure Journal* 59(2): 156-173.

Schänzel, H.A. & Yeoman, I. 2014. The future of family tourism. *Tourism Recreation Research* 39(3): 343-360.

Schänzel, H.A. & Lynch, P.A. 2016. Family perspectives on social hospitality dimensions while on holiday. *Tourist Studies* 16(2): 133-150.

Schänzel, H.A., Smith, K.A. & Weaver, A. 2005. Family Holidays: A Research Review and Application to New Zealand. *Annals of Leisure Research* 8(2–3): 105-123. http://www.tandfonline.com/doi/abs/10.1080/11745398.2005.10600965.

Schänzel, H.A. & Yeoman, I. 2015. Trends in family tourism. *Journal of Tourism Futures* 1(2): 141-147.

Sedgley, D., Pritchard, A., Morgan, N. & Hanna, P. 2017. Tourism and autism: Journeys of mixed emotions. *Annals of Tourism Research* 66: 14-25. http://dx.doi.org/10.1016/j.annals.2017.05.009.

Sitimin, S.A., Fikry, A., Ismail, Z. & Hussein, N. 2017. Work-family conflict among working parents of children with autism in Malaysia. *Procedia Computer Science* 105(December 2016): 345–352. http://dx.doi.org/10.1016/j.procs.2017.01.232.

Sivabalan, T., Zakaria, E. & Amin, A.S. 2018. Exploring coping strategies of mother in taking care of a child with cerebral palsy disability. *Akademika* 88(2): 121-134.

Solish, A., Perry, A. & Minnes, P. 2010. Participation of children with and without disabilities in social, recreational and leisure activities. *Journal of Applied Research in Intellectual Disabilities* 23(3): 226-236.

Srnec, T., Lončarić, D. & Prodan, M.P. 2016. Family Vacation Decision Making Process: Evidence From Croatia (July): 432-445.

Stacey, T.L., Froude, E.H., Trollor, J. & Foley, K.R. 2018. Leisure participation and satisfaction in autistic adults and neurotypical adults. *Autism* 23(4): 993-1004.

Therkelsen, A. 2010. Deciding on family holidays – role distribution and strategies in use. *Journal of Travel& Tourism Marketing* 27(8): 765-779.

Tutuncu, O. 2017. Investigating the accessibility factors affecting hotel satisfaction of people with physical disabilities. *International Journal of Hospitality Management* 65: 29-36. http://dx.doi.org/10.1016/j.ijhm.2017.06.002.

Walton, K.M. 2019. Leisure time and family functioning in families living with autism spectrum disorder. *Autism* 23(6): 1384-1397.

Weir, E., Allison, C. & Baron-Cohen, S. 2020. Autism in children: Improving screening, diagnosis and support. *Prescriber* 31(1): 20-24.

Whittington, A. 2014. Family vacation 2050: Socially and technologically-Driven scenarios of the future of family travel, recreation and tourism. *Tourism Recreation Research* 39(3): 379-396.

Wu, M.Y. & Wall, G. 2016. Chinese research on family tourism: Review and research implications. *Journal of China Tourism Research* 12(3-4): 274-290. http://dx.doi.org/10.1080/19388160.2016.1276873.

Yousaf, A., Amin, I. & Jose Antonio, C. 2018. Tourists' motivations to travel: A theoretical perspective on the existing literature. *Tourism and Hospitality Management* 24(1): 197-211.

Zenko, Z. & Sardi, V. 2014. Systemic thinking for socially responsible innovations in social tourism for people with disabilities. *Kybernetes* 43(3): 652-666.

Zulkanain, M.I., Azree, M. & Mydin, O. 2019. Autism friendly classroom to stimulate learning setting. *"Eftimie Murgu" Reşiţa* (1): 1-9.

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ORIGINAL RESEARCH

# From neurodiversity to neurodivergence: the role of epistemic and cognitive marginalization

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## Abstract

Diversity is an undeniable fact of nature (Gaston and Spicer in Biodiversity: an introduction. Wiley, Hoboken, 2004), and there is now evidence that nature did not stop generating diversity just before "designing" the human brain (Joel et al. in Proc Natl Acad Sci 112(50):15,468–15,473. https://doi.org/10.1073/pnas.1509654112, 2015). If neurodiversity is a fact of nature, what about neurodivergence? Although the terms "neurodiversity" and "neurodivergence" are sometimes used interchangeably, this is, we believe, a mistake: "neurodiversity" is a term of inclusion whereas "neurodivergence" is a term of exclusion. To make the difference clear, note that everyone can be said to be neurodiverse, but that it is almost impossible for everyone to be neurodivergent. Neurodivergence is, we claim here, a fact of society. Neurodivergent individuals are those whose cognitive profile diverges from an established cognitive norm, a norm that is not an objective statistical fact of human neurological functioning but a standard established and maintained by socio-political processes. In this paper, we describe the socio-political mechanisms that build neurodivergence out of neurodiversity which, inspired by Mihai (Contemp Polit Theory 17(4):395–416. https://doi.org/10.1057/s41296-017-0186-z, 2018), we call "epistemic and cognitive marginalization". First, we extend the traditional concept of neurodiversity, which we believe too closely tied to a neuroreductionist conception of cognition, to that of "extended neurodiversity," thereby viewing neurodiversity through the lens of 4E (i.e., embodied, embedded, extended, and enactive) cognition. Considering that human cognition depends on epistemic resources, both for their construction (diachronic dependence) and their online dynamic expression (synchronic dependence), we hypothesize that the differential access to epistemic resources in society, a form of epistemic injustice, is an overlooked mechanism that turns neurodiversity into neurodivergence. In doing so, we shed light on a type of epistemic injustice that might be missing from the epistemic injustice literature: cognitive injustices.

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**Keywords** Neurodiversity · Neurodivergence · Epistemic injustice · Cognitive injustice · 4E cognition

## 1 Introduction

One of the advantages of being privileged is that what you are and how you behave sets the norms by which things are evaluated and valued. Another advantage is that you get to construct, perhaps consciously (through, e.g., laws and institutions), perhaps unconsciously (though, e.g., cultural selection), the mechanisms by which things that are valued, that is, what you are and how you behave, is preserved. This is true for epistemic and cognitive matters just as much as it is for social matters (gender, race, wealth, etc.).

The epistemically dominant group[1] that we are concerned with here is the group commonly known as "neurotypicals," that is, those whose cognitive profile corresponds to the established norm. The group (or groups) whose cognitive profile deviates from that norm and does not benefit from the same epistemic power and cognitive privilege is sometimes known as "neuroatypical", but more commonly as "neurodivergent." For example, some social "deficits" associated with autism seem to be culturally maintained because the epistemic resources that allow autistic individuals to infer the mental states of neurotypicals are not equitably accessible. As we suggest in a previous paper (Legault et al., 2019), neurodivergence is self-reinforcing: neurodiversity accompanied by epistemic injustices causes neurodivergence, which causes further epistemic injustices and so on. In this paper, we argue that there is a 4E mechanism involving epistemic injustice and marginalization that creates neurodivergence out of neurodiversity. We do not claim that all neurodivergence results from this mechanism (that may be the case but we do not argue for it here), but we believe that the mechanism we expose has been mostly overlooked until now and should be thoroughly investigated to better understand neurodivergence and its close link with epistemic injustices. Understanding the mechanism of epistemic and cognitive marginalization gives us, among other things, power over neurodivergence. The fact that human cognition is embedded in a vast network of cultural content and power dynamics probably cannot be changed, but the fact that cultural niches are set up in unjust ways can. Therefore, neurodivergence can be lessened or made to disappear by making cultural niches more epistemically just.

In the following sections, we will tell the story of how epistemic and cognitive marginalization is involved in the genesis of cognitive deficits, and is therefore implicated in the production (and maintenance) of neurodivergence. We will start in Sect. 2 by clarifying some of the terms we will be using and setting the context

[1] Note that we could have used the term "epistemically privileged" here, but we chose instead to use "epistemically dominant" (we also use "epistemic power") to distinguish it from a concept from feminist standpoint theory (Harding, 1986; Harawy, 1988): an "epistemically privileged standpoint" is a first-person point of view on a phenomenon that gives knowledge that is neither transmitted nor shared by the dominant group.

against which our story is told. In order to shed on the hypothesised mechanism, in Sect. 3, we then show that neurodiversity is simply a form of biological diversity like many others. Natural selection does not stabilize unique and unchanging essences at any level, including neurological. We then move from neurodiversity to extended neurocognitive diversity by adopting a 4E view of cognition, which multiplies the possibilities for diversity, as physical, social and cultural variation can now be considered components of neurocognitive diversity. In Sect. 4, we show that diversity also has a firm grip on the epistemic realm, where access to epistemic resources tend to be differentially distributed. Patterns of epistemic resource accessibility depend on many factors: economic, social, but also neurocognitive, thus creating the loops of positive and negative feedback that expand neurocognitive diversity even more. Accordingly, in Sect. 5, we conclude the story by expanding on our recent proposal (Legault et al., 2019) to adopt a 4E conception of cognitive deficits and its relation with epistemic injustices. Our goal is to show that epistemic injustices not only affect neurodivergent individuals, but in fact generate neurodivergence and cognitive deficits. Finally, in Sect. 6, we draw various questions emerging from (and central to) the analysis of epistemic injustices in the context of neurodiversity.

## 2 Context and clarifications

The terms “neurodiversity” and “neurodivergence” are sometimes used interchangeably. This is, we believe, a mistake, as “neurodiversity” is a term of inclusion whereas “neurodivergence”[2] is a term of exclusion. To make the semantic difference clear, note that everyone can be said to be neurodiverse, but that it is impossible for everyone to be neurodivergent[3]: for someone or something to be divergent, someone or something else must be non divergent.

Neurodiversity refers to the neurological or neurocognitive variation naturally found in the human population. The term was first introduced by Judy Singer in a book published in 1993 simply titled "Neurodiversity" as name for a growing sociopolitical movement that promotes the recognition and inclusion of natural neurocognitive diversity (see, for example, the Autistic Self Advocacy Network (ASAN), whose slogan is "Nothing About Us Without US!") in society in general, but also in areas that directly concern it (i.e., in the areas of social and economic development, health, education, and the environment). Walker (2012) describes this movement for

[2] Our point is not to criticize those who self-identify as neurodivergent for their use of the term. On the contrary, we believe this type of usage is particularly fitting since marginalization is, as we will argue, at the core of neurodivergence. Our point is simply to note the normative nature of "neurodivergence" (as opposed to the descriptive nature of "neurodiversity").

[3] In this paper we will use terms such as “neuroatypical” and “neurodivergent”, but these terms should be taken as meaning “considered neuroatypical” and “considered neurodivergent”. Just as people are gendered, racialized, etc., they are “medicalized” (or better: “psychiatrized”), that is conditions that are to a great extent dependent on the society to which they belong are made into essential features of themselves as individuals. We do not wish to essentialize the normative distinction between typical and atypical, but we want to refer specifically to those groups that are marginalized because their cognitive profiles differ from the established cognitive norm.

the promotion of neurodiversity as a new paradigm (the neurodiversity paradigm) in response to the paradigm of pathology. It should be noted, however, that this movement has not been, and still is not, immune to certain mechanisms of exclusion. For example, the movement began with verbal autistic people, but although the movement has since expanded to include many conditions, autistic people (and more recently ADHD people[4]) still seem to dominate the movement. In this regard, we acknowledge both some of the advances of this movement and some of its current limitations. Although some of the authors of this article have been diagnosed as autistic and as ADHD respectively, we are in a position of privilege where we are not only verbal, but also heard and participate in the scientific dialogue, notably with this very paper. Because we are more familiar with the autistic community (for example through the creation and publication of an autism awareness webcomic[5]), we will use examples related to matters concerning this community. We believe that other aspects of neurodiversity should be included in this dialogue. We can note some progress with the recent publication of "Neurodiversity Studies: A New Critical Paradigm" (Rosqvist et al., 2020), which exemplifies the growing acceptance of this socio-political movement by the scientific community. This diversity[6] may include one or many types: in a hypothetical space of possible neurocognitive profiles, those are regions of density containing many similar individual profiles. As we use it here, we take "neurodiversity" to be a descriptive term.

Neurodivergence**,** for its part, belongs to a normative vocabulary. It requires a norm, which can be qualitative or quantitative, that is created, and perhaps causally set up and enforced. When one sets up criteria (perhaps arbitrarily e.g. determining thresholds in a statistical—normal—distribution) to distinguish typical from atypical neurocognitive profiles among the naturally occurring neurological variation. However, the narrative is not so simple. As we shall see, cognition is a complex and dynamic process and the simple act of making a distinction between neurotypical and neuroatypical individuals shapes, at least in part, these individuals' cognition. Individuals are *quantitatively* counted as neurodivergent when their neurological or neurocognitive profile falls on the margins of that profile's statistical distribution (in this case, the criterion is a point or threshold on the distribution); they are counted *qualitatively* neurodivergent when qualitative conditions (e.g., a set of necessary and sufficient conditions; but also conditions such as those in the DSM-5) stipulate what is considered to be a normal neurocognitive profile; that is when such conditions define "normalcy". These criteria, quantitative or qualitative are usually chosen for medical, practical, economic or moral reasons: because one type is believed to be

[4] We will use the arguably awkward term "ADHD people" instead of "people with ADHD" to avoid non-inclusive language. This choice is inspired by a growing desire from the ADHD community to find a better suited name for their cognitive profiles. Some have suggested dropping the "D" that stands for "disorder" and simply going with "ADH", from which "ADHer" can be derived (Hulst, 2021). Others have suggested using "VAST" (Variable Attention Stimulus Trait) (Hallowell & Ratey, 2021).

[5] Freely available online at https://autismflaps.com.

[6] How many neurocognitive types there are is an empirical question which we do not want to prejudge here (no one should as we collectively have sufficient knowledge about the matter to settle the issue).

"more functional", "more adapted, evolutionarily", "easier to interact with", "less resource demanding", "more characteristic of a human life worth-living", etc.

How exactly did we come to take as descriptive what was normative? This, we believe, is the effect of a third-person narrative: that of the observer metaphorically dissecting autism as an object of medicine. But what if this object were in fact a dynamic agent rooted in the real world? We would be forced to leave our metaphorical scalpels behind and open our narrative to sociological, political and ethical considerations. This is the context that led to our hypothesis of a socio-political (and cultural) mechanism by which epistemic injustices turn neurodiversity into neurodivergence.

The socio-political mechanism at the heart of our hypothesis is what we call, inspired by Mihai (2018), "epistemic and cognitive marginalization". To better understand it, we will view human cognition through the lenses of the extended (or 4E) cognition perspective. The 4E framework, we believe, allows us to better grasp how cognitive capacities depend on what we call "epistemic resources". Epistemic resources are those external features (structures, artifacts, symbols, regularities, processes, practices, traditions, and knowledge generally) upon which cognitive capacities are scaffolded (Varga, 2019), both for their construction (diachronic dependence) and their online dynamic expression (synchronic dependence). Epistemic resources are cognitively valuable tools that one's cognitive system can not only have access to, but that they can also participate in shaping. And just as is the case with other types of resources (e.g., material or economic), some groups may benefit from a facilitated access to epistemic resources, or have a dominant role in their construction or accumulation. Asymmetrical epistemic power favours the creation of a cultural epistemic niche (i.e., a shared structure of cultural information and practices) shaped by the epistemically dominant group to cater to that group's specific epistemic and cognitive needs.

The epistemically dominant group that we are concerned with here is the group commonly known as "neurotypicals," that is, those whose cognitive profile corresponds to the established norm. The group (or groups) whose cognitive profile deviates from that norm and does not benefit from the same epistemic power and cognitive privilege is sometimes known as "neuroatypical", but more commonly as "neurodivergent." The reader may have spotted a potentially insidious form of circularity here: neurotypicals are both those who correspond to the established norm and those who establish it.[7] That is precisely the issue at the core of this paper, hence the title "From neurodiversity to neurodivergence: the role of epistemic and cognitive marginalization". For example, some social "deficits" associated with autism seem to be culturally maintained because the epistemic resources that allow autistic individuals to infer the mental states of neurotypicals are not equitably accessible.

[7] It should be noted however that neurotypical individuals, whose cognitive profile fits with the available epistemic resources, can experience epistemic injustices in other aspects of their life: we can think of racism, sexism, cisgenderism, audism, ableism or any other form of marginalization. However, with an extended view of cognition where brain, body, environment and culture are intertwined in the complex dynamic process that we call "cognition", these other epistemic injustices can logically contribute to the fragility of cognitive resources (Pitts-Taylor, 2016).

As we suggest in a previous paper (Legault et al., 2019), neurodivergence is self-reinforcing: neurodiversity accompanied by epistemic injustices causes neurodivergence, which causes further epistemic injustices and so on.

A broader aim of the paper, one we pursue in passing, is to explore how cases of neurodivergence and/or atypical cognition can deepen our understanding of traditional epistemological issues. By defining epistemic injustices within a 4E framework, the questions surrounding epistemic injustices and cognitive deficits seem difficult to dissociate. There is a tendency in the literature on epistemic injustices to base conceptual expansion on epistemological categories (e.g., norms, agency or epistemic virtue) rather than start with cognitive (or neuroscientific) categories. It is this aspect of the relation between epistemic injustices and so-called neurodivergent cognition that we propose to explore as neurodivergent individuals are particularly prone to be subject to epistemic injustices because of various processes of epistemic and cognitive marginalization regarding cognitive diversity.

## 3 In the beginning there was (neuro)diversity

### 3.1 Diversity, biological and cognitive

Life breeds diversity and evolution is the means by which it does it (Gaston & Spicer, 2004). Life populates environments with multiple species of every shape, size and mode of living. It builds diverse ecological niches into every one of earth's nooks and crannies. Even the most forbidding of niches is populated by a variety of species. Evolution also "designs" all sorts of variabilities into species: phenotypic variability (sometimes extreme, as in insects), behavioral variability, and genetic variability. Given the overabundance of diversity, it's hard not to think of diversity as one of the building blocks of life. And yet it is often overlooked in biological textbooks and philosophical discussions of biology. Evolutionary biology has mostly focused on adaptation (and adaptations), but Darwin was equally fascinated by diversity. The first chapter of *On the Origin of Species* (1859) can be viewed as a long essay on the diversity found in, and possible for, the domestic pigeon (*Columba livia domestica*). In fact, one of the book's first reviewers suggested to the editor that Darwin write instead a short book on pigeons.

If diversity is everywhere in nature, then why do many fields still regard it as deviance? In her book *Evolution's Rainbow*, Roughgarden (2009) asks this very question (and more). She focuses on sexual and gender diversity. Many even today view sex and gender are binaries: male/female; masculine/feminine. She notes that most species reproduce sexually, and that sex, the biological notion linked to reproduction, is indeed nearly binary: males are those organisms of a species that make small gametes, and females are those that make large gametes. Some species have only one gamete size and some have three. Beyond these two near universals concerning gamete size, "diversity begins" (2004, p. 26), both in sexual characteristics and gender. In order for gender, a notion usually limited to humans and linked to culture, to apply to the whole of nature, she defines gender as "the appearance, behavior and life history of a sexed body" (2004, p.27),

where a "body becomes 'sexed' when classified with respect with the size of the gametes produced" (2004, p. 27). Thus defined, she shows that none of the gender stereotypes holds in nature: it is not true that organisms are male of females for life, that males are on average bigger than females, than females not males give birth, that males have XY and females XX chromosomes, that there are as many genders as sexes, that females and males look different, that, even in mammals, males have penises and females lactate, and so on. Sex and gender illustrate nature's (as well as culture's) pattern: abundant diversity almost everywhere. The question of why nature produces so much diversity has been taken up by Scott Page in his *Diversity and Complexity* (2010): in short, diversity is advantageous, and life has evolved mechanisms to generate and maintain diversity. To use the language of the evolutionists, diversity is an adaptation (Mayr, 1982; Dennett, 1995).

If diversity now seems a given in biology, the same is not true in the realm of human cognition: whereas biological diversity is the norm, neurocognitive diversity (i.e., neurodiversity) has yet to reach that status. In addition to a trend towards universalism, theories of human cognition appear rooted in an internalist and essentialist framework (see Pitts-Taylor, 2016). The classic debates between monism versus dualism and reductionism versus anti-reductionism have remained enclosed within internalist and essentialist frameworks. The idea of a dynamic relationship between living beings and their environment, as well as that of diversity (sexual diversity or gender diversity for example), have fallen behind when it comes to human beings. Fortunately, the (conceptual) distance is shrinking. "Biofeminism" has emerged through the works of researchers such as Fausto-Sterling (1985), who propose to detach the sex/gender concept from its traditional biological essentialism. According to feminist epistemologies (see Longino, 1994), biofeminism (Fausto-Sterling, 1985, 2000; see also Wilson and Clark, 2008) is a response to feminists' mistrust towards biological theses. One could say that the ultimate aim of biofeminism is the appropriation of the theoretical resources offered by biology in the service of feminist objectives, whereas they were traditionally at the service of the dominant (i.e., non-feminist) group.

In a similar vein, neurofeminism recently appeared as a critique of neuroscience (Bluhm et al., 2012), but, like biofeminism, it is much more than a feminist critique of neuroscience. Adopting the precepts of feminist epistemologies (Harawy, 1988; Harding, 1991), it also aims to use data and theories from neuroscience to found or justify feminist theses, especially on the nature of gender or gender differences (Dussauge & Kaiser, 2013; Fine, 2010; Fine et al., 2017; Jordan-Young, 2010). Our proposal is thus in continuity with neurofeminist research; that is to say, it takes into account the normative, social (and militant) dimensions associated with neurocognitive issues. To explicitly state our views: we reject cognitive essentialism and adopt a view of cognition as emerging from a network of reciprocal relations between the brain, the body, as well as environmental and sociocultural factors (which we generalize as "the environment" or "the world"). We believe that these views, taken together, provide a rich framework to analyze the various epistemic power dynamics at the heart of the social and epistemic exclusion of certain cognitive profiles.

### 3.2 Extended neurodiversity

The kind of diversity that is relevant to understand what we believe is an overlooked mechanism that transforms neurodiversity into neurodivergence not only includes biological and cognitive diversity but also epistemic diversity. It is the addition of the epistemic dimension that will allow us to shed some light on the phenomenon of differential epistemic access that leads to epistemic and cognitive injustices. Before we get to that point, we need to clarify what we understand cognition to be, since the prefix "neuro" in "neurodiversity" might lead one to overemphasize the importance of the brain (or the nervous system) in neurodiverse cognitive processes. We agree with proponents of extended cognition that the cognitive system is a dynamic system encompassing brain, body and world (Clark, 1997, 2004, 2011; Clark & Chalmers, 1998; Thompson, 2007; Varela et al., 1991). While this system might revolve around the brain, extended cognition takes it that extracranial phenomena are far more influential than is often assumed (Newen et al., 2018). We take cognition to be embodied, embedded, extended and enactive; that is, 4E (Newen et al., 2018).[8] It is partially accomplished by structures and processes external to the brain—and body—(Kiverstein, 2018). There are now a multitude of approaches that include the body and environment into cognition.

It is important to note that although 4E cognition can be opposed to *internalism*—the view that cognition occurs in, or is confined within the brain—, it does not reject the presence or even importance of internal components in cognition. Our goal is not to throw the neurological baby with the internalist bath water, but to broaden what is traditionally understood by "cognition" in order to properly understand neurodiversity before we address neurodivergence. Accordingly, our point will not be to view all dysfunction or divergence as a result of external factors, but that a certain number are (and it is an empirical question how large that number is; on the current standard view, it is presumed that that there are none).

The 4E framework views cognition as a property of an integrated brain-body-environment system, and as we shall see, many forms of divergence are the result of a mismatch between internal and external resources. There may be cases where no possible human environment could match an individual's neurological functioning (but note that very few possible human environments have been explored to date; see Jordan-Young, 2010). In this sense, moving from traditional internalist views of cognition to 4E cognition emphasizes the fuzziness of the boundary between brain, body and world. This paradigm shift is important when looking at clinical practices, for example: should we focus on medicalization or on the environment? The 4E perspective allows us to see these types of questions (medical intervention and environmental intervention) as both sides of the same coin. Another important aspect of the 4E framework is the emphasis

[8] While we understand that the nature (and boundaries) of cognition is the subject of much debate, it is not our aim here to take an ontological stance on the matter. We are partial to the 4E view of cognition, but for the purposes of this paper, the reader can assume we take an epistemological stance on 4E cognition: In order to gain a fuller understanding of how certain epistemic injustices turn neurodiversity into neurodivergence, should consider the full dynamic range of contributors to cognition, that is, an embodied, embedded, extended and enactive view of cognition.

on the action-oriented nature of cognition (Clark, 1997). Engel et al. (2013) refer to this change in stance as a "pragmatic turn," where cognition and action are seen as inseparable. The intent is not simply of associating cognition and action, but of arguing that "cognition seems fundamentally action-based" (Engel et al., 2013, p. 203). In other words, when trying to solve a puzzle, one physically moves the pieces around instead of simply doing it mentally (Clark, 1997, p. 36). Moving pieces around to solve the puzzle should ultimately be viewed as a cognitive process. Engel et al. also propose abandoning the (traditionally internalist) terminology of representations and instead opt for the concept of "directive".

Cognition is thus described in terms of prescriptions for possible actions afforded by the environment rather than in terms of mental states (see Clark & Chalmers, 1998; Varela et al., 1991). Those “possible actions afforded by the environment” are what are traditionally referred to as “affordances.” Affordances are relational properties of situation or resource (objects, states, events, etc.) in the environment: if an organism can perform a given action, and some situation or resource in the environment allows performance of that action by the organism, then that situation or resource is an affordance of that action for the organism; it *affords* the organism that action. In the case of humans, most affordances are cultural (Ramstead et al., 2016), a switch on the wall affords visibility (through illumination), a gendered pictogram on a door affords relieving one’s self to assigned members of only one of these genders, and so on. Cognitive systems cooperate and build cultural niches (structured landscapes—or fields—of such affordances). Many of these cultural affordances are social in nature. They afford social interaction: a smile might afford entrance into a private dwelling, circular seminar tables afford discussion whereas traditional classroom layouts afford listening, some face movements afford expressing surprise, etc. It follows from the existing variety of human neurocognitive profiles (including their extensions) and the relational nature of affordances that we should expect a somewhat similar variety of possible affordances. Just as a ceiling affords walking for flies but not for humans, situations and resources will not afford the same possibilities for different coupled brain-body-environment systems (i.e., extended neurocognitive systems). For example, an instruction booklet written in hiragana, katakana and kanji affords assembling a specific piece of furniture to an extended cognitive system that was provided the sociocultural resources (e.g., education) to learn written Japanese. The same booklet does not afford the same thing to a cognitive system that only had access to an English education, unless said system includes devices such as smartphones with means of translating the booklet’s contents.

If cognition is no longer viewed as reducible to brain modules or systems but rather as resulting from complex interactions between the brain, body and environment, we can no longer study the various cognitive profiles as intracranial and individual phenomena. Neurodiversity becomes the result of a multitude of complex dynamic systems (brain-body-environment) embedded in particular cultural niches.

### 3.3 A new conception of cognitive deficits

By assuming that human cognition emerges from continuous dynamic interactions between brain, body and environment, one can have a different perspective on the

issue of cognitive deficits. While cognitive deficits have traditionally been considered from an internalist perspective, the 4E framework opens up a more complex landscape of loci responsible for deficits since all cognitive performances are understood as being embedded in environments that shape and sustain them. We proposed in a previous paper (Legault et al., 2019) that by adopting an extended and predictive perspective on human cognition, cognitive deficits associated with autism can be explained primarily as inadequacies between environmental resources and the particular form of neurocognition found among autistic people.

Discussing mismatches between an individual's neurocognitive profile and current socio-cultural environments opens the door to alternative environments where autistic profiles are fully integrated into the network of cultural niches. The individualistic approach to deficits can then be replaced (or supplemented) by a more holistic approach in which society as a whole becomes responsible for implementing social policies that increase the inclusiveness of cultural niches that currently do not allow the full development of diverse cognitive profiles. This point illustrates our theoretical proximity to disability studies that reverse the individual (or medical) model of disability by instead adopting a social model of disability: society is responsible for adapting to individuals (De Jong, 1979; see Oliver, 1996 for a comparative analysis of individual and social models of disability). The social model of disability reverses the usual aims of prevention, treatment and cure and favors instead social, political and cultural analyses and policies. Although our proposal is akin to the social model of disabilities (Oliver, 1996), we believe the mechanism in question and the depth of its impact on cognition have previously been overlooked by that model. Some researchers have formulated models that are somewhat closer to our proposal.[9] For instance, Baril (2018) argues for a socio-subjective model of disability to overcome the shortcomings of the social model. Toro et al. (2020) call their model the ecological-enactive model of disability. In an attempt to integrate contributions from both the social and medical model of disability, their model "proposes to understand disability in terms of a person's embodied skills for responding to the affordances of their environment" (Toro et al., 2020, p. 2). The arrival of disability studies and

[9] Our proposed mechanism is also related to—yet distinct from—the looping mechanism at the heart of interactive kinds (Hacking, 1995, 1999). The expression "natural kinds" refers to categories that maximize the value of inductive inference in science. If one knows that something is H2O, then one can infer that it has a number of other properties. But if one knows that something is a member of the category "things that are on my side of the room" then there are few things one may infer about that thing. But the natural kinds of physical science such as H2O are classificatory inert: they do not react or change their nature as a result of their inclusion by scientists in a particular natural kind. Hacking observed in contrast that the kinds one finds in the social and human sciences do react or change their nature as a result of being classified under a given category. They are interactive. If I learn that my boss has classified me in the category of "bad employees", then I may decide to improve my behavior or performance in ways that will make her classification false. Or I may come to view myself as a bad employee and act in ways that make the category even truer of me. Psychiatric conditions are, Hacking maintains, such interactive kinds: individuals react to their classification in a psychiatric category in ways that affect the value of the classificatory act. Although they may partly overlap, the mechanisms by which individuals react to their being classified are different from the mechanism which create neurodivergence.

4E cognition have some common grounds: they give an important role to socio-cultural—and therefore political—environments.

A relatively recent paper on autism in a predictive processing framework (Palmer et al., 2015) illustrates the difference between an internalist and a 4E view of disability. It states that autistic people have a weaker "grip" on the affordances offered by other minds (p. 386). This assumes that “other minds” and social affordances are of a single type (i.e., that of neurotypicals) and leads to the conclusion that autistic people have a social deficit (conceived in an internalistic way). In other words, it assumes that other minds (on which social affordances depend) are instances of a single natural species.

Once one has the ability to understand and predict other minds, it is assumed that one can predict them all as if there were no cognitive diversity (i.e., as if everyone experienced and interacted with the world in the same way). Palmer et al. (2015) conceive of the social characteristics of autism as an attenuated perceived presence of others. Their notion of "perceived presence" is intimately linked to the counterfactual predictions made by the cognitive system: when the system is able to predict the consequences that an object or phenomenon of the world would have on its perceptual stream, the object or phenomenon is perceived as perceptually present, that is, as having a real—metaphorically tangible—existence. Palmer et al. (2015) therefore explain autistic social traits (often characterized as social difficulties, or even deficits) by a diminished ability to make counterfactual predictions about other minds. According to them, the perceived presence of other minds is weakened in autistic people, which means that they have to voluntarily use an explicit form of mentalization instead of the more spontaneous implicit form used by neurotypicals. As we mentioned earlier, this conception assumes a form of universalism with regard to other minds. It brushes aside—perhaps unintentionally—human neurodiversity and puts the responsibility on autistic cognitive processing, claiming that autistic mentalizing fails to predict other minds.

Adopting 4E cognition, another way to see the situation would be to put the blame on the mismatch between the kind of minds that does the predicting and the kind of minds that are being predicted or, to go even further, on the interpretative (i.e., hermeneutic) resources made available to the mind doing the predicting. If there are no shared interpretation of, say, autistic people’s types of gestures (e.g., stimming), neurotypical people may associate their own meaning to these gestures, leading to a misunderstanding of the autistic person’s state of mind: twitching fingers as anxiety instead of concentration or avoiding eye contact as embarrassment or lying instead of avoiding an overwhelming stimulus. Perhaps the cultural niche neurotypicals have built to socially interact is not suited to the capacities of autistic persons, which could also spontaneously use implicit mentalizations if the social affordances were differently expressed. Similarly, perhaps neurotypicals have difficulties interacting with autistic persons because their capacities are not suited to the social affordances expressed by autistic persons (De Jaegher, forthcoming). In both cases, the blame is not on the individual (autistic or neurotypical) but on the mismatch (suited/not suited) between neurocognitive capacities and social affordances. Our goal is not to deny other possible types of mismatches, but to underline a narrative too often forgotten. One in which the environment is a main actor rather than a

mere extra. In this sense, although it favors broadening the traditional understanding of human cognition, the extended view that we take onboard is not immune to the notion of dysfunction or deficit.

If we want to understand all forms of human cognition, we must take diversity seriously in all aspects of cognition: both neurocognitive diversity and the diversity of potential epistemic affordances and resources. As neurofeminists and feminist epistemologists have shown, science, including neuroscience, is not immune to beliefs and biases (see Harding, 2005 for questions of standpoint and objectivity), nor to power dynamics.[10] This is also true of cultural niches in general, while they contribute to the development of varied cognitive profiles, they are not immune to the power dynamics between different groups. In the following section, we will address this particular question through the lens of epistemic injustices. For a long time, injustices were thought of as material (e.g., access to natural resources), but as feminist researchers have shown, injustices also result from differential access to epistemic resources on the basis of such properties as one's social identity. One such property is, as we hope to show, one's particular cognitive profile and as we will see in later sections, it needs not be as overtly identifiable as a social identity.[11]

## 4 Then came epistemic injustices

This rather naturalistic starting point might seem quite removed from the theme of epistemic injustices. Although, the extended view of human cognition forces us to insist on cognition's relational nature as a result of brain-body-environment interactions, making differential access to cognitive resources, including epistemic resources, a major explanatory factor. Epistemic injustices are situations where persons who do not belong to a dominant social group are denied (or simply not offered) access to or participation in the shared epistemic resources. The various concepts and knowledge base available do not represent their lived experience (hermeneutic injustice), and their testimony is given less weight to shape the collective epistemic resources (testimonial injustice).

When discussing epistemic injustices, the focus is—understandably—on the knowledge that allows us to understand, express and share certain realities, and the transmission and sharing of this knowledge (testimonies). Although one might wonder: what distinguishes epistemic resources from what we might call "cognitive resources" (i.e., the physical or conceptual tools and information that enables or helps cognition)? If there is a strong distinction to be made, what is the relationship between epistemic and cognitive resources? In fact, the question of epistemic injustices has made it possible to address the differential access to an intangible type

[10] As we mentioned earlier, social movements like the neurodiversity movement are not immune either.

[11] We suspect that some of the biases and prejudices suffered by invisibly disabled people might reveal some shortcomings in the epistemic injustice literature and framework, but this is a discussion that requires more scrutiny to be included in the current paper.

of resource: knowledge, concepts, practices, etc.[12] In this sense, we see the subject of cognitive resources as a logical extension of the discourse on these intangible injustices. However, a difficulty should be noted here. Epistemic injustices are traditionally thought to begin with the identification of a person to a non-dominant social group from which prejudices derive. This starting point is important because it allows us to distinguish between structural injustices and individual—anecdotal—situations. For instance, it is possible to be unjustly distrusted, but testimonial injustices happen when one suffers an undue credibility deficit due to the identification to a non-dominant social group. By taking a further step towards intangible injustices, we believe a previously overlooked form of epistemic injustice might show itself: a form suffered by those with invisible (when undisclosed) disabilities (or marginalized cognitive profiles). Our claim is that invisibly disabled people can suffer epistemic injustices based on their specific cognitive profile without identification to that profile. Some steps have been taken in a similar, but somewhat different direction: Catala (2020) discusses logocentrism (i.e., the tendencies to focus on propositional communication to the detriment of non-propositional communication) within the epistemic injustices literature.

Recent progress in cognitive sciences, we believe, might give us a new insight in this phenomenon. As we mentioned in Sect. 3.2, affordances are possibilities of action offered by the environment depending on an organism's capacities. Stairs, for instance, do not offer the same possibilities of action to a person in a wheelchair and a person who doesn't. This is a material example, but affordances can take various forms like social affordances (a smile does not afford the same possibilities of action as a stern face) or cognitive affordances (a given the set of letters and words presumably does not afford the same possibilities of action to dyslexic and non-dyslexic people). These possibilities of action, as we might expect, are not immune to power dynamics. Considering the existence of a diverse array of cognitive systems and the importance of epistemic resources, it seems highly likely that an epistemically poorly diversified environment unfairly favors some systems to the detriment of others. We might then speak of epistemic advantage, perhaps even of cognitive privilege.

### 4.1 Access to cognitive resources

A short thought experiment might help us illustrate our point. Consider a society whose mathematical system is in base 12 and where, because of simple biological variability, 85%[13] of the population is born with twelve fingers (the other 15% only have ten). Let us further imagine that those who form the majority are the dominant group and have devised procedures where learning to count is transmitted through

[12] Some even consider epistemic injustices, both testimonial and hermeneutical, as cases of distributive injustices (Coady, 2017). However fruitful such a view might be, our argument does not require subscription to it.

[13] We based this percentage on a recent report by researchers from both the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA) stating that the

dactylonomy, the process of counting using fingers. In that society, the possession of twelve fingers is a cognitive resource used to teach, learn and transmit counting abilities. Let us say, furthermore, that it is frowned upon or actively discouraged to use other forms of cognitive resources like pen and paper, small props to support the process of counting or even techniques like counting finger bones in base twelve or sixty, used in ancient Egypt and parts of Asia today (Ifrah, 2000). For the sake of simplicity, we will ignore all other possible advantages or disadvantages of having ten or twelve fingers in that society. What we want to focus on here is the close relationship between sociocultural practices established and maintained by a specific group at a particular moment and its impact on the access to cognitive resources and performance.

We can imagine that in such a context, because of the way counting is taught and culturally transmitted, people with twelve fingers will have faster and easier access to that particular ability. In such a society, the ten-fingered population will certainly face delays and will likely have weaker counting skills when compared to the dominant group, whose bodily (and cognitive) profile the available epistemic resources were tailored to. The performance gap between these two groups might be further artificially maintained by socio-political mechanisms, stabilizing this population's difficulties over time, such as the creation of different classes for children with ten and twelve fingers, like those for children with learning disabilities we currently have. In the case where the latter class doesn't offer adequate alternative learning methods and simply assume an inability to learn, the difficulties are never addressed and might be solidified. One more kind of difficulty comes in the evaluation process: if one's mathematical abilities are somehow tested with methods specifically tailored to those with fingers, performance itself might be skewed. We can draw a parallel with our IQ tests, where intelligence is both defined and measured by the dominant (i.e., neurotypical) group. For example, Courchesne et al. (2016) point out that many IQ tests rely on verbal comprehension and expression skills to complete tasks (p. 143), which is problematic when assessing the IQ of non-verbal people. Language, in these tests is a cognitive resource those who take the test must draw upon. Those who do not have access to it—or those who have difficulties using it—will have difficulty performing in the test. This logocentric paradigm likely leads to consistently lower scores for non-verbal people for reasons other than their actual intellectual abilities (Simard et al., 2015). Note that alternatives are being proposed. Dawson et al. (2007) and Soulières et al. (2011) advocate for a promising paradigm using non-verbal tests instead: they use Raven's matrices, in which the participant needs to complete a logical progression in geometric patterns.

Our finger number and IQ test examples allowed us to point to mechanisms that maintain and deepen culturally constructed deficits in access to epistemic and cognitive resources. A subtler variant of this type of mechanism depends on essentialist and internalist conceptions of human nature ingrained in our culture. Fine (2012)

Footnote 13 (continued)
percentage of children aged 3–17 diagnosed with a developmental disability between 2009 and 2017 was nearly 17% (Zablotsky et al., 2019).

offers an interesting analysis of some of the effects of essentialism towards sex differences. As Fine (2012, p. 289) notes: "scientific claims about hardwired sex differences are part of the culture that interacts with our minds" and they have important effects on prejudices and psychological effects such as stereotype threat. Here we see an effect on more local interactions: a person (*A*) might entertain a bias towards a female student or coworker (*B*) in regards to, say, her mathematical skills or her empathic abilities. If because of such biases, *A* withholds cognitive resources, for instance, assuming *B* can't perform adequately, stops short of a complete explanation (in the case of the student) or decides to do the work themself (in the case of the co-corker), then an extended cognitive system will be temporarily prevented from forming, preventing further learning. Furthermore, the female coworker in question might perform poorly on a mathematical test because of stereotype threat, which might even confirm the bias and help maintain it as a shared bias. The effects of essentialist conceptions of sex differences also have a broader scope: it seems to lead some to view society's status quo regarding women as fair (Fine, 2012, p. 290).

We believe that Fine's analysis also applies to what we might call cognitive essentialism. Cognitive essentialism is the belief that cognitive performance is the result of a set of necessary and sufficient, innate and immutable cognitive properties that are mostly independent from socio-cultural influence). Such an essentialism can be qualified as "internalist" when said properties are believed to be internal to the individual who has them (in the case of cognitive properties, internalism is mostly realized by a belief in neuroreductionism, the idea that cognitive properties are reducible to neurological properties). In parallel to Fine's analysis of gender essentialism, we believe that a belief in cognitive essentialism limits access to epistemic resources through prejudices and biases. In fact, Fine mentions studies that "found that people's belief about intellectual ability in general—whether it is a fixed entity (a 'gift') or incremental ('earned')—influences persistence and motivation, with those subscribing to an entity view coping less well with setbacks" (Fine, 2012, p. 289), bringing her point closer to ours. Indeed, if ideas similar to hardwired sex differences circulate in culture concerning the cognitive abilities of neurologically atypical individuals, the same effects (i.e., bias, prejudices, stereotype threat, etc.) are likely generated in that case as well. In fact, overt stereotypes are not even needed for such effects to appear, a slight style difference in behavior suffices to influence people's evaluation of others: Sasson et al. (2017) conducted studies evaluating neurotypical individuals' first impressions of autistic individuals based on short recordings (three to ten seconds) of the latter's social behaviors. They found that neurotypical participants consistently evaluated autistic individuals in a more negative way than other neurotypicals. This effect was even found with static images of autistic individuals, but not with transcripts of the interactions, suggesting, as Sasson et al., (2017, p. 7) put it: "that social presentation style rather than the substantive content of social speech drove negative impression formation".

This issue has also been approached from the perspective of a double empathy problem: a phenomenon of frequent misunderstanding between autistic and allistic (i.e., non-autistic) people due to their distinct dispositions (Milton, 2012). This idea reinforces the narrative of a mismatch, which is why Milton emphasizes that the problem is "double" since it is found neither in one (the allistic person) nor in

the other (the autistic person), but in the common space between the interlocutors: hence the "misunderstanding". Interestingly, Milton notes that this misunderstanding is experienced differently by allistic and autistic people. Allistic people—or neurotypical people, as this might be the case for other neurodivergent profiles—are surprised by it because it departs from their expectation of a so-called "normal" social interaction. Autistic people are familiar with the situation because they face it on a regular basis.

We can thus add this socio-political narrative of differential access to cognitive resources to the biological narrative of neurodiversity. If the culture somehow includes an essentialist and internalist conception of a culturally generated learning difficulty, it might very well have a long-lasting and self-perpetuating effect and the status quo might be maintained because these learning difficulties are deemed natural, alternative learning methods might not be pursued, etc. We can even go a step further and suppose that research may be conducted to find the genetic cause of the learning difficulty in an attempt to find a so-called "cure" to this "cognitive disability". This last possibility might seem exaggerated, yet it is not foreign to the real world. One simply has to think of research surrounding the cause of autism and the controversial puzzle piece symbol used, among others, by Autism Speaks: "the puzzle piece also represents viewing us as 'puzzling' or a 'mystery'. For autistic people this is problematic, as we don't wish to be viewed as akin to a puzzle that can't be worked out" (Jessop, 2019, p. 3). Without categorically opposing all research into the causes and potential treatment options for various conditions that fall within the reach of contemporary psychiatry, we would do a disservice to those concerned not to mention the concerns raised by activist groups for neurodiversity: they tend to deplore the significant gap between efforts deployed to find causes or cures and those deployed to find appropriate and effective cultural and societal changes or even basic support.[14]

We can try to imagine what such changes would look like. We might suppose that the effort might begin with the establishment of spaces—not necessarily physical spaces—to question the epistemic resources and practices in place. To borrow from Longino's epistemology, scientific practices should favor novelty, as in favoring the emergence of new explanatory models through a certain degree of agnosticism towards established models. Longino's feminist epistemology proposes this pragmatic value along with ontological heterogeneity, complexity of relationships, applicability to human needs and diffusion of power, to mark the importance of supporting a fertile context for model building (Longino, 1994). Another major step in this deconstruction process would be to ensure the active participation of those concerned by the research. For instance, activist groups for inclusivity towards neurodiversity are calling for better representation in research: notably the Autistic Self Advocacy Network (ASAN) and the Academic Autism Spectrum Partnership in

[14] A prominent—but local—example is a recent documentary series on life on the autism spectrum beyond 18 years old (the legal age of adulthood in Canada) titled "Autiste, maintenant majeur", which translates to "Autistic, now major". The series highlights, among other things, the lack of resources offered to autistic adults and, when relevant, their caregivers.

Research and Education (AASPIRE), the latter advocates for community based participatory research (Nicolaidis & Raymaker, 2015; Raymaker, 2016).

In the specific case of autism, Jaswal and Akhtar (2018) recently made the case that first-hand testimonies from autistic individuals have been ignored for far too long and that research on autism can only benefit from the precious and privileged insight—akin to the epistemically privileged perspective of standpoint theory (Harawy, 1988)—from those concerned by said research. In a similar fashion, Hens et al. (2018) have also proposed the consolidation of an emerging field: autism ethics, which they argue need input from the autistic population. This fits neatly into Longino's applicability to current human needs and diffusion of power virtues (Longino, 1994). In our thought experiment, we could imagine the case where those with ten fingers are expressing suffering not because of their physical condition, but because of their lack of access to learning. An insistence on uncovering, say, the genetic cause of the ten finger phenotype rather than working towards long-term social and cultural changes seems to stem from an underlying essentialist (and internalist) conception of cognitive abilities—admittedly, our thought experiment assumes a somewhat embodied notion of cognition, which is sometimes not even the case in real world situations. A shift in practices (i.e., towards social and cultural changes) might thus require a shift in conception (i.e., towards an extended notion of cognition).

### 4.2 Differential access to epistemic and cognitive resources

Just as the full recognition of neurodiversity as a fact of human cognition is lagging behind its counterpart in the realm of biology, the question of differential access to epistemic and cognitive resources for neurodivergent individuals needs deeper exploration. So are the specific epistemic power and cognitive privileges of neurotypicals (i.e., privileges in cognitive development and performance). Consider as a parallel the notion of white privilege. Although much work remains to be done on that front, there is widespread agreement that a wide variety of (social, economic, epistemic, etc.) privileges are maintained in contemporary societies through various structural socio-political mechanisms like systemic discrimination (in this case, systemic racism). When it comes to neurodivergence, discourse surrounding neurodivergent individuals tends to steer into discussions of their ability (or lack thereof) to access epistemic resources. Although far from being an illegitimate question, it seems to outweigh the question of resource accessibility and systemic discrimination. The question is often "are they capable of accessing resources?" rather than "are the resources accessible?".

In a way, the first question focuses on individuals' ability to access a universal resource whereas the second question focuses on the inclusivity of the resources themselves. In other words, the first question might find an answer along the lines of "people with ADHD are unable to focus during class" and the second question would give something like "classes are structured only for those with long attention spans". The former case places the cause of a reduced access to epistemic resources on an individual shortcoming while the second case points to an unfair pattern of

accessibility to the same epistemic resources. Consider the question of socio-economic differences between racialized and non-racialized groups. Although some still view the situation this way, most find it utterly absurd and outrageous to hold some sort of essentialist discourse on the source of this disparity. Instead the focus has rightfully shifted to the structural mechanisms that maintain prejudices and disparities. In fact, the internalist and essentialist tendencies of the discourse on neurodivergence are well exemplified in the prevalent emphasis on the medicalization of so-called psychiatric conditions. Note that we do not hold an anti-medicalization position, we only wish to point out the close link between cognitive and epistemic issues and the causal burden attributed to individuals rather than the structural and systematic context. That is why we stress the need for collaboration between the fields of epistemic injustices and neurodiversity. To achieve such a collaboration however, we believe a cultural shift might be necessary, at least in our conception of cognition. We will need to move away from the classical, essentialist and internalist approaches and towards frameworks like 4E cognition—or alternative frameworks that give greater explanatory weight to extra cranial factors—, which will allow us to consider the full richness of brain-body-world interactions and the inextricability of neuroscientific and socio-political considerations.

### 4.3 Epistemic injustices: testimonial and hermeneutical

We briefly drew a parallel between economic and epistemic resources in order to highlight the socio-political issues regarding their accessibility. However, this parallel might bring us too close to material and natural resources and the comparison shouldn't be pushed too far. In fact, we should emphasize some major differences between these two types of resources. Epistemic resources are not simply *out there* as physical objects waiting to be gathered or extracted and transformed by humans. Cognitive and epistemic resources have to be crafted, built from the ground up. They are not built *out of thin air*, but from the previous resources and experiences of those who participated in their elaboration and perhaps even in their dissemination through culture. But once they are built, they are not finite in the same way most natural resources are. They are not discrete objects, like apples, meaning that their *use* or *consumption* by one person does not imply their inaccessibility to another. To determine if the distribution of some natural resource, say apples, is equal, one would simply have to verify that each member of the group gets the same number of apples as the others—or, if one aims for equity instead, that each member's needs are met.

When it comes to epistemic resources however, the notion of an equitable distribution of access is far more complex and much less intuitive. Let us take the case of hermeneutic resources: concepts shared and understood within certain socio-cultural niches which make it possible for their members to communicate with one another, to express oneself, be understood by others, and interpret one's own experiences. If a concept for some type of experience shared by a sub-group within that socio-cultural niche is not incorporated in the common hermeneutic resources of the larger community, then the members of that sub-group will not be able—at least, not

fully—to communicate the experience in question or even to make sense of it themselves. Fricker (2007) gives the classic example of the concept of sexual harassment. Of course, sexual harassment did not start when the term was coined. There were, in fact, specific experiences that were shared by many, but there were no resources on which to draw to raise the issue—that is, to name it, to recognize it and discuss it—before the concept was introduced by Catharine MacKinnon in a legislative context (MacKinnon, 2005). There was thus a clear case of hermeneutic injustice insofar as a group of people did not have the necessary resources to express their experience and have it recognized by others. Fricker notes that, not only were they not able to express it, but even understanding their own experience might have been compromised by the absence of the concept, leaving them feeling like something was wrong without being able to identify it.

It is interesting to note here that while classic examples of epistemic injustices focus on issues such as sexism (the example of sexual harassment cited above) and racism (again, Fricker's example of a racialized man whose testimony was not considered during a trial), they have yet to incorporate neurodiversity. Notably, Kidd et al.'s recent handbook on epistemic injustices (2017) does not dwell on the subject. In the same book, Tremain deplores the absence of the issue of disabilities—disability studies are often adjacent if not overlapping with the question of neurodiversity—in the epistemic injustice literature and, more generally, in feminist epistemologies. Emphasizing "the critical importance of robustly intersectional approaches to epistemic injustice" (Kidd et al., 2017, p. 5) is something we can only agree with. Perhaps this omission is only a coincidence, but it might be a symptom of some deeper conceptual gap that should be explored and analyzed. Like other minority groups that fall victim to epistemic injustices, neuroatypical people diverge from a socially and culturally established (and maintained) norm, in this case a cognitive norm. They undergo hermeneutic marginalization because of their neurodivergent social position, thus they are deprived—to a certain extent—of hermeneutical power (i.e., of influence in the shaping of hermeneutical resources). As is to be expected, there is a dominant group in this situation: neurotypicals who, as we previously stated, possess the epistemic power to set the cognitive norm. The collective hermeneutic resources are therefore modeled on the neurotypical experiences.

Here lies the next step in our story: those who diverge from the established cognitive norm are not only epistemically marginalized, their cognitive profiles and conditions are considered pathological. A prominent example of this phenomenon is the assumption that autistic individuals have a deficient theory of mind or otherwise deficient social understanding (Baron-Cohen, 1997; Baron-Cohen et al., 2000). Not only does this lead to various prejudices in daily life, but it leads to flagrant testimonial injustices in research. As Hens et al. (2018) point out, theories that assume a deficit in attributing mental states to others sometimes also assume a deficit in self-attribution of mental states. To those who subscribe to such theories, this makes any testimony from autistic individuals concerning their own experience unreliable. In an even more pernicious manner, any testimony from an autistic individual refuting the theoretical assumption can simply be rejected, thus shielding the assumption from further scrutiny. The obvious solution to this particular problem is to favor practices that not only incorporate human neurocognitive variety in their model of

human cognition, but that give greater empirical weight to testimonies than what is often the case.

Accepting testimony as potential evidence to be tested instead of rejecting it at the outset allows for a better integration of neuroatypical people in the research concerning their very own cognitive profiles. This might, in turn, provide them with greater epistemic and hermeneutical power and tip the scale ever so slightly towards equity, creating a more complete set of collective hermeneutical resources. With more hermeneutical resources, neuroatypical people might be able to better understand and express their experiences because they could rely on theories that take their reality into account, thereby increasing the credibility of their testimony and suffer from less and less epistemic injustices. This starting point is not perfect; for example, we must integrate testimonies left incomplete because of hermeneutic injustices, but we must also rethink the kinds of testimony that are deemed acceptable as data for scientific (and ethical, political, etc.). For example, although non-verbal individuals are unable to participate in current practices based on propositional knowledge and testimony, they can share knowledge by other means which are important for research on epistemic injustices (Catala, 2020).

## 5 A new type of epistemic injustice: cognitive injustices

In this section, we address an issue that has been lurking for a while, that is, the suspicion that the concept of epistemic injustice cannot fully account for the type of injustices exposed by the adoption of a 4E perspective on human cognition. With the assumption that this framework allows us to have (1) a richer view of the impacts of environmental resources on cognitive performance and (2) a potentially new outlook on the issue of epistemic injustices, we began to outline some of the consequences in our twelve versus ten fingers thought experiment. In that toy example, we highlighted an embodied aspect of cognition via the potential cognitive differences of bodily variations. We also hinted at a broader aspect of extended cognition: the impact of the availability (or unavailability) of cognitive and epistemic resources regarding certain cognitive tasks and cognitive development in general. We imagined a disparity in access to the learning of counting that followed from historical and socio-political mechanisms which impaired cognitive performances for a particular group of people and could lead to outright cognitive deficits (understood in an externalist manner, see Legault et al., 2019 for more on extended cognitive deficits).

This brings us to what we suspect is a fuzzy area—perhaps even a gap—in the notion of epistemic injustice. Although the phenomenon explained above is of a broadly epistemic nature, having to do with knowledge, it does not fit well into the current conceptual types of epistemic injustices. It is not a type of testimonial injustices, that is, of undue deficit of credibility, though it might lead to them. It could fall under hermeneutic injustices, but not without a little conceptual bending. Although it shares with hermeneutic injustice the idea that it is a lack in collective resources, it does not seem to be the absence of a concept. This categorization seems somewhat questionable: Should the lack of an appropriate learning method for counting

fall under the same category as the absence of a concept like the concept of sexual harassment? Is there not something deeper that distinguishes the two phenomena? A glance at the origin of the term "hermeneutic" itself begins to shed light on why it might not be appropriate to force the lack of a learning method into the category of hermeneutic injustice. "Hermeneutic" ultimately comes from "Hermes", the name of the messenger of the Greek gods. The term has a clear link to the idea of transmitting a message, of expressing oneself. Does a lack of learning methods (or other types of cognitive resources and tools) fit in the same category as a gap in collective interpretative resources (like the lack of a term for sexual harassment)?

In the former case, some shared experience is not represented in the cultural resources. The absence of such a term to identify and make sense of the experience of sexual harassment can obviously have a strong negative impact on one's life and lead to psychological distress and undoubtedly even affect cognitive performance in various contexts. However, while hermeneutic injustice may indeed have serious impacts on cognitive performance, they are not at its core. In the second case, the undue absence of a proper learning method, cognitive performance is what is directly affected by the injustice. The differential access to full cognitive development due to a lack in such a resource can have long-lasting and important consequences on an individual's life: we can think of something as simple as being rejected for a job, not on the basis of a lack of credibility or intelligibility during the interview as would be the case for an epistemic injustice, but—if we pursue our fingers example further—as the result of an unjust inaccessibility to adequate learning methods resulting in lower mathematical performance for some individuals.

We thus have a case of injustice in the epistemic realm that seems to fit into neither side of the testimonial/hermeneutical division. We believe that this points to a possible lack of epistemic resources within the epistemic injustice literature itself. We thus propose to introduce another type of epistemic injustice: cognitive injustice (note that the term "cognitive" should be understood within a 4E framework or at least one that incorporates bodily and external contributions to cognition). When the collective cognitive resources (i.e., the concepts, methods, tools, etc., that contribute to cognitive performance and development) of a society do not provide resources to a given cognitive profile, it can be considered as a case of *cognitive injustice*. We suspect this concept might be useful in the future when discussing invisible disabilities.

All is not lost, of course, as we can take inspiration from Fricker and seek to build a better future. To counter epistemic injustices, Fricker proposes epistemic virtues, that is to say, strategies that should be applied to bring forth epistemic justice. On the hermeneutical side, these virtues include suspending our judgment and questioning our own understanding when faced with something that seems unintelligible. On the testimonial side, we find measures that aim to reduce biases (Fricker, 2007). The introduction of such strategies reinforces the need to include cognitive injustices as a distinct type of epistemic injustices in order to offer more specific and hopefully better suited solutions for the type of injustices they cause. We can once again return to our thought experiment and think up potential solutions to the problem. Suspension of judgement and the questioning of biases could certainly help in that case: perhaps some of the structural issues might surface when testimonies from the concerned

groups are considered. However, we doubt that such proposals would be enough to address the core problem as it does not stem from a lack of intelligibility of credibility. It might be too early to offer concrete solutions as the concept of cognitive injustices will have to be unpacked and analyzed in more detail, but we believe that a conceptual shift towards the integration of human neurocognitive diversity as a natural phenomenon should do more good than harm.

## 6 Epistemic injustices and neurodiversity

An interesting aspect in the analysis of epistemic injustices in neurodiversity is the interaction between testimonial and hermeneutic injustices. Undue deficits of credibility (testimonial injustice) are intrinsically linked to the question of the hermeneutic gap (hermeneutic injustice) in collective epistemic resources to account for neuroatypical experiences. Indeed, how can one attest to one's experience when the concepts to do it do not exist? Similarly, we might wonder how can neuroatypicals bring about hermeneutic resources representing them when they are not heard or their testimony is not given credit? This also brings out the question of inclusion of neurodivergent people in research: who should be included? What should (and can) we expect from them? What are the discrepancies between a first-person experience, a first-person testimony (i.e., what can one share given the limitations in hermeneutic resources) and a third party's interpretation? These questions are equally applicable to the neurodiversity movement itself: who can (and cannot) testify for whom? Are some forms of testimony excluded from the movement? How can one share their experience when no (or little) adequate concepts are available? Let us note, however, that some conceptual progress has been made. For instance, certain terms are emerging from the movement like "stimming", "shutdown" and "masking," the latter of which being particularly important for neurodivergent women who often go undiagnosed because of it—likely because of a form of testimonial injustice.

In this paper, we approached the question of epistemic injustices and neurodivergence on the backdrop of 4E cognition, which we believe offers an interesting point of view on the link between epistemic (and cognitive) resources and cognition. Just as testimonial and hermeneutic injustices are intrinsically linked, we hypothesize that cognitive injustices are equally intrinsically linked to hermeneutic and testimonial injustices. Neurotypical cognition is considered to be the normative standard to understand human cognition in general. Deviations from this norm are mostly understood as such (i.e., deviations) and considered mental disabilities, troubles, illnesses, etc. This creates a prejudice that makes neuroatypical individuals seem like unreliable contributors to knowledge about cognition (including their own variety of cognition). The apparent lack of credibility is assumed to be based on intrinsic shortcomings and neuroatypical people are excluded from the construction of the collective epistemic resources (i.e., parts of the cultural niche). If a group comes to hold a dominant position in the construction of the cultural niche (or niches), it will likely shape the epistemic resources which are part of the affordances that constitute the cultural niche. Note that several nested cultural niches may exist, meaning that within a larger dominant cultural niche, there might be subcultures that exist with

their own particularities and resources. By "dominant cultural niche" we mean the cultural niche that influences structures and institutions, that is, the niche that was formed by those with epistemic power. We make this clarification to emphasize the fact that the formation of subcultures (or cultural niches within cultural niches) built by and for neurodivergent people is not enough to address larger structural injustices. We believe that, although the creation of subcultural niches might be beneficial for many reasons, it is merely a first step towards a larger inclusive cultural niche. In other words, the neurotypical population will also have to put in some work.

## 7 Conclusion

Our aim in this paper was to emphasize and clarify the distinction between neurodiversity and neurodivergence and in doing so, we were led to recognize a third type of epistemic injustice, namely cognitive injustice. As we hope to have shown, neurotypical and neuroatypical cognitive profiles are only variants in a space of natural cognitive profiles. The distinction between neurodiversity and neurodivergence is socio-culturally determined. Nature favors diversity in many forms including neurocognitive diversity (i.e., neurodiversity). Neurodivergence can be the result of differential access to epistemic power that generates epistemic injustices: neurocognitive diversity is divided according to cognitive norms that are set by those with epistemic power. One aspect of the disparities in epistemic power and resources that we believe should be explored further is that of cognitive resources. With the power to set a cognitive norm comes the power to shape cognitive tools and resources, and when these resources are tailored only to the cognitive profiles that correspond to said norm, neurodivergent individuals are bound to face cognitive injustices and, down the line, even suffer cognitive deficits. This is how we go from neurodiversity to neurodivergence by way of epistemic injustices.

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## References

Baril, A. (2018). Les personnes suicidaires peuvent-elles parler? Théoriser l'oppression suicidiste à partir d'un modèle socio subjectif du handicap. *Criminologie, 51*(2), 189–212.

Baron-Cohen, S. (1997). *Mindblindness: An Essay on Autism and Theory of Mind*. MIT Press.

Baron-Cohen, S., Ring, H. A., Bullmore, E. T., Wheelwright, S., Ashwin, C., & Williams, S. C. (2000). The amygdala theory of autism. *Neuroscience and Biobehavioral Reviews, 24*(3), 355–364.

Bluhm, R., Jacobson, A., & Maibom, H. (2012). *Neurofeminism: Issues at the intersection of feminist theory and cognitive science*.

Catala, A. (2020). Metaepistemic injustice and intellectual disability: A pluralist account of epistemic agency. *Ethic Theory Moral Prac, 23*, 755–776. https://doi.org/10.1007/s10677-020-10120-0

Clark, A. (1997). *Being there: Putting mind, body, and world together again*.

Clark, A. (2004). *Natural-born cyborgs: Minds, technologies, and the future of human intelligence*.

Clark, A. (2011). *Supersizing the mind: Embodiment, action, and cognitive extension*. New York: Oxford University Press.
Clark, A., & Chalmers, D. (1998). The extended mind. *Analysis*, *58*(1), 7–19.
Coady, D. (2017). Epistemic injustice as distributive injustice 1. In *The Routledge handbook of epistemic injustice* (pp. 61–68). Routledge.
Courchesne, V., Nader, A.-M., Girard, D., Bouchard, V., Danis, É., & Soulières, I. (2016). Le profil cognitif au service des apprentissages : Optimiser le potentiel des enfants sur le spectre de l'autisme. *Revue Québécoise De Psychologie, 37*(2), 141–173.
Dawson, M., Soulières, I., Gernsbacher, M. A., & Mottron, L. (2007). The level and nature of autistic intelligence. *Psychological Science, 18*(8), 657–662. https://doi.org/10.1111/j.1467-9280.2007.01954.x
De Jaegher, H. (forthcoming). Seeing and inviting participation in autistic interactions. Transcultural Psychiatry.
DeJong, G. (1979). Independent living: From social movement to analytic paradigm. *Archives of Physical Medicine and Rehabilitation, 60*(10), 435–446.
Dennett, D. C. (1995). *Darwin's dangerous idea: Evolution and the meanings of life*. New York: Simon & Schuster.
Dussauge, I., & Kaiser, A. (2013). Repolitisations féministes et queer du cerveau. *Revue d'anthropologie des connaissances*, *7, 3*(3), 667.
Engel, A. K., Maye, A., Kurthen, M., & König, P. (2013). Where's the action? The pragmatic turn in cognitive science. *Trends in Cognitive Sciences, 17*(5), 202–209.
Fausto-Sterling, A. (1985). *Myths of gender: Biological theories about women and men*. New York, NY: Basic Books.
Fausto-Sterling, A. (2000). *Sexing the body: Gender politics and the construction of sexuality*. New York, NY: Basic Books.
Fine, C. (2010). *Delusions of gender: How our minds*. Society and Neurosexism Create Difference.
Fine, C. (2012). Explaining, or sustaining, the status quo? The potentially self-fulfilling effects of "hardwired" accounts of sex differences. *Neuroethics, 5*(3), 285–294.
Fine, C., Dupré, J., & Joel, D. (2017). Sex-linked behavior: Evolution, stability, and variability. *Trends in Cognitive Sciences, 21*(9), 666–673.
Fricker, M. (2007). *Epistemic injustice: Power and the ethics of knowing*. Oxford University Press.
Gaston, K. J., & Spicer, J. I. (2004). *Biodiversity: An introduction*. Hoboken: Wiley.
Hallowell, E., & Ratey, J., (2021). ADHD needs a better name. We have one. ADDitude. https://www.additudemag.com/attention-deficit-disorder-vast/.
Hacking, I. (1995). *Rewriting the Soul: Multiple personality and the science of memory*. Princeton University.
Hacking, I. (1999). *The social construction of what?* Harvard University Press.
Harawy, D. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies, 14*(3), 575–599.
Harding, S. (2005). Rethinking Standpoint Epistemology: What is "Strong Objectivity?" In *Feminist Theory: A Philosophical Anthology*. Blackwell Publishing.
Harding, S. (1991). *Whose science? Whose knowledge?: Thinking from women's lives*. Ithaca, NY: Cornell University Press.
Harding, S. (1986). *The science question in feminism*. Cornell University Press.
Hens, K., Robeyns, I., & Schaubroeck, K. (2018). The ethics of autism. *Philosophy Compass*.
Hulst, B. van. (2021). We Need to Rename ADHD. Scientific American. https://www.scientificamerican.com/article/we-need-to-rename-adhd/.
Ifrah, G. (2000). The universal history of humbers: from prehistory to the intention of the computer (Bellos, D., trad.). New York: Wiley.
Jaswal, V. K., & Akhtar, N. (2018). Being vs. Appearing Socially Uninterested: Challenging Assumptions about Social Motivation in Autism. *The Behavioral and Brain Sciences*, 1–84.
Jessop, P. (2019). Autism no puzzle, nothing wrong with us. *Altogether Autism Journal. Issue, 1*, 3.
Joel, D., Berman, Z., Tavor, I., Wexler, N., Gaber, O., Stein, Y., Shefi, N., Pool, J., Urchs, S., Margulies, D. S., Liem, F., Hänggi, J., Jäncke, L., & Assaf, Y. (2015). Sex beyond the genitalia: The human brain mosaic. *Proceedings of the National Academy of Sciences, 112*(50), 15468–15473. https://doi.org/10.1073/pnas.1509654112
Jordan-Young, R. (2010). *Brain storm: The flaws in the science of sex differences*. Harvard University Press.

Kidd, I. J., Medina, J., & Pohlhaus, G., Jr. (2017). *The Routledge handbook of epistemic injustice*. Routledge.

Kiverstein, J. (2018). Extended cognition. In A. Newen, L. De Bruin & S. Gallagher (Eds.), *The Oxford Handbook of 4E Cognition*. Oxford: Oxford University Press.

Legault, M., Bourdon, J., & Poirier, P. (2019). Neurocognitive variety in neurotypical environments: The source of "deficit" in autism. *Journal of Behavioral and Brain Science, 9*, 246–272. https://doi.org/10.4236/jbbs.2019.96019

Longino, H. E. (1994). In search of feminist epistemology. *The Monist, 77*(4), 472–485.

MacKinnon, C. (2005). Difference and dominance: On sex discrimination. In E. Hackett & S. Haslanger (Eds.), *Difference and dominance: On sex discrimination.* Oxford University Press.

Mayr, E. (1982). Speciation and macroevolution. *Evolution*, *36*, 1119–1132. https://doi.org/10.1111/j.1558-5646.1982.tb05483.x.

Mihai, M. (2018). Epistemic marginalisation and the seductive power of art. *Contemporary Political Theory, 17*(4), 395–416. https://doi.org/10.1057/s41296-017-0186-z

Milton, D. (2012). On the ontological status of autism: The "double empathy problem." *Disability & Society, 27*(6), 883–887.

Newen, A., De Bruin, L., & Gallagher, S. (2018). *The Oxford Handbook of 4E Cognition*. Oxford: Oxford University Press.

Nicolaidis, C., & Raymaker, D. (2015). Community-Based Participatory Research with Communities Defined by Race, Ethnicity, and Disability: Translating Theory to Practice. In *The SAGE Handbook of Action Research* (Third Edition, pp. 167–178). SAGE Publications Ltd. https://doi.org/10.4135/9781473921290

Oliver, M. (1996). *Understanding disability: From theory to practice*. St Martin's Press.

Palmer, C. J., Seth, A. K., & Hohwy, J. (2015). The felt presence of other minds: Predictive processing, counterfactuals, and mentalising in autism. *Consciousness and Cognition, 36*, 376–389.

Pitts-Taylor, V. (2016). *The Brain's Body: Neuroscience and Corporeal Politics*. Duke University Press. https://doi.org/10.2307/j.ctv1134gg0

Ramstead, M., Veissiere, S., & Kirmayer, L. (2016). Cultural affordances: Scaffolding local worlds through shared intentionality and regimes of attention. *Frontiers in Psychology*, *7*.

Raymaker, D. M. (2016). Reflections of a community-based participatory researcher from the intersection of disability advocacy, engineering, and the academy. *Action Research, 15*(3), 258–275.

Rosqvist, H. B., Chown, N., & Stenning, A. (2020). *Neurodiversity studies: A new critical paradigm*. Routledge.

Roughgarden, J. (2009). *Evolution's rainbow: Diversity, gender, and sexuality in nature and people*. University of California Press.

Sasson, N., Faso, D., Nugent, J., Lovell, S., Kennedy, D., & Grossman, R. (2017). Neurotypical peers are less willing to interact with those with autism based on thin slice judgments. *Scientific Reports, 7*, 40700.

Simard, I., Luck, D., Mottron, L., Zeffiro, T. A., & Soulières, I. (2015). Autistic fluid intelligence: Increased reliance on visual functional connectivity with diminished modulation of coupling by task difficulty. *Neuroimage: Clinical, 9*, 467–478.

Soulières, I., Dawson, M., Gernsbacher, M. A., & Mottron, L. (2011). The level and nature of autistic intelligence II: What about Asperger syndrome? *PLoS ONE, 6*(9), e25372. https://doi.org/10.1371/journal.pone.0025372

Thompson, E. (2007). *Mind in life: Biology, phenomenology, and the sciences of mind*. Harvard University Press.

Toro, J., Kiverstein, J., & Rietveld, E. (2020). The ecological-enactive model of disability: Why disability does not entail pathological embodiment". *Frontiers in Psychology., 11*, 1162.

Varela, F. J., et al. (1991). *The embodied mind: Cognitive science and human experience*. Cambridge, MA: MIT Press.

Varga, S. (2019). *Scaffolded minds*. MIT Press.

Walker, N. (2012). Throw away the master's tools: Liberating ourselves from the pathology paradigm. *Loud hands: Autistic people, speaking*, 225–237.

Wilson, R., & Clark, A. (2008). How to situate cognition: Letting nature take it's course. *The Cambridge Handbook of Situated Cognition*.

Zablotsky B, Black LI, Maenner MJ, Schieve LA, Danielson ML, Bitsko RH, Blumberg SJ, Kogan MD, Boyle CA. (2019). Prevalence and Trends of Developmental Disabilities among Children in the US: 2009–2017. Pediatrics. 2019; 144(4):e20190811.

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# Tourism and autism: Journeys of mixed emotions

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## Highlights

- Expands tourism study into developmental difficulties and psychological distress.
- Discusses tourism's wellbeing benefits.
- Reveals emotional labour of mothers on holiday.
- Illustrates the mixed emotions engendered by holidays.
- Discusses mothers' care-giving strategies on holiday.

## Abstract

There is an evolving tourism literature around psychological wellbeing, social exclusion and disability. This paper advances tourism knowledge into the terrain of psychological health and developmental complexities, and psychological distress. It draws on a phenomenological position to understand the lived experiences of mothers of

children with developmental difficulties, in this case diagnosed with autism spectrum disorder (ASD). It discusses the emotional and everyday challenges of caring for a child diagnosed with ASD on holiday, discusses the perceived benefits holidays offer and outlines care-giving strategies adopted by mothers to manage their children's tourism experiences. The paper discusses the uniqueness of the context of autism and problematizes popular discourses, which predominantly frame tourism as pleasurable settings of escape, stimulation, novelty and relaxation.

Previous Next

## Keywords

Disability; Care-giving; Mothers; Children; Well-being; Mental health

## Introduction

Wellbeing is a multidimensional concept, which has recently been considered in tourism contexts (McCabe and Johnson, 2013, Petrick and Huether, 2013), where scholars have particularly examined later-life wellbeing (e.g. Morgan, Pritchard, & Sedgley, 2015) and quality of life (e.g. Dolnicar, Yanamandram, & Cliff, 2012). The past decade has seen an increase in tourism research adopting concepts from the physical and psychological sciences; indeed, positive psychology has been so well received that its advocates advise tourism educators, practitioners and researchers "…that holidays make people happy" (Filep, 2012, p.38). This focus on the positivity of tourism has also seen research engaged with marginalisation, deprivation and social exclusion highlight how tourism benefits socially marginalised groups by elevating self-worth and extending social worlds and social interaction (McCabe, 2009). Whilst we recognise the value of such research, positive psychology has been criticised for overlooking the embodied, relational and complex manifestation of emotions and offering a simplified, individualised understanding of subjectivity (Greco & Stenner, 2013). Therefore, we seek to explore the ways in which tourism experiences, specifically those involving children with disabilities, are a messy, conflicting constellation of emotions, embracing stress and guilt as well as pleasure and excitement (Backer & Schänzel, 2012). Tourism studies has rarely considered negative emotions and then largely in service settings (Liu, 2016). Instead its overwhelming focus has been on positive emotional stimulation, perhaps because it has traditionally been framed as a hedonic experience (Hosany, 2011, Picard and Robinson, 2012).

A growing cadre of tourism scholars address physical (e.g. Buhalis & Darcy, 2011) and sensory impairment (e.g. Pritchard, 2010, Yau et al., 2004) whilst a number focus on social exclusion (e.g. Minnaert, 2014). Our paper extends tourism's reach into psychological distress and psychological health and developmental complexities, connecting with established work in leisure studies and community psychology (e.g. Walker, Hart, & Hanna, 2017). It draws on a phenomenological position to explore the emotional care-giving experiences of mothers holidaying with a child diagnosed with autism spectrum disorder (ASD), a neglected area of research in both disability and tourism studies (Mactavish, MacKay, Iwasaki, & Betteridge, 2007). The paper is grounded in mental health and psychology research approaches (Gilburt, Rose, & Slade, 2008), which value highly personalised testimonies of the affective, embodied, experiential, individual and intersubjective experiences of those living with, and caring for, individuals with mental health issues and developmental difficulties (Aumann & Hart, 2009).

## Literature review

There is a growing corpus of tourism research exploring the experiences of people with disabilities, extensively reviewed elsewhere (e.g. Buhalis & Darcy, 2011) in the book-length format that such an undertaking requires. There is less focusing on children with disabilities (Kim & Lehto, 2013) and almost none on family care-givers for individuals with intellectual, cognitive and learning disabilities and mental health conditions (Nind & Seale, 2009); an exception being the Mactavish et al. (2007) study. In contrast, there is a body of leisure studies scholarship examining both the experiences of individuals with psychological disabilities and their carers (e.g. Dodd, Zabriskie, Widmer, & Eggett, 2009). Research has explored the impacts of community arts projects and support centres (Aumann & Hart, 2009) and activities such as fishing, cycling and singing on the wellbeing of individuals diagnosed with a range of learning and behavioural difficulties and mental health conditions (Walker et al., 2017). Some of these studies have focused on individuals diagnosed with ASD to examine the links between leisure participation, stress and quality of life (e.g. García-Villamisar & Dattilo, 2010) and to determine how these people process sensory information during leisure activities (Hochhauser & Engel-Yeger, 2010). Further studies have investigated the barriers to leisure for children diagnosed with ASD/attention deficit hyperactivity disorder (e.g. Emira & Thompson, 2011) and the challenges faced by parents seeking to engage them in leisure (e.g. McGinnis, Fullerton, & Rake, 2014).

Notwithstanding such research, little enquiry examines the experiences of parents holidaying with children diagnosed with learning and behavioural difficulties; this despite the importance of the family in determining the tourism and leisure opportunities of children with disabilities (Brewster & Coleyshaw, 2010). Indeed, the predominance of children in the practice of tourism contrasts with their neglect in its study (Poria and Timothy, 2014, Schänzel et al., 2012). Research that has focused on holidays for children diagnosed with ASD and their families has examined local government provision and identified its role in reducing stress and maintaining family cohesion (Chan and Sigafoos, 2001, Gray, 1994, Olsson and Hwang, 2001, Tarleton and Macaulay, 2003). Similar studies in the third sector demonstrate how holidays create spaces for children with disabilities and their families to enhance their relationships, wellbeing and resilience (Holidays Matter, 2017). This echoes research, which regards family holidays as opportunities to escape, relax, and enjoy shared experiences (Prentice, 2004, Yoo et al., 2016, Zabriskie and McCormick, 2003). Indeed Dodd et al. (2009, p.262) observe that researchers have consistently found "positive relationships between family leisure involvement and family functioning."

This is a nascent area of tourism research with pioneering studies recognising tourism's role in enhancing physical and mental health and quality of life and reinvigorating relationships for families with a child with a disability (Kim & Lehto, 2013). Whilst some researchers maintain that families with and without a child with a disability participate in leisure in the same way (Ferguson, 2002), others emphasize its value for families with a child with a disability (Scholl, McAvoy, Rynders, & Smith, 2003). However, evidence from developmental disability research also suggests that holidays can have a negative impact on family functioning for families with a member diagnosed with ASD (Abbeduto et al., 2004, Ghaziuddin and Greden, 1998). Parents in these families often experience higher levels of tension and anxiety than those of children with other disabling conditions (Gray, 1994, Williams and Aaker, 2002), because of coping with difficult behaviours and providing high levels of emotional support and supervision.

Advancing from this research bridgehead, we turn attention to the emotional and commonplace tourism experiences of mothers holidaying with a child diagnosed with ASD. To do this however, we need to contextualise recent understandings of ASD and its diagnosis within contemporary mental health research. This cannot be a comprehensive conceptualisation of ASD; rather we aim to offer a sense of the lived experiences of mothers holidaying with children diagnosed with ASD and the subsequent complexities this presents in the tourism context. ASDs have largely been characterised by a range of difficulties in social interaction, communication, restricted interests/fluctuating attention span, and a propensity for repetitive behaviours (American Psychiatric

Association, 2000). These characteristics were previously understood as a range of diagnoses (Asperger's Disorder, Autism etc.) under the umbrella term of 'Pervasive Developmental Disorders.' However, the most recent iteration of the Diagnostic and Statistical Manual of Mental Disorders (DSM) (American Psychiatric Association, 2013) now categorises all such mental health issues, including conditions such as Asperger's Disorder, in the broader diagnosis of ASD (with Rett Disorder the only diagnosis remaining an independent diagnosis). It should be noted that whilst there are distinct differences in approaches towards mental health and disability between the UK and USA, the DSM has long been the standard diagnostic manual used by UK health professionals for mental disorder diagnoses.

As with all mental health issues in the DSM, there is some resistance to pathologising 'behaviours' and 'symptoms' into mental illness. For example, the categorisation and treatment of thoughts and behaviours through a mental health discourse has been problematized since the anti-psychiatry movement and the publication of Szasz's (1974) and Foucault's (1988) seminal works. As Predescu and Şipoş (2013, p.11) note in their study of the quality-of-life of mothers of children diagnosed with ASD, the condition can best be understood as a subjective and objective multi-dimensional concept that is "…influenced by personal and environmental factors… and is improved by self-determination, resources, purpose in life and sense of belonging." Such understandings of mental 'health' and mental 'illness' as more than a series of diagnosis criteria has also been explored by scholars examining the social nature of psychological distress (e.g. Walker, Hanna, & Hart, 2015). Notwithstanding such dispute, most researchers concur that for those living in a world increasingly predicated on a fixed set of 'norms', individuals falling outside of these often have very distressing lives (Cromby, Harper, & Reavey, 2013). In view of these tensions, we use the term 'diagnosed with ASD' to avoid enforcing an attempt at objectively classifying a complex mental health issue that is both multifaceted and contested.

Individuals diagnosed with ASD frequently find social interaction, imagination and communication problematic, whilst many struggle to understand implicit social norms and find negotiating others' emotions and interpersonal relationships challenging (Aston, 2012). Some individuals cannot cope with change and engage with repetitive or familiar behaviours, and can also experience distress when they feel excessively stimulated (Bellini, 2004). It is not unexpected that people diagnosed with ASD describe their world as a mass of people, places and happenings, with which they struggle to cope (The National Autistic Society, 2016). Equally unsurprisingly, individuals diagnosed with ASD have an increased likelihood of experiencing depression, anxiety and social isolation (Orsmond et al., 2013, Sterling et al., 2015), compounded by the social discrimination of being labelled as having a 'mental illness,' and a discourse of disability (Cromby et al., 2013, Runswick-Cole, 2008).

Given this discussion, we do not offer a definitive definition, pathology or conceptualisation of ASD but underline that the diagnosis has an impact on the life of the individual diagnosed and those around them. Tourism can enable us to alter our daily life rhythms and experience emotionally-heightened interactions (Picard, 2012). Yet, whilst the 'holiday' is socially constructed as a space for relaxation, in which to enjoy family time and new experiences, primary carers of children diagnosed with ASD are faced with a range of practical and emotional challenges whilst away from the routine of home (Meirsschaut, Roeyers, & Warreyn, 2010). The clear majority of these primary carers are mothers, themselves more likely to be at risk of serious psychological stress than parents of children with other developmental disabilities or parents of non-disabled children (Bromley, Hare, Davison, & Emerson, 2005). Research with parents of young children suggests that women engage in more emotional labour - gendered emotional work that has "psychological health consequences" (Strazdins & Broom, 2004, p.356). Here we draw on Dieffendorff, Croyle, and Gosserand's (2005) understanding of 'emotional labour' as the management and suppression of feelings/emotions. Such management and suppression of feelings is suggested to have profound psychological consequences for women endeavouring to be 'good mothers' (Lutz, 2001) and it is to the stories of six such mothers that we now turn.

## Methods

The study draws on a phenomenological position to uncover the affective, relational, embodied and unique lived experiences/life worlds (Habermas, 1987) of mothers holidaying with a child diagnosed with ASD. As a theoretical position phenomenology is particularly suited to the study of emotional engagement in tourism (Picard, 2012) and to exploring the ways in which people experience their reality, their engagement with objects and people and ultimately the meanings these hold (Eatough & Smith, 2007). In contrast to approaches that attempt to generalise people's thoughts and feelings, this enables us to explore the nuances of an individual's 'lifeworld'. We make no attempt to suggest that our findings are 'representative', 'generalizable' or without interpretation by the research team. Whilst critics may see this as a weakness in our approach, we present this project within the tradition of methodologically sophisticated qualitative research, which celebrates rather than hides such issues (Parker, 2004). Further, phenomenology offers a distinct set of features which are often missing in alternative qualitative approaches, including: temporality (experience of time); spatiality (experience of space); embodiment (experience of one's own body); intersubjectivity (experience of relationships with other people); and selfhood (experience of the self) (Ashworth, 2003).

From this perspective, we utilised the psychological methodology of Interpretative Phenomenological Analysis (Smith, Flowers, & Osborn, 1997), previously used to investigate for example, experiences of people with mental health issues engaging in community arts projects (Lawson, Reynolds, Bryant, & Wilson, 2014) and parental experiences of childhood cancer (Schweitzer, Griffiths, & Yates, 2012). This methodological approach affords attention to the lived experience of the individuals, including their feelings, emotions, and their understanding of behaviours. It addresses the "…web of thought-infused feelings and feeling-infused thoughts experienced by an individual as she creates her own psychic life within a set of interpersonal and cultural relations" (Chodorow, 1999, p.166). Whilst phenomenology and IPA have been used in tourism research, it has been argued that "…past attempts have inadequately addressed the theoretical and philosophical assumptions that influence a researcher's approach and interpretations" (Pernecky & Jamal, 2010, p.1055); we hope to have gone some way to addressing this critique.

Our relationship with Cerebra, a UK third sector organisation and registered charity, which supports over 11,000 parents to improve the lives of children with brain injury and brain-related neurological conditions (http://www.cerebra.org.uk ↗) was central to our approach. Cerebra provides advice, grants and support services and operates its own holiday home. The organisation approached us to investigate the holiday experiences of its members who have children diagnosed with ASD. Such collaborations between academics and third sector organisations enable the latter to benefit from academic research skills and credibility and ensure the priorities of people with disabilities and their organizations are involved in shaping research (Priestley, Waddington, & Bessozi, 2010). This form of collaboration can also facilitate knowledge-sharing amongst people with disabilities, service providers and policymakers, creating "action and politically led" research (Macbeth, 2010, p.483).

Cerebra's Children's Coordinator emailed its members with children diagnosed with ASD resident within an hour's drive of the research team's university. This was a decision taken for logistical reasons as we did not want to disturb the home routines of the mothers' children and yet wanted to conduct the interviews in person due to their sensitivity and our desire to conduct them with warmth and empathy (Sieber & Tolich, 2013). Due to UK data protection, Cerebra was unable to share any members' contact details until they agreed to participate in the research. Six of the women who volunteered to take part in the study were then contacted by the researchers to arrange an initial meeting. Whilst six participants may appear a small number in positivist-influenced qualitative research, in Interpretative Phenomenological Analysis rich material emerges from a small number of interviews to provide clarity on an under-served subject (Gray, 2003). There has long been debate over the optimum sample size

for IPA research, with notable projects ranging from one (Eatough & Smith, 2006) to a large IPA sample size of 14 participants (Pridgeon & Grogan, 2012). We take our lead from Reid, Flowers, and Larkin (2005) and Smith, Flowers, and Larkin (2009) who argue that the more participants included in IPA, the more there is a diffusion of their individual lived experiences, and a reduction of the interpretations of their unique life worlds, the essential characteristics of IPA.

To offer some context on the participating women, four have two or more children and two have one child, with the age ranges of the child diagnosed with ASD ranging from nine to 19. All are heterosexual, white women; two are married, three divorced and one widowed. All are the primary carers for their children; three are full-time carers and three work part-time (Table 1). These are typical employment patterns, as only 11% of UK parents of children diagnosed with ASD work full-time, due to the demands of the condition (Ambitious About Autism, 2016). Whilst we acknowledge that these factors will have an impact on the ways in which the participants are empowered/disempowered to live their lives, we are in no way attempting to offer demographic details to suggest any causal relationships or broader sociological observations. Rather we are positioning this research within the phenomenological and psychology arena and offer this information for the reader to obtain a sense of the interviewees.

Table 1. Study participants.

| Participant | Marital status | Occupational status | Son with ASD | Son's Age | Siblings |
|---|---|---|---|---|---|
| Charlotte | Divorced | Works part-time | Rory | 9 | None |
| Claire | Divorced | Full-time carer | Sean | 11 | 1 sibling (also diagnosed with ASD) |
| Leanne | Married | Full-time carer | Owen | 12 | 3 siblings |
| Lucy | Married | Works part-time | Joe | 19 | 2 siblings |
| Maxine | Widowed | Full-time carer | Geraint | 19 | None |
| Rachel | Divorced | Works part-time | John | 13 | 1 sibling |

The research project was approved by the main contact's university ethics committee and the research team were guided by the four overriding principles of ethical research: do no harm, do positive good, show respect for people's autonomy and treat people fairly (Gilhooly, 2002). Each mother was given an information and consent form explaining: the research purpose; how their words might be used; that participation was voluntary and anonymous. However, following ethical principles alone will not necessarily ensure ethically sound research and individual researchers must adopt a relational ethics approach to make situation-specific decisions based on their ethical engagement and personal responsiveness with their study participants (González & Iffland, 2014). As experienced qualitative researchers, we continually assessed the participants' wellbeing during the interviews. Moreover, as we were aware that some discussions might be distressing, we acknowledged the limitations of our roles as researchers and ensured that Cerebra would offer support should the need arise.

All interviews lasted 60–90 min and were held either in the women's homes or at the university; all were audio-recorded and transcribed. Each interview was framed by Sieber's (2013, p.40) advice that "the warmth of empathy and human kindness has a vital role in making us ethical researchers" and opened with a broad discussion of the participants' holiday activities. Thereafter the women 'drove' an open conversation, providing insight into the fine-grained nuances of meaning that constitute their holiday experiences (Ray, 2007). Whilst we had no interview checklist, the conversations typically covered the frequency and type of their holiday taking, the destinations

visited, their booking processes and holiday motivations, the positive and negative aspects of their experiences, the practical and emotional aspects of holidaying and sensitivities of care-giving. The interviews were then transcribed and analysed through multiple readings to fully immerse us in the data and the participants' stories (Smith & Osborn, 2003). Following this, the team met to discuss our independent readings of the data and assembled a consensus coding of the transcripts. Whilst we sought to preserve the uniqueness of each participant, we identified commonalities and interconnections across the interviews around the interpersonal, affective and embodied experiences of the mothers (Table 2).

Table 2. Visual representation of the thematic spread for each interview.

| Participant | Son with ASD | Need for routine | Sensory relationships | Surveillance & emotional labour | Relaxation & holiday challenges |
|---|---|---|---|---|---|
| Charlotte | Rory | √ | | √ | √ |
| Claire | Sean | √ | | | √ |
| Leanne | Owen | √ | √ | √ | √ |
| Lucy | Joe | √ | √ | √ | √ |
| Maxine | Geraint | √ | √ | | √ |
| Rachel | John | √ | √ | √ | √ |

As with all good qualitative research, we acknowledge that alternative readings of the data, and alternative foci of the analysis, could have been offered at this and subsequent stages (Willig, 2013). In the spirit of transparent, reflexive research, we should highlight that the four researchers are able-bodied parents with personal experience of caring for or working with children requiring additional support, their families and community organisations. Therefore, this element of our subjectivities' will undoubtedly have influenced our reading of our participants' voices, a feature of IPA and qualitative research in general (Ashworth, 2003). The final analysis stage then examined the rich description and conceptual interpretations to reveal the life worlds of these individuals and their experiences when on holiday with their children (Smith & Osborn, 2003). In line with our phenomenological position that pays attention to the unique, affective, embodied and interpersonal experiences of our participants, we quote from their anonymised narratives at length in the next section.

## Journeys of mixed emotions

This section of the paper presents and discusses the interviews with the six mothers of children diagnosed with ASDs. The four commonalities and interconnections that emerged from our conversations with them (Table 2) form sub-sections, which are presented and discussed in turn.

### "As long as everything goes according to plan"

Tourism is typically defined in opposition to home and work and as an opportunity for heightened emotional encounters, pleasure and escape from routine (Picard, 2012, Prentice, 2004). It is also frequently characterised as offering transformative experiences (Reisinger, 2013); thus Fullagar's (2011) exploration of travel and psychological distress suggests that tourism presents women with openings to renegotiate their sense of self. Such interpretations only partially align with the experiences of the women in our study. For them, holidays are desirable spaces of family relaxation yet they simultaneously create enormous pressures as the predictability of

the everyday is something to appreciate; they are times of pleasure and yet are riven with anxiety, guilt and stress (Williams & Aaker, 2002). Spontaneity, surprise and cultural immersion are not found in these women's tourism lexicons; instead their language is one of repetition, comfort and familiarity.

Tourism research exploring disability highlights how navigating unfamiliar tourism environments requires significant planning for people with disabilities (Richards et al., 2010), a challenge magnified for families with a child diagnosed with ASD as home life for these families is highly routinized (Meirsschaut et al., 2010). Each mother emphasised the importance of predictability for her child, such as watching the same DVD, playing the same computer games, wearing the same clothes and eating the same food. Claire pronounced herself "*the Queen of lists*" whilst Rachel draws up John's programme: "*Because he can read I do a written schedule for him. He says, 'Read it to me'… He knows his schedule off by heart. I say, 'Today is Friday we are going out with' whoever… he will reel it all off as he has got it so ingrained."* Lucy spoke of how the lived experience of taking a holiday relates to the routines of home and everyday life, which continue during a holiday. Thus, she explained how Joe habitually refuses to eat his evening meal in the house, meaning her family has eaten out every night for eight years, clouding the association between leisure activities, escape and relaxation and everyday routine. This causes her enormous guilt, as it infringes Western notions of family mealtimes as cultural sites for the socialization of children and falls short of the ideal of 'happy' families sitting around the home dining table (Ochs & Shohet, 2006). Instead, their family experience is a rejection of the home environment:

*Food is difficult because he has got this – which sounds terrible I know but we have gone along with it over the years, not that we haven't tried to fight it – he has this rule of eating out every night, so we have to eat out every night and this has been since he was about 11.*

Whereas for many families, an attraction of a holiday is the opportunity for spontaneity, for children diagnosed with ASDs, this can cause extreme distress. In order to mitigate this, their mothers spend weeks planning every aspect of holidays: the destination; the journey; the type and layout of accommodation; meal arrangements and daily activities. This information is then used to prepare the child prior to the holiday. Claire uses day-trips to "*identify the kind of places that Sean likes being in… and so you know if you spend like a week in that place… it's not going to be a total disaster*." Such 'coping strategies' are typically employed by parents of children diagnosed with ASD (Meirsschaut et al., 2010) as the need for routine causes them huge emotional and physical stress. As Leanne, Owen's mother explained:

*You can't spring days on him, you can't say 'right let's get in the car – we are going here.' We have to say three or four weeks in advance, this is the date we are going here, you have to build him up for it… We talk about it, we plan maps of where we are going.*

Claire also discussed such advance preparations:

*It's planned down to what they [Sean & Lauren] are going to eat you know. I mean we will go through the brochures of wherever we are going or you know the town, the tourist information of wherever we are going and down to exactly what meals they are going to have, where they are going to have them, what time you are going to have them… It tends to be a lot of time spent on the internet before you travel.*

Such groundwork requires hours of online and offline research to provide as much clarity as possible for the child. Such research is made more challenging by the tourism industry's failure to fully empower individuals to make informed decisions according to their abilities, requirements and preferences (Buhalis & Michopouloub, 2011), particularly those with cognitive impairments (Hamed, 2013). Recent research (Smith, Amorim, & Umbelino, 2013) concluded that, whilst most major airline carrier websites provide information on mobility (90%) and vision (71%)

services for disabled passengers, only 41% provide information on services for those with cognitive impairments. In addition to psychologically preparing their children for the holiday, the women expend considerable effort ensuring that they are surrounded by familiar possessions whilst away from home. Unlike more familiar conceptualisations of tourism, they are particularly challenged to create order and routine in unfamiliar environments:

*You have to take a TV with a DVD player obviously, but he also has a personal DVD player, so he's got that. He has got his iPod so he takes that and he's got the chargers for it. He'll take his laptop if he can, even though he doesn't have internet for it but he can play games. He'll take his PSP, he'll take all his gadgets, he's got to have them (Leanne).*

For these families, the unpredictability of holidays is their greatest trial, challenging not only their own encounters but the discourse of spontaneity, which is a dominant meta-narrative in tourism stories (Frolilick, 2013). Charlotte and Lucy revealed the impact of unplanned events:

*As long as everything goes according to plan and everything happens as Rory expects it's ok… but if it doesn't go to plan he can be quite destructive or lash out at people, throw his wellies off, you know that sort of thing. Things like… that can sometimes set him off, really upset him and then anything that might happen that he wasn't expecting like if he was expecting to have something to eat at a particular time or if he expected to have chips at the beach, you know that sort of thing (Charlotte).*

*There is no spontaneity, I mean, I can remember when [Joe] was younger him not even letting us buy ice cream, and you have got other small children with you and you're on holiday – it was because it wasn't planned. If we said we are going to go out to buy an ice cream, maybe that would have been alright but we just happened to be wandering around and thought 'oh those ice creams look nice, let's buy one' – an impromptu sort of thing – he said 'no, no, no, no' (Lucy).*

## "It's just too much"

Tourism is a constellation of multi-sensory embodied experiences (Pritchard, 2010). As tourists, we become 'sensory filters,' processing new environmental information and creating sensory interrelationships between body, mind and environment (Middleton, 2011). Whilst many tourists embrace new foods, smells and sights, for children diagnosed with ASD this is extremely challenging as a common trait of ASD is either intensified (hypersensitive) or under-intensified (hypo-sensitive) sensitivity to sights, sounds, smells, touch and tastes (Bellini, 2004). Instead of seeking new sensory experiences, their families manage, minimise and remove new environmental information on holiday. This might suggest a de-sensitising of place and experience but this interpretation is insufficiently nuanced since some destinations offer highly rewarding sensory experiences, although several children did find a change in culture, language, food and built and natural environment just too overwhelming. "*We went to Spain, never again… we had complete meltdowns while we were there. Lauren ended up living on chips and Sean on mashed potato that we had to cook everyday… it was like, this is ridiculous. When you are in a foreign country it gets ten times harder than anywhere else*" (Claire). Similarly, Lucy described a trip to France:

*I can remember… just pulling up at the first town in Normandy – Joe couldn't cope that it was a different type of building. We went to Brittany one year and it was beautiful, beautiful weather as well, but we weren't allowed to set foot on a beach the whole holiday because he wouldn't let us and he's actually not really set foot on sand since, even now. We have also driven around Amsterdam because he wouldn't let us set foot in Amsterdam, we just drove around. We have got lots of stories like that. It's very frustrating going somewhere nice and not being able to actually see it, you know.*

Many parents also talked of their child's sensitivity to noises and crowds: "theme parks are no good…. If you try and do the big complicated stuff, the likes of the Disney World and Alton Towers… there is too much stimulation (Claire). Hotels and restaurants were especially problematic environments:

*Lots of noises, lots of people, big places, too much input, too much audio or visual input really. Going into places that have got a lot of structure like a restaurant that's, you know, got certain standards and so on, it's just too much, you know. Having to sit quietly is really difficult (Lucy).*

As a result, most parents preferred peaceful holiday destinations: "We tend to go out-of-season because it's not busy then. Owen can't cope with the hustle and bustle if there are too many people there, he doesn't like crowds (Leanne). A caravan also meant a familiar environment: "he knows the layout… and when we go, it's familiarity, he doesn't like change (Leanne). Holiday resorts are an attractive option for some parents. Lucy explained how Centre Parcs offer a predictable, controlled, crowd-free environment: "because [Joe] knew exactly what the layout was like, he knew where the pool was, where you can go to eat… it worked fairly well because it's a structured world – it's not like going abroad when it's a big huge unknown." Claire similarly described how the design and entertainment of Haven Holiday Centres made it easier to prepare Sean:

*they are really good with providing information on exactly what is there, exactly how far away everything is and exactly what you can do… and you know should… you need to access the doctor or the dentist… you've got the phone numbers ready there as soon as you arrive.*

The need for tranquillity make airports and aeroplanes highly challenging environments for these children, not only as noisy and frenetic places, but also as sites of surveillance, which require well-ordered behaviour (Morgan & Pritchard, 2005). Some mothers described how heightened airport security made them more anxious about travelling by plane:

*Yes, I would be worried about the security, especially going to America…. Security is so much tighter today isn't it, somebody behaves a little bit oddly… it's that security side of it, or if there was a delay whether [Joe] could cope with that (Lucy).*

Others spoke of the stress caused by delays and long flights:

*I was terrified… because I didn't know how [John] was going to react and he was going through a very anxious patch. I did actually speak to my GP who gave me some… not Diazepam, it was one of the 'pams, so I gave him some of that and he was quite sleepy going. But coming back I did explain he had special needs but then they got it all wrong, instead of putting him on first they put him on last and he was absolutely having a meltdown for about half an hour, and I had already given him the tranquilizers (Rachel).*

## "Feeling guilty but trying to have a happy holiday"

Perhaps one of the greatest trials which the families of children diagnosed with ASD encounter on holiday is prejudice: 'the gaze of discipline and surveillance,' which marginalizes many people with disabilities (Eichhorn, Miller, & Tribe, 2013, p.588). People diagnosed with ASD face intolerance and discrimination because the condition is so misunderstood (National Autistic Society, 2016). Indeed, whilst the public verbalizes positive attitudes towards people with disabilities, their non-verbalized feelings are often negative ones of mistrust and opprobrium (Bizjak et al., 2011, Richards et al., 2010). The problem is particularly acute for those suffering from hidden psychological conditions, and reveals the 'genuine problems and challenges, which… attach to… bodies/psyches that are different from mainstream "norms"' (Butler & Parr, 1999, p.2). Mothers of such children work hard to manage their own, their children's and others' emotions, suppressing their own emotions and internalising the disapproval others, "including strangers who tried (and often failed) to mask their feelings about disabled children" (Runswick-Cole, 2008, p.117). As Lucy said, her greatest concern on holiday was "*judgemental people.*" Rachel explained:

*If the children get sensory overload, they will create a disturbance, not of their own volition. It is just the way they are dealing with the situation. But it means that you do get a lot of funny looks. You can get comments. I have seen nose to nose discussions between a parent and a member of the public, the member of the public challenging the mum saying 'your child shouldn't be playing in that area.'*

People are expected to conform to certain behavioural rules in public. Children diagnosed with ASD are frequently unaware of these social norms and transgression creates a strain on their parents' emotional wellbeing as they face public censure and condemnation (Olsson & Hwang, 2001). Conceptualisations of emotional labour as the management and suppression of feeling (Dieffendorff et al., 2005) aptly describe the stress of parenting:

*I found other people's responses difficult… when [Joe] was little other people would… think 'oh, he's cute', and… then he would do something outrageous and it was 'oh, my God, why can't you control him?' And so then we would feel bad, we would feel guilty and so it was a non-stop rollercoaster really of feeling bad, feeling guilty but trying to have a happy holiday time and being exhausted as well (Lucy).*

*When [Rory] was say 5 or 6, he was slightly too big to be having a toddler tantrum and I used to think that people were looking at me thinking 'what's she doing, why can't she handle that big child' and I carry him a lot 'cause he's not very strong and so I think that other people think 'why is she carrying that huge monster' (Charlotte).*

As a result of such public disapproval, the mothers enjoy holidays with friends and family as a safe and supportive environment for both them and their children. As Lucy commented: *"if Joe's having a meltdown nobody bothers… you're not frowned upon*." These trips alleviated the families' isolation on holiday and provided both the mothers and siblings of children diagnosed with ASD with social opportunities:

*Friends who've got children and who've got enough space and a lot of awareness about what Rory needs… somewhere where he feels safe where it doesn't really matter if something goes wrong, who are understanding people (Charlotte).*

*I went with my sister and her son…. They get on really well and they have fun and they are on the beach and it is just much more fun for her [my daughter]. And I have got my sister for company as well and it is just more fun all round. And I just think if it was just the three of us of course we would enjoy it but it is just more fun… going with other people… I have organised a couple of youth hostelling weekends, which has only been one night away but… it has just been fantastic because you take the kids out for long walks and then there is… about 17 families in the hostel. It is just great (Rachel).*

## "A holiday is never relaxed"

Some studies suggest that the families of children with developmental difficulties find that the required planning and lack of spontaneity makes going on holiday or simply going shopping or out for dinner unappealing (Lerner-Baron, 2007, Mactavish et al., 2007) or even impossible (Myers, Mackintosh, & Goin-Kochel, 2009). Leanne explained that if a restaurant does not get Owen's food order exact, he can '*explode*:'

*You order 'a burger and chips', that's what he wants but it will come out with lettuce on it, and you've already said plain. To him that's the end of the road. You have to keep stipulating it's got to be plain, it's got to be plain …it can be hard, especially if the restaurant is busy.*

Holidays are certainly demanding: *"you're always a bit on edge; you're never completely relaxed"* said Leanne, whilst Rachel commented that:

*I think holidays can be difficult for him because it is a break from his routine, although he will go on holiday but I think obviously it does cause him a certain amount of stress and anxiety… A holiday is never relaxed 100%… he is not at home*

*with all his stuff. And if I am honest I always do prefer being at home with John really.*

It is typical for parents of a child with developmental difficulties to feel guilty about the time and attention they invest in that child (Kim and Lehto, 2013, Meirsschaut et al., 2010) at the expense of their other children's needs (Dodd et al., 2009, Myers et al., 2009). Some mothers resolve this by taking their children on separate holidays, although this increases costs and requires the assistance of another carer. Lucy said: "*last year we did take [Joe] for a week on his own because… the better thing to do is to just focus on him for the week. I think the problem is when it's with two more normal kind of kids with their normal wants and desires and his very rigid way of thinking is just too much*. Whilst Claire commented: "*I took Sean by himself. Not the two of them together. The competing needs are too much, you need to make sure that there is one on one with Sean and then there is someone that has to kind of manage what Lauren does."*

Despite the undoubted challenges, however, all six families had taken a holiday in the last three years; two had travelled extensively in Europe, North Africa and the Americas, although others found it simpler (and perhaps cheaper) to holiday in the UK. As Lucy commented: "*I'm coming round to thinking that we can just do day trips… I've actually heard lots of other… parents say they just don't do holidays, you know not much anyway, it's just too much, too much new input really*." Yet holidays of one type or another remain important for these families. "*I would never not take [John] and I think of course he benefits from the change…*" said Rachel, whilst Charlotte commented that whilst they do cause Rory *"a bit of trouble"*, he *"also gets a lot out of it, so we weigh it up."* Holidays were seen as an expected part of life, so their absence deprived the children of a normal activity (McCabe, 2009). "*We feel guilty if we don't do anything, you know, so every year you think 'oh no, we'd better think of something*'" (Lucy).

The majority of the women are lone parents on tight budgets and yet prioritised a holiday as a break from everyday life (Minnaert, 2014). "*There has to be a holiday in the summer holidays otherwise the whole thing would be a nightmare, so that he [Sean] gets to do different stuff* [and]… *doesn't get bored*" (Claire). Lucy concurred: *"We are getting a break and… getting him out because he would quite happily stay in his little room. Yeah, it's good and the benefits do outweigh the challenges because we are doing something as a family, which is important."* Holidays offered both parents and children pleasure and normality: *"…it can be fun but you have to have a sense of humour… there's always someone who has had a worse experience than you but it can be quite funny… so that can make you feel more normal*" (Lucy). Holidays often simply allowed parents to escape the everyday, Lucy expressed this as: "*I just thought 'I really have to go on holiday… I want to go somewhere sunny, I want to go abroad to a hotel.'*" Above all, these holidays enabled children diagnosed with ASD to broaden their experiences beyond their highly routinized homes into less predictable, busy public spaces (Bellini, 2004). As Lucy said: they have "*to get used to the world out there so they need to go out*"; a sentiment endorsed by Maxine's comment that "*[Geraint] has to live in the real world*" and that travel has afforded him opportunities to face that challenge.

## Conclusion

The mothers in this study navigated the emotional dimensions of their family holidays through a range of strategies. Firstly, they chose destinations and accommodation, which provided detailed information on all aspects of the holiday to prepare their child in advance. Secondly, they selected quiet destinations and accommodation and thirdly, they packed familiar possessions that are important to the child's daily routine and ensured that the accommodation could provide for their child's needs (e.g. Wi-Fi and television). Some mothers also carried an identification card or official document from health or psychology services for their child to deal with public censure if the child's behaviour became too extreme or to confirm his entitlement to preferential attention, such as in theme park queues. Such strategies could be employed by other parents and, if we can appreciate the coping

approaches of parents of children with a disability, these may "provide valuable insight for other families and parents" (Dodd et al., 2009, p.266).

Tourism researchers have much to do to provide such insight and to adequately connect disability, psychological health, distress and the family. This paper has contributed to the unfolding work on this area and, in focusing on developmental difficulties and psychological distress, has widened the scope of an evolving tourism literature exploring wellbeing and psychological health. The area of psychological distress in general, and specifically in tourism, requires much more investigation since studies on disability too often assume that the "obstacles, barriers and constraints which face disabled people are identical across all people with a disability" (Blichfeldt & Nicolaisen, 2011, p.83). Our research has highlighted the unique context of autism and the challenges faced by mothers of children diagnosed with ASD, illuminating their complex care-giving responsibilities and the impact these have on family holiday experiences, including those of siblings. Whilst all the mothers we spoke with identified benefits to holiday-taking, they balance these against the disruption to routines and exposure to sensory-stimulating environments (Bellini, 2004), which make holidays a challenging experience for both them and their child or children. In addition, expectations to conform to certain behaviours and public reactions to their child's behaviour can exacerbate the difficulties of holidaying and make them an isolating experience. In this, families with children diagnosed with ASD share common ground with other groups who experience stressful travel encounters in an unaccommodating world (Small & Harris, 2012). Embodiment, attitude, behaviours and stigma are common across disability groups and tourism's gaze of discipline and surveillance, which causes such stress to many people with disabilities (Eichhorn et al., 2013) and to parents of young children in general, bears further scrutiny.

This leads us to perhaps the most thought-provoking contribution of our study. It illustrates the ways in which tourism experiences are journeys of mixed emotions: far from the binary of pleasure and apprehension, they are indeed multifaceted, complex, interlinked and intersubjective (Williams & Aaker, 2002). We need to know more in this area. We also require further explorations of the multiple, complex and nuanced meanings of 'the holiday'; especially ones that investigate what constitutes a holiday for individuals and families who fall outside of our world's increasingly unforgiving expectations and norms. Conceptualisations of the holiday have focused on its benefits and on its opportunities for positive transformation and renewal (e.g. Reisinger, 2013). Holidays also entail considerable 'work', anxiety and emotional labour (Dieffendorff et al., 2005), especially for care-givers, and particularly as here, for mothers of children diagnosed with ASD. At each stage of the holiday and planning process, the women invested significant time, energy and emotional labour to facilitate trips for their families, in which they themselves experienced both stress *and* escapism. Indeed, different holiday practices (e.g. air transport, visiting resorts) evoke a series of different emotions and emotional labour depending on the life-world of our participants. With the consequences of emotional labour often resulting in psychological distress (Strazdins & Broom, 2004), we suggest more attention should be given to this area in future tourism research, alongside a more comprehensive account of gender and the lived experience of care-givers in the tourism context.

Finally, this study demonstrates a pressing need for research to raise awareness in the tourism industry of the needs of adults caring for children with developmental difficulties and the necessity to link tourism research and practice collaborations with existing mental health, wellbeing, respite care and resilience-building initiatives (e.g. Aumann & Hart, 2009) and legislation (e.g. Public Health Wales, 2016). There is immense potential in this space for innovative partnerships between tourism and therapeutic and clinical health professionals and social and community enterprises and organisations. The field needs much more research to examine stress and anxiety and its physical, psychological and emotional consequences on holiday; for the mothers in this study a messy affective mix of pressure and pleasure is very evident and wider comparisons can be drawn with mothers and fathers with young children, with people with disabilities and with older travellers, etc. Feelings are socio-spatially mediated

and articulated and have the power to expand or contract horizons as "…human lived experience is constructed through emotion" (Pritchard, Morgan, & Ateljevic, 2011, p. 951). The experiences of the mothers here demonstrate how complex and conflicting feelings shape their holiday experiences as they respond, not just to the affective and practical needs of their children but to public expectations. Holidays are emotionally cluttered experiences and researchers in tourism, as in other fields (e.g. health and social policy and health economics), need to explore the role and meaning of such feelings from multiple paradigmatic, theoretical and methodological perspectives.

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Recommended articles

## References

Abbeduto et al., 2004 L. Abbeduto, M.M. Seltzer, P.T. Shattuck, M.K. Krauss, G.I. Orsmond, M.M. Murphy
Psychological well-being and coping in mothers of youths with autism, Down syndrome, of Fragile X Syndrome
Journal on Mental Retardation, 9 (103) (2004), pp. 237-254
Google Scholar ↗

Ambitious About Autism, 2016 Ambitious About Autism (2016). Retrieved October 31 2016 from website <https://www.ambitiousaboutautism.org.uk/understanding-autism/life-at-home/financial-assistance ↗>.
Google Scholar ↗

American Psychiatric Association, 2000 American Psychiatric Association
Diagnostic and statistical manual of mental disorders
Vol. 4, American Psychiatric Association, Washington, DC (2000)
Google Scholar ↗

American Psychiatric Association, 2013 American Psychiatric Association
*Diagnostic and statistical manual of mental disorders* (DSM-5®)
American Psychiatric Pub, Chicago (2013)
Google Scholar ↗

Ashworth, 2003 P. Ashworth
An approach to phenomenological psychology: The contingencies of the lifeworld
Journal of Phenomenological Psychology, 34 (2) (2003), pp. 145-156
View in Scopus ↗ Google Scholar ↗

Aston, 2012 M. Aston
Asperger syndrome in the bedroom
Sexual and Relationship Therapy, 27 (1) (2012), pp. 73-79
Crossref ↗ View in Scopus ↗ Google Scholar ↗

Aumann and Hart, 2009 K. Aumann, A. Hart

Helping children with complex needs bounce back: Resilient therapy for parents and professionals

Jessica Kingsley, London (2009)

Google Scholar ↗

Backer and Schänzel, 2012 E. Backer, H. Schänzel

The stress of the family holiday

H. Schänzel, I. Yeoman, E. Backer (Eds.), Family Tourism: Multidisciplinary Perspectives, Clevedon, Channel View (2012), pp. 105-125

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Bellini, 2004 S. Bellini

Social skill deficits and anxiety in high-functioning adolescents with autism spectrum disorders

Focus on Autism and Other Developmental Disabilities, 19 (2) (2004), pp. 78-86

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Bizjak et al., 2011 B. Bizjak, M. Knezevic, S. Cvetreznik

Attitude change towards guests with disabilities. Reflections from tourism students

Annals of Tourism Research, 38 (3) (2011), pp. 842-857

View PDF View article View in Scopus ↗ Google Scholar ↗

Blichfeldt and Nicolaisen, 2011 B.S. Blichfeldt, J. Nicolaisen

Disabled travel: Not easy but doable

Current Issues in Tourism, 14 (1) (2011), pp. 79-102

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Brewster and Coleyshaw, 2010 S. Brewster, L. Coleyshaw

Participation or exclusion? Perspectives of pupils with autistic spectrum disorders on their participation in leisure activities

Learning Disabilities, 39 (2010), pp. 284-291

Google Scholar ↗

Bromley et al., 2005 J. Bromley, D.J. Hare, K. Davison, E. Emerson

Mothers supporting children with autism spectrum disorders

Autism, 8 (4) (2005), pp. 409-423

Google Scholar ↗

Buhalis and Darcy, 2011 D. Buhalis, S. Darcy (Eds.), Accessible tourism: Concepts and issues, Channel View Publications (2011)

Buhalis and Michopouloub, 2011 D. Buhalis, E. Michopouloub

Information-enabled tourism destination marketing: Addressing the accessibility market

Current Issues in Tourism, 14 (2) (2011), pp. 145-168

Crossref ↗ Google Scholar ↗

Butler and Parr, 1999 R. Butler, H. Parr

New geographies of illness, impairment and disability

R. Butler, H. Parr (Eds.), Mind and body spaces: Geographies of illness, impairment and disability, Routledge, London (1999), pp. 1-25

Google Scholar ↗

Chan and Sigafoos, 2001 J.B. Chan, J. Sigafoos
Does respite care reduce parental stress in families with developmentally disabled children?
Child and Youth Care Forum, 30 (2001), pp. 253-263
View in Scopus ↗ Google Scholar ↗

Chodorow, 1999 N. Chodorow
The Power of Feelings: Personal meaning in psychoanalysis, gender and culture
Yale University Press, New Haven (1999)
Google Scholar ↗

Cromby et al., 2013 J. Cromby, D. Harper, P. Reavey
Psychology, mental health and distress
Palgrave Macmillan (2013)
Google Scholar ↗

Dieffendorff et al., 2005 J.M. Dieffendorff, M.H. Croyle, R.H. Gosserand
The dimensionality and antecedents of emotional labour strategy
Journal of Vocational Behaviour, 66 (2005), pp. 339-357
Google Scholar ↗

Dodd et al., 2009 D.C.H. Dodd, R.B. Zabriskie, M.A. Widmer, D. Eggett
Contributions of family leisure to family functioning among families that include children with developmental disabilities
Journal of Leisure Research, 41 (2) (2009), pp. 261-286
Crossref ↗ View in Scopus ↗ Google Scholar ↗

Dolnicar et al., 2012 S. Dolnicar, V. Yanamandram, K. Cliff
The contribution of vacations to quality of life
Annals of Tourism Research, 39 (1) (2012), pp. 59-83
View PDF View article View in Scopus ↗ Google Scholar ↗

Eatough and Smith, 2006 V. Eatough, J. Smith
I was like a wild wild person: Understanding feelings of anger using interpretative phenomenological analysis
British Journal of Psychology, 97 (2006), pp. 483-498
View in Scopus ↗ Google Scholar ↗

Eatough and Smith, 2007 V. Eatough, J. Smith
Interpretative phenomenological analysis
C. Willig, W. Stainton-Rogers (Eds.), The SAGE handbook of qualitative research in psychology, Sage, London (2007)
Google Scholar ↗

Eichhorn et al., 2013 V. Eichhorn, G. Miller, J. Tribe
Tourism: A site of resistance strategies of individuals with a disability
Annals of Tourism Research, 43 (2013), pp. 578-600
View PDF View article View in Scopus ↗ Google Scholar ↗

Emira and Thompson, 2011 M. Emira, D. Thompson

In the quest for their trust: The perceptions of families on accessing leisure services for disabled children

Leisure Studies, 30 (1) (2011), pp. 33-48

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Ferguson, 2002 P. Ferguson

A place in the family: An historical interpretation of research on parental reactions to having a child with a disability

Journal of Special Education, 36 (2002), pp. 126-147

Google Scholar ↗

Filep, 2012 S. Filep

Positive psychology and tourism

Handbook of Tourism and Quality-of-Life Research, Springer, Netherlands (2012), pp. 31-50

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Foucault, 1988 M. Foucault

Madness and Civilisation: A history of insanity in the age of reason

Vintage, New York (1988)

Google Scholar ↗

Frolilick, 2013 S. Frolilick

Sexuality, Women and Tourism: Cross-border desires through contemporary travel

Routledge, Oxford (2013)

Google Scholar ↗

Fullagar, 2011 S. Fullagar

Travelling with and Beyond Depression: Women's Narratives of Recovery and Identity

D. Buhalis, S. Darcy (Eds.), Accessible Tourism: Concepts and Issues, Channel View Publications, Bristol, UK (2011), pp. 123-137

Google Scholar ↗

García-Villamisar and Dattilo, 2010 D.A. García-Villamisar, J. Dattilo

Effects of a leisure programme on quality of life and stress of individuals with ASD

Journal of Intellectual Disability Research, 54 (7) (2010), pp. 611-619

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Ghaziuddin and Greden, 1998 M. Ghaziuddin, J. Greden

Depression in children with autism/pervasive developmental disorders: A case-control family history study

Journal of Autism and Developmental Disorders, 28 (1998), pp. 111-115

View in Scopus ↗ Google Scholar ↗

Gilhooly, 2002 M. Gilhooly

Ethical Issues in researching later life

A. Jamieson, C. Victor (Eds.), Researching Ageing and Later Life, Open University Press, Buckingham (2002), pp. 211-225

Google Scholar ↗

Gilburt et al., 2008 H. Gilburt, D. Rose, M. Slade

The importance of relationships in mental health care: A qualitative study of service users' experiences of psychiatric hospital admission in the UK
BMC Health Services Research, 8 (1) (2008), p. 92
View in Scopus ↗ Google Scholar ↗

González and Iffland, 2014 A.M. González, C. Iffland
Introduction
Care professions and globalization, Palgrave Macmillan, US (2014), pp. 1-29
View in Scopus ↗ Google Scholar ↗

Gray, 1994 D.E. Gray
Coping with autism: Stresses and strategies
Sociology of Health and Illness, 16 (1994), pp. 275-300
Crossref ↗ View in Scopus ↗ Google Scholar ↗

Gray, 2003 A. Gray
Research practice for cultural studies
Sage, London (2003)
Google Scholar ↗

Greco and Stenner, 2013 M. Greco, P. Stenner
Happiness and the art of life: Diagnosing the psychopolitics of wellbeing
Health, Culture and Society, 5 (1) (2013), pp. 1-18
Google Scholar ↗

Habermas, 1987 J. Habermas
The Philosophical Discourse of Modernity
MA, MIT Books, Cambridge (1987)
Google Scholar ↗

Hamed, 2013 H.M. Hamed
Tourism and autism: An initiative study for how travel companies can plan tourism trips for autistic people
American Journal of Tourism Management, 2 (1) (2013), pp. 1-14
View in Scopus ↗ Google Scholar ↗

Hochhauser and Engel-Yeger, 2010 M. Hochhauser, B. Engel-Yeger
Sensory processing abilities and their relation to participation in leisure activities among children with high-functioning autism spectrum disorder (HFASD)
Research in Autism Spectrum Disorders, 4 (4) (2010), pp. 746-754
View PDF View article View in Scopus ↗ Google Scholar ↗

Holidays Matter, 2017 Holidays Matter. (2017). Website: <http://www.holidaysmatter.org.uk/research/ ↗> accessed 1 April 2017.
Google Scholar ↗

Hosany, 2011 S. Hosany
Appraisal determinants of tourist emotional responses
Journal of Travel Research (2011)
May, 1-12

Google Scholar ↗

Kim and Lehto, 2013 S. Kim, X.Y. Lehto

Travel by families with children possessing disabilities: Motives and activities

Tourism Management, 37 (2013), pp. 13-24

View PDF View article Google Scholar ↗

Lawson et al., 2014 J. Lawson, F. Reynolds, W. Bryant, L. Wilson

'It's like having a day of freedom, a day off from being ill': Exploring the experiences of people living with mental health problems who attend a community-based arts project, using interpretative phenomenological analysis

Journal of Health Psychology, 19 (6) (2014), pp. 765-777

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Lerner-Baron, 2007 S. Lerner-Baron

Family vacations and leisure time: Considerations and accommodations

R.L. Gabriels, D.E. Hill (Eds.), Growing up with autism: Working with school-age children and adolescents, New York, Guildford Press (2007), pp. 183-201

Google Scholar ↗

Liu, 2016 Liu, H. (2016). The role of negative emotions in shaping tourist experiences. In *Tourism travel and research association: advancing tourism research globally.* Paper 13. Website: <http://scholarworks.umass.edu/ttra/2016/Grad_Student_Workshop/13 ↗>.

Google Scholar ↗

Lutz, 2001 C. Lutz

Emotions and feminist theories

(2001)

Google Scholar ↗

Macbeth, 2010 J.L. Macbeth

Reflecting on disability research in sport and leisure settings

Leisure Studies, 29 (4) (2010), pp. 477-485

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Mactavish et al., 2007 J.B. Mactavish, K.J. MacKay, Y. Iwasaki, D. Betteridge

Family caregivers of individuals with intellectual disability: Perspectives on life quality and the role of vacations

Journal of Leisure Research, 39 (1) (2007), pp. 127-155

Crossref ↗ View in Scopus ↗ Google Scholar ↗

McCabe, 2009 S. McCabe

Who needs a holiday? Evaluating social tourism

Annals of Tourism Research, 36 (4) (2009), pp. 667-688

View PDF View article View in Scopus ↗ Google Scholar ↗

McCabe and Johnson, 2013 S. McCabe, S. Johnson

The happiness factor in tourism: Subjective well-being and social tourism

Annals of Tourism Research, 41 (2013), pp. 42-65

View PDF View article View in Scopus ↗ Google Scholar ↗

McGinnis et al., 2014 K. McGinnis, A. Fullerton, J. Rake

Parent perspectives on leisure and recreation

P. Coyne, A. Fullerton (Eds.), (2nd edition) Supporting individuals with autism spectrum disorder in recreation, Sagamore Publishing, Urbana (2014), pp. 45-62

Google Scholar ↗

Meirsschaut et al., 2010 M. Meirsschaut, H. Roeyers, P. Warreyn

Parenting in families with a child with autism spectrum disorder and a typically developing child: Mothers experiences and cognitions

Research in Autism Spectrum Disorders, 4 (2010), pp. 661-669

View PDF View article View in Scopus ↗ Google Scholar ↗

Middleton, 2011 M.C. Middleton

Exploring space, the senses and sensitivities: Spatial knowing

R. Sharply, P. Stone (Eds.), Tourist Experiences: Contemporary Perspectives, Routledge, Oxford (2011)

Google Scholar ↗

Minnaert, 2014 L. Minnaert

Social tourism participation: The role of tourism inexperience and uncertainty

Tourism Management, 40 (2014), pp. 282-289

View PDF View article View in Scopus ↗ Google Scholar ↗

Morgan and Pritchard, 2005 N. Morgan, A. Pritchard

Security and social sorting

Tourist Studies, 5 (2) (2005), pp. 115-132

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Morgan et al., 2015 N. Morgan, A. Pritchard, D. Sedgley

Social tourism and well-being in later life

Annals of Tourism Research, 52 (2015), pp. 1-15

View PDF View article View in Scopus ↗ Google Scholar ↗

Myers et al., 2009 B.J. Myers, V.H. Mackintosh, R.P. Goin-Kochel

"My greatest joy and my greatest heart ache:" Parents' own words on how having a child in the autism spectrum has affected their lives and their families' lives

Research in Autism Spectrum Disorders, 3 (2009), pp. 670-684

View PDF View article View in Scopus ↗ Google Scholar ↗

Nind and Seale, 2009 M. Nind, J. Seale

Concepts of access for people with learning difficulties: Towards a shared understanding

Disability and Society, 24 (3) (2009), pp. 273-287

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Ochs and Shohet, 2006 E. Ochs, M. Shohet

The cultural structuring of mealtime socialization

New Directions for Child and Adolescent Development, 111 (2006), pp. 35-49

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Olsson and Hwang, 2001 M.B. Olsson, C.P. Hwang

Depression in mothers and fathers of children with intellectual disabilities
Journal of Intellectual Disability Research, 45 (2001), pp. 535-543
View in Scopus ↗ Google Scholar ↗

Orsmond et al., 2013 G.I. Orsmond, P.T. Shattuck, B.P. Cooper, P.R. Sterzing, K.A. Anderson
Social participation among young adults with an autism spectrum disorder
Journal of Autism and Developmental Disorders, 43 (11) (2013), pp. 2710-2719
Crossref ↗ View in Scopus ↗ Google Scholar ↗

Parker, 2004 I. Parker
Criteria for qualitative research in psychology
Qualitative research in psychology, 1 (2) (2004), pp. 95-106
View in Scopus ↗ Google Scholar ↗

Pernecky and Jamal, 2010 T. Pernecky, T. Jamal
(Hermeneutic) phenomenology in tourism studies
Annals of Tourism Research, 37 (4) (2010), pp. 1055-1075
View PDF View article View in Scopus ↗ Google Scholar ↗

Petrick and Huether, 2013 J.F. Petrick, D. Huether
Is travel better than chocolate and wine?
Journal of Travel Research, 52 (2013), pp. 705-708
Crossref ↗ View in Scopus ↗ Google Scholar ↗

Picard, 2012 D. Picard
Tourism, awe and inner journeys
D. Picard, M. Robinson (Eds.), Emotion in motion: Tourism, affect and transformation, Ashgate, Farnham (2012), pp. 1-20
Crossref ↗ Google Scholar ↗

Picard and Robinson, 2012 D. Picard, M. Robinson (Eds.), Emotion in motion: Tourism, affect and transformation, Ashgate, Farnham (2012)

Poria and Timothy, 2014 Y. Poria, D. Timothy
Where are the children in tourism research?
Annals of Tourism Research, 47 (2014), pp. 93-95
View PDF View article View in Scopus ↗ Google Scholar ↗

Predescu and Şipoş, 2013 E. Predescu, R. Şipoş
Cognitive coping strategies, emotional distress and quality of life in mothers of children with ASD and ADHD—A comparative study in a Romanian population sample
Open Journal of Psychiatry, 3 (2013), pp. 11-17
Crossref ↗ Google Scholar ↗

Prentice, 2004 R. Prentice
Tourist motivation and typologies
A. Lew, C.M. Hall, A.M. Williams (Eds.), A Companion to Tourism, Blackwell, Oxford (2004), pp. 261-279
View in Scopus ↗ Google Scholar ↗

Pridgeon and Grogan, 2012 L. Pridgeon, S. Grogan

Understanding exercise adherence and dropout: And interpretative phenomenological analysis of men and women's accounts of gym attendance and non-attendance

Research in Sport, Exercise and Health, 4 (3) (2012), pp. 382-399

View in Scopus ↗ Google Scholar ↗

Priestley et al., 2010 M. Priestley, L. Waddington, C. Bessozi

Towards an agenda for disability research in Europe: Learning from disabled people's organizations

*Disability and Society*., 25 (6) (2010), pp. 731-746

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Pritchard et al., 2011 A. Pritchard, N. Morgan, I. Ateljevic

Hopeful tourism: A new transformative perspective

Annals of Tourism Research, 38 (3) (2011), pp. 941-963

View PDF View article View in Scopus ↗ Google Scholar ↗

Pritchard, 2010 A. Pritchard, N. Morgan

Tourist bodies, transformation and sensuality

S. Wagg, P. Brabam (Eds.), The new politics of pleasure and leisure, Palgrave, London (2010), pp. 153-168

View in Scopus ↗ Google Scholar ↗

Public Health Wales, 2016 Public Health Wales (2016). Measuring the Health and Wellbeing of a Nation, available from: http://gov.wales/topics/health/publications/health/reports/public-health-framework?lang=en ↗ accessed 7 April 2017.

Google Scholar ↗

Ray, 2007 R.E. Ray

Narratives as agents of social change: A new direction for narrative gerontologists

M. Bernard, T. Scharf (Eds.), Critical perspectives on ageing societies, The Policy Press, Bristol (2007), pp. 59-72

View in Scopus ↗ Google Scholar ↗

Reid et al., 2005 K. Reid, P. Flowers, M. Larkin

Exploring the lived experience

The Psychologist, 18 (2005), pp. 20-23

View in Scopus ↗ Google Scholar ↗

Reisinger, 2013 Y. Reisinger (Ed.), Transformative tourism: tourist perspectives, Cabi, Oxford (2013)

Richards et al., 2010 V. Richards, A. Pritchard, N. Morgan

(Re)Envisioning Tourism and Visual Impairment

The Annals of Tourism Research, 37 (4) (2010), pp. 1097-1116

View PDF View article View in Scopus ↗ Google Scholar ↗

Runswick-Cole, 2008 K. Runswick-Cole

Between a rock and a hard place: Parents' attitudes to the inclusion of children with special educational needs in mainstream and special schools

British Journal of Special Education, 35 (3) (2008), pp. 173-180

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Schänzel et al., 2012 H. Schänzel, I. Yeoman, E. Backer (Eds.), Family tourism: multidisciplinary perspectives, Channel View, Clevedon (2012)

Scholl et al., 2003 K. Scholl, L. McAvoy, J. Rynders, J. Smith
The influence of inclusive outdoor recreation experience on families that have a child with a disability
Therapeutic Recreation Journal, 37 (l) (2003), pp. 38-57
Google Scholar ↗

Schweitzer et al., 2012 R. Schweitzer, M. Griffiths, P. Yates
Parental experience of childhood cancer using Interpretative Phenomenological Analysis
Psychology & Health, 27 (6) (2012), pp. 704-720
View in Scopus ↗ Google Scholar ↗

Sieber, 2013 J.E. Sieber, M.B. Tolich
Planning ethically responsible research
Sage, California (2013)
Google Scholar ↗

Small and Harris, 2012 J. Small, C. Harris
Tourism and obesity: Rights and responsibilities
Annals of Tourism Research, 39 (2) (2012), pp. 686-707
View PDF View article View in Scopus ↗ Google Scholar ↗

Smith et al., 2013 L. Smith, M. Amorim, J. Umbelino
Accessible tourism and disability service information provided on leading airline websites: A content analysis
International Journal for Responsible Tourism, 2 (4) (2013), pp. 7-23
Crossref ↗ View in Scopus ↗ Google Scholar ↗

Smith et al., 2009 J. Smith, P. Flowers, M. Larkin
Interpretative phenomenological analysis: Theory, method and research
Sage, London (2009)
Google Scholar ↗

Smith et al., 1997 J. Smith, P. Flowers, M. Osborn
Interpretative phenomenological analysis and the psychology of health and illness
Material discourses of health and illness (1997), pp. 68-91
Google Scholar ↗

Smith and Osborn, 2003 J. Smith, M. Osborn
Interpretive phenomenological analysis
J.A. Smith (Ed.), Qualitative psychology: A practical guide to research methods, Sage, London (2003), pp. 51-80
Google Scholar ↗

Sterling et al., 2015 L. Sterling, P. Renno, E.A. Storch, J. Ehrenreich-May, A.B. Lewin, E. Arnold, ..., J. Wood
Validity of the revised children's anxiety and depression scale for youth with autism spectrum disorders
Autism, 19 (1) (2015), pp. 113-117

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Strazdins and Broom, 2004 L. Strazdins, D. Broom

Acts of love (and work): Gender imbalance in emotional work and women's psychology distress

Journal of Family Issues, 25 (3) (2004), pp. 356-378

View in Scopus ↗ Google Scholar ↗

Szasz, 1974 T.S. Szasz

The Myth of Mental Illness: Foundations of a theory of a personal conduct

(revised ed.), Perennial Books, New York (1974)

Google Scholar ↗

Tarleton and Macaulay, 2003 B. Tarleton, F. Macaulay

Better for the break? Short break services for children and teenagers with autistic spectrum disorders and their families

Shared Care Network, York (2003)

Google Scholar ↗

The National Autistic Society What is Autism?, 2016 The National Autistic Society What is Autism? (2016). <http://www.autism.org.uk/about-autism/autism-and-asperger-syndrome-an-introduction/what-is-autism.aspx ↗>.

Google Scholar ↗

Walker et al., 2015 C. Walker, P. Hanna, A. Hart

Psychology without Psy professionals: exploring an unemployed centre families project as a mental health resource

Journal of Community & Applied Social Psychology, 25 (6) (2015), pp. 502-514

Crossref ↗ View in Scopus ↗ Google Scholar ↗

Walker et al., 2017 C. Walker, A. Hart, P. Hanna

Building a new community psychology of mental health: spaces, places, people and activities

Palgrave Macmillan, London (2017)

Google Scholar ↗

Williams and Aaker, 2002 P. Williams, J.L. Aaker

Can mixed emotions peacefully co-exist?

Journal of Consumer Research, 28 (4) (2002), pp. 636-649

View in Scopus ↗ Google Scholar ↗

Willig, 2013 C. Willig

Introducing qualitative research in psychology

McGraw-Hill Education, UK (2013)

Google Scholar ↗

Yau et al., 2004 M.K. Yau, B. McKercher, T.L. Packer

Travelling with a disability: More than an access issue

Annals of Tourism Research, 31 (4) (2004), pp. 946-960

View PDF View article View in Scopus ↗ Google Scholar ↗

Yoo et al., 2016 H. Yoo, A. McIntosh, C. Cockburn-Wootten

Time for me and time for us: Conference travel as alternative family leisure
Annals of Leisure Research, 19 (4) (2016), pp. 444-460
Crossref ↗ View in Scopus ↗ Google Scholar ↗

Zabriskie and McCormick, 2003 R.B. Zabriskie, B.P. McCormick
Parent and child perspectives of family leisure involvement and satisfaction with family life
Journal of Leisure Research, 35 (2) (2003), pp. 163-189
Crossref ↗ View in Scopus ↗ Google Scholar ↗

## Cited by (76)

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# Hans Asperger, National Socialism, and "race hygiene" in Nazi-era Vienna

Herwig Czech

## Abstract

**Background:** Hans Asperger (1906–1980) first designated a group of children with distinct psychological characteristics as 'autistic psychopaths' in 1938, several years before Leo Kanner's famous 1943 paper on autism. In 1944, Asperger published a comprehensive study on the topic (submitted to Vienna University in 1942 as his postdoctoral thesis), which would only find international acknowledgement in the 1980s. From then on, the eponym 'Asperger's syndrome' increasingly gained currency in recognition of his outstanding contribution to the conceptualization of the condition. At the time, the fact that Asperger had spent pivotal years of his career in Nazi Vienna caused some controversy regarding his potential ties to National Socialism and its race hygiene policies. Documentary evidence was scarce, however, and over time a narrative of Asperger as an active opponent of National Socialism took hold. The main goal of this paper is to re-evaluate this narrative, which is based to a large extent on statements made by Asperger himself and on a small segment of his published work.

**Methods:** Drawing on a vast array of contemporary publications and previously unexplored archival documents (including Asperger's personnel files and the clinical assessments he wrote on his patients), this paper offers a critical examination of Asperger's life, politics, and career before and during the Nazi period in Austria.

**Results:** Asperger managed to accommodate himself to the Nazi regime and was rewarded for his affirmations of loyalty with career opportunities. He joined several organizations affiliated with the NSDAP (although not the Nazi party itself), publicly legitimized race hygiene policies including forced sterilizations and, on several occasions, actively cooperated with the child 'euthanasia' program. The language he employed to diagnose his patients was often remarkably harsh (even in comparison with assessments written by the staff at Vienna's notorious Spiegelgrund 'euthanasia' institution), belying the notion that he tried to protect the children under his care by embellishing their diagnoses.

**Conclusion:** The narrative of Asperger as a principled opponent of National Socialism and a courageous defender of his patients against Nazi 'euthanasia' and other race hygiene measures does not hold up in the face of the historical evidence. What emerges is a much more problematic role played by this pioneer of autism research. Future use of the eponym should reflect the troubling context of its origins in Nazi-era Vienna.

**Keywords:** Hans Asperger, Biography, Asperger's syndrome, Therapeutic pedagogy (Heilpädagogik), Autism, World War II, National Socialism, History, Vienna/Austria, Child psychiatry, Pediatrics

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**Fig. 1** Portrait of Hans Asperger (1906–1980) from his personnel file, ca. 1940 (WStLA, 1.3.2.202.A5, Personalakt)

## Background

Despite the international prominence of Hans Asperger (Fig. 1) as one of the pioneers in the history of autism and as the namesake of Asperger's syndrome, factual knowledge about his life and career is limited. This is surprising given that his successful career in Nazi-controlled Vienna raises questions concerning his potential political or professional involvement with National Socialism. The existing literature on the topic has tended to downplay or overlook any such involvement, or even to postulate that Asperger took a position of active resistance. With few exceptions, however, these judgments are based on a limited number of sources—a few passages from Asperger's Nazi-era publications, particularly a 1938 lecture containing the first references to "autistic psychopaths" [1] and his 1944 postdoctoral thesis [2],[1] and statements by Asperger himself or by persons close to him from after 1945 (most importantly, a 1974 radio interview [3]).

The goals of this paper, based on comprehensive archival research, are to provide an account of Asperger's life and career during National Socialism and to submit prevailing narratives to the test of historical evidence. The picture that emerges is that of a man who managed to further his career under the Nazi regime, despite his apparent political and ideological distance from it. This was not least due to opportunities created by the political upheaval after Austria's *Anschluss* (annexation) to Germany in 1938, including the expulsion of Jewish physicians from the profession. (On the expulsion of Jews from the university clinic, which began before 1938, see [4] and below). As I will demonstrate, this career was made possible by Asperger's political concessions to the Nazi ideology and involved a certain degree of collaboration with the race hygiene apparatus, including the Nazis' child "euthanasia" program.

The analysis of patient case files written by Asperger and his colleagues from 1928 to 1944—a crucial set of documents mistakenly assumed to have been destroyed in World War II—sheds new light on the fate of Asperger's patients during the Nazi period (on Asperger's case files, see the "Asperger's Jewish patients" to "Asperger's diagnoses compared to those at Spiegelgrund" sections).

A review of the existing literature on Asperger's life and career shows the current fault lines in the narrative of his Nazi-era trajectory. Lorna Wing's seminal paper from 1981 which popularized the term "Asperger's syndrome" made no reference to the historical context of Asperger's work [5]. Similarly, Uta Frith's 1991 book chapter "Asperger and his syndrome" barely mentioned National Socialism in the few pages dedicated to Asperger's professional and personal life in Vienna during the 1930s and 1940s. Based on her reading of Asperger's 1944 article on "autistic psychopaths," she stated that "Asperger clearly cared about these children, who in most people's eyes were simply obnoxious brats" ([6]: 7). Her text established what has become the most common view of Asperger's behavior during the Nazi period, namely that he defended his patients against the Nazi regime at great personal risk: "Far from despising the misfits, he devoted himself to their cause—and this at a time when allegiance to misfits was nothing less than dangerous." She defended Asperger against accusations of "allegiance to Nazi ideology" that had been raised because of his early commitment to the German Youth Movement ([6]: 10). Eric Schopler, one of Asperger's fiercest critics, was one of those who explicitly drew this connection, but apparently had no evidence to back his accusations.[2] When Frith published an annotated translation of Asperger's 1944 paper, her sole comment on its origin in Nazi-era Vienna was that it contained only one reference to "fascist ideology at a time when it would have been opportune to make many more such references" ([7]: 86).[3]

Brita Schirmer published the first paper explicitly addressing Asperger's role during National Socialism [8]; her stance is already indicated in the subtitle: "Hans Asperger's defense of the 'autistic psychopaths' against Nazi eugenics." Her argument was based on Asperger's 1938 paper "The mentally abnormal child" [1] from which she drew conclusions similar to Uta Frith's. A 2003 paper by

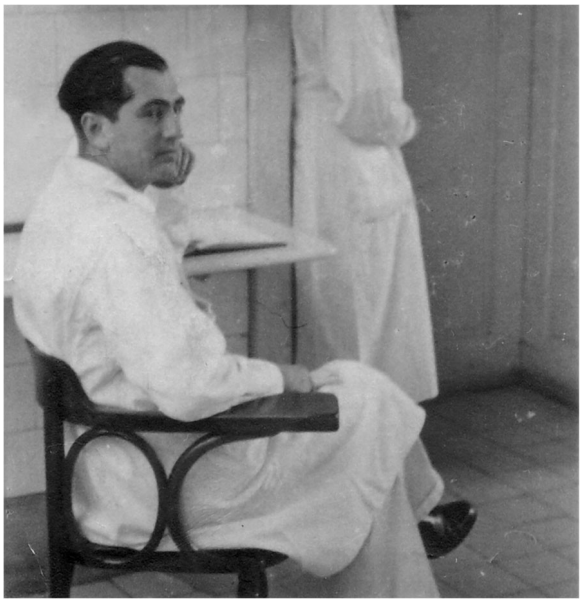


**Fig. 2** Asperger's colleague Erwin Jekelius, who during the Nazi period became director of the Spiegelgrund child "euthanasia" clinic and coordinator of the "T4" killing program in Vienna (DÖW)

Helmut Gröger, also in German, examined possible influences of Nazi race ideology on Asperger's published work. Citing no less than 23 of Asperger's publications in the years from 1937 to 1974, Gröger concluded that Asperger generally "avoided topics touching race ideology" and maintained a "critical, differentiated attitude" ([9]: 204, 206).[4] In line with the other authors cited here, Gröger credited Asperger with advocating on behalf of his patients, defending their value as human beings, and calling for loving care for each of them ([9]: 204–5, 210).

Interestingly, Gröger mentioned—without discussing the implications—that Asperger's name "appears" in the files of a 3-year-old girl with mental deficiencies who was sent to the child "euthanasia" clinic Am Spiegelgrund in Vienna ([9]: 209). As I demonstrate in the "Limits of 'educability': Asperger and the Spiegelgrund 'euthanasia' facility" section, Herta Schreiber, the girl in question, was in fact transferred to the Spiegelgrund facility on Asperger's authority and died there 2 months later.

From 2005, cracks started to appear in the predominantly apologetic narrative of Asperger's role during National Socialism. Michael Hubenstorf, in an extensive book chapter on the history of Vienna University's Pediatric Clinic where Asperger worked, presented a host of previously unknown aspects of Asperger's career. The close ties between the pediatric clinic and the "euthanasia" facility Am Spiegelgrund, including connections between Asperger and Spiegelgrund's director Erwin Jekelius (1905–1952, Fig. 2), are of particular importance in the context of this paper ([4]: 171–4). Hubenstorf also documented the relationship between Asperger and his mentor Franz Hamburger, a fervent Nazi ideologue ([4]: 93, 118–9, 126–35, 191–3; see the "'The best service to our *Volk*': Asperger and Nazi race hygiene" to "Asperger's diagnoses compared to those at Spiegelgrund" sections). Based among other sources on Hubenstorf's work, on personal documents, and on her own memories, Maria Asperger Felder published a nuanced portrait of her father, not shying away from his possible involvement in National Socialism—without, however, adding significant new facts [10]. Citing Schirmer [8], Daniel Kondziella in a 2009 paper on 30 neurological eponyms associated with the Nazi era included Asperger among the "physicians with ambivalent roles" because he had "been accused on uncertain grounds of harboring sympathy for Nazi politics" (while he had also "cautiously defended mentally disabled children") ([11]: 59).

Some preliminary results of my own research were presented at a 2010 symposium marking the 30th anniversary of Asperger's death and published in the conference proceedings ([12]; see also [13]: 201, 206, 217). In the same volume, Helmut Gröger argued along the lines of his above-cited 2003 article [14], while Roxane Sousek hinted at problematic aspects of Asperger's activities ([15]: 19). Ina Friedmann in her recent work on the topic also refrained from presenting an idealized picture of Asperger and the Austrian school of Heilpädagogik (therapeutic pedagogy) [16–18].

While evidence for problematic aspects of Asperger's career have thus begun to emerge in German-language publications, authors in the English-speaking world often continued to perpetuate a predominantly apologetic narrative based on the limited range of sources available to them. In 2007, a letter to the editors in one of the leading autism journals claimed that Asperger "tried to protect these children from being sent to concentration camps during World War II," a statement that is confusing at best, since child "euthanasia" had nothing to do with concentration camps ([19]: 2020).[5]

Adam Feinstein's 2010 book on the history of autism illustrated the increasing gap between the English- and German-language literature. The author qualified the affirmative references to Nazi ideology in some of Asperger's papers as a deliberate tactic to deceive "the Nazis" about his true intentions, namely to protect his patients. A cornerstone of his argument is Asperger's claim that he had faced arrest by the Gestapo for his stance against Nazi race hygiene policies ([20]: 15–18). Steve Silberman's 2015 book *NeuroTribes*, written for a general audience, also pushed the narrative of Asperger as an Oskar Schindler-like protector of children with autism. One of Asperger's alleged strategies was that he "intentionally highlighted his 'most promising' cases to deflect the wrath of the Nazis" ([21]: 216). As far as Asperger's conduct during National Socialism is concerned, Silberman's argument (and the

evidence presented) is very similar to Adam Feinstein's and some of the other texts already mentioned ([21]: 108–9, 128–9, 137–8). The "'The best service to our *Volk*': Asperger and Nazi race hygiene" section is dedicated to a discussion of these and similar claims.

One of Silberman's original findings regards the question of Asperger's and Kanner's respective roles in the "discovery" of autism. Georg Frankl (1897–1976), a close collaborator of Asperger's, left Vienna for the USA in 1937, going on to work with Leo Kanner ([21]: especially 167–8, 180). This information revived earlier suspicions that Kanner had known about Asperger's work before his own publications on the topic, based on the fact that Asperger had already mentioned autistic psychopathy in a 1938 publication [1], years before his more widely known postdoctoral thesis [2], and that the Austrian-born Kanner had access to German-language medical publications [22, 23].[6]

The latest addition to a growing body of literature on the subject, John Donvan and Caren Zucker's *In a Different Key* is the first English-language publication to break with the narrative of Asperger as an active opponent to Nazi race hygiene and to introduce critical, hitherto unknown elements into the debate on his Nazi-era trajectory. This shift is mainly based on sources that I shared with the authors, which are presented in detail below ([24]: 316–41).[7]

Although the precise nature of Asperger's relationship to National Socialism has been the elephant in the room for some time now, the necessary questions have so far evidently either not been asked at all, or they have been answered on the basis of a too limited number of sources. In what follows, I will present a more multifaceted picture both of Asperger's Nazi-era career and of the historical context of the inception of autism, based on an extensive body of sources, many of which are presented here for the first time.

## Methods

This paper is based on a qualitative analysis of documents relating to Hans Asperger's life, work, and political orientation from archives in Austria and (to a lesser degree) Germany, and of his own publications, most of which have not previously been examined with regard to the questions raised here. The documentary sources include, among others, Asperger's personnel files, political assessments by Nazi authorities, and medical case records from various institutions, most importantly from the child "euthanasia" clinic Am Spiegelgrund and Asperger's Heilpädagogik ward. Despite claims to the contrary ([21]: 140, [25]: 37, [26]: 22), these records were not destroyed in the war. Apart from a gap between 1945 and 1969, the files (which go back as far as 1912) are today kept in the Municipal and Provincial Archives of Vienna.[8] They pertain to those children admitted as inpatients; the documentation on the much larger number of children examined at the outpatient clinic is lost. From the critical years of 1938 to 1944, 1012 case files survive. Between 1940 and 1944, 62.7% of patients admitted were boys and 37.3% girls. Apart from a number of recurring elements (such as admission forms), the files vary in content and scope. It cannot be ruled out that single documents or whole files have been lost or purged. These records are analyzed here for the first time.

## Results and discussion

### Asperger's career before 1938

In 1911, Erwin Lazar (1877–1932) established the *Heilpädagogische Station* (Therapeutic Pedagogy Ward) at the Vienna University Children's Clinic (part of the city's general hospital), which had achieved international renown under its director Clemens von Pirquet (1874–1929) ([27]: 320, [28]: 161).[9] Lazar regarded Heilpädagogik as a direct descendant of psychiatry, although the classic psychiatric illnesses such as psychoses were rarely diagnosed in the children he treated. Instead, he diagnosed the vast majority of his patients with "psychopathy" or mental "imbalance." Most of the ward's patients—in 1925, he mentioned a figure of 5000 annually—were diagnosed at the outpatient clinic. Only a relatively small number—complicated cases or cases of special clinical interest—was admitted over longer periods. Many children were referred by welfare institutions, the police, or the courts. Under Lazar, Heilpädagogik took inspiration from a variety of concepts, including Cesare Lombroso's criminal biology, Ernst Kretschmer's constitutional types, and Sigmund Freud's psychoanalysis [28].

Asperger joined the children's clinic in May 1931 under Pirquet's successor Franz Hamburger (1874–1954). In 1932, he started working at the clinic's Heilpädagogik ward as an "auxiliary physician" (*Hilfsarzt*). In May 1935, he took charge of the ward and reached the position of an assistant.[10] Asperger had not obtained his specialist doctor qualification in pediatrics and had published only a single work in Heilpädagogik (on bed-wetting) [29].[11] This raises the question why Asperger's colleague Georg Frankl was not promoted to the position—Frankl was 9 years older and had been working at the ward since 1927.[12] Two years after Asperger's promotion, Frankl emigrated to the USA, where he joined Leo Kanner at Johns Hopkins ([21]: 122).[13] Another highly qualified Jewish employee, the psychologist Anni Weiss (1897–1991), who later married Frankl, had already left Austria in 1935 ([21]: 122).[14]

Austrian universities were sites of virulent anti-Jewish agitation at the time (see [30]), which almost certainly was a factor in their decision to leave. Jewish doctors faced increasing difficulties in securing university positions, with some clinics and departments practically

closed to Jews ([31]: 312). With Hamburger's appointment as chair in 1930, the children's clinic became a flagship of anti-Jewish policies long before the Nazi takeover ([4]: 69, 112). Regarding Anni Weiss and Valerie Bruck (1894–1961), Asperger's immediate predecessor as head of the Heilpädagogik ward, hostility towards working women also played a role: The Austrofascist regime (1933–1938) sought to push women out of the labor market, a stance shared by Nazi ideologues such as Hamburger ([16]: 181).[15]

After Pirquet's sudden death in 1929, Hamburger introduced sweeping changes at the clinic. Pirquet's former collaborators, many of them Jewish, were replaced. The political orientation of Hamburger's assistants is illustrated by the fact that of those who attained the highest academic qualification (*Habilitation*), all but one were dismissed in 1945 as Nazis—the exception being Hans Asperger ([27]: 320).[16] Among Hamburger's recruits was Erwin Jekelius, who later became responsible for the deaths of thousands of psychiatric patients and mentally disabled children. He remained at the clinic from August 1933 to February 1936, spending part of this time at the Heilpädagogik ward.[17] Another result of Hamburger's influence was a sharp decline in scientific standards and output ([4]: 87–94, 104, 117–8).

Hamburger and Jekelius were not the only fervent Nazis with whom Asperger had close professional contact during his early career. In 1932, he co-authored a paper with Erwin Risak (1899–1968), who had been his colleague at the university's III. Medical Clinic for a few weeks in 1931 [32].[18] Under Franz Chvostek junior (1864–1944), this clinic became known as a hotbed of Pan-German nationalist and Nazi agitation. Risak became an assistant to Hans Eppinger junior (1879–1946), director of the I. Medical Clinic, who was later involved in the Dachau seawater experiments.[19] Following the Anschluss, Risak became one of the figureheads of the Nazi Party (NSDAP) in the Vienna Medical Faculty, along with figures such as Hamburger, the anatomist Eduard Pernkopf (1888–1955), and others ([4]: 129).

Whatever the specific motivations for Hamburger's decision to appoint Asperger as the head of the Heilpädagogik ward in 1935, Asperger's promotion was aided by the anti-Jewish and misogynist tendencies then dominating Austria's social and political life. Although Asperger did not join the Nazis, due to his Pan-Germanic, *völkisch* orientation, he shared considerable ideological common ground with Hamburger and his network, allowing him to blend in without apparent frictions. When anti-Jewish persecution became state policy after the Anschluss, 65% of Viennese physicians were classed as Jewish according to the Nuremberg Laws, including 77 pediatricians (70% of the specialists in this field). Tellingly, in 1938, not one Jewish pediatrician who had attained a *Habilitation* was working in Hamburger's clinic ([4]: 71–3, 112).[20]

Asperger had the unreserved support of Franz Hamburger, even if he did not belong to his mentor's circle of underground Nazi activists. At a young age, and in an environment marked by political strife and a difficult labor market, he rose to Austria's most prominent position in the expanding field of Heilpädagogik, which would soon be forced to find its place within the new order of the Nazi state.

## Asperger's political background before 1938

In order to understand how Asperger positioned himself vis-à-vis the Nazi regime after March 1938, it is first necessary to examine his political orientation during his formative years, when there was still a spectrum of political options to choose from. This will help explain why Asperger in 1938 found enough common ground with National Socialism to establish himself as a credible fellow traveler in the eyes of the party, without directly embracing National Socialism.

In Asperger's own words, his formative experience within the polarized political landscape of interwar Austria was membership in the so-called *Bund Neuland*, a Catholic youth organization focused on outdoor activities, with roots in the predominantly *völkisch*-nationalist *Wandervogel* and the German Youth Movement ([4]: 192–3). In 1914, 92% of the Wandervogel chapters (in Germany and Austria) had no Jewish members, due mostly to formal anti-Jewish regulations ([33]: 92–4).

Founded in 1921, the Austria-based Bund was a split-off from the Christian-German Student Union (CDSB) but stressed its affinities with the German Youth Movement as represented by the "Meißner formula," which Asperger cited in 1974 as a guiding principle in his life [3].[21] After World War I, the CDSB had become rife with aggressive anti-Jewish propaganda, including calls to boycott Jewish businesses ([33]: 175–81), tendencies which the Bund shared.

The Bund's intellectual influence was greater than its approximately 2000 strong membership would suggest ([34]: 92).[22] It defined itself as Christian, Catholic, and Pan-German, and in sharp opposition to everything perceived as Marxist-leftist, liberal, or modern, which included parliamentary democracy.[23] There was a degree of political diversity, and the Bund is sometimes classed as a "socially progressive" Catholic organization because some members supported social reforms in order to bring workers into the fold of the Church ([35]: 46). Nevertheless, in its fundamental principles, the Bund stood close to the fascist and authoritarian currents of the time ([36]: 835). A draft program from 1931 confirmed its opposition to the democratic state "in its current form" and stated that "the equivalence between

*Volk* and state leads necessarily to the ideal of the Greater German Reich" (cited in [34]: 99).

During the 1930s, important sections of the Bund were infiltrated by Hitler Youth groups and members of other Nazi organizations ([34]: 95, 193, [37]). In 1935/1936, press reports estimated that 20% of Neuland members were (illegal) Nazis ([38]: 70–1). The authoritative account of its history states that the "predominant majority in the Bund was oriented towards Pan-Germanism, supported Austria's unification with Germany, and was at best indifferent vis-à-vis National Socialism," despite the fact that the official policy was to identify and exclude Hitler Youth cells within the organization ([36]: 586–7). The most striking example for the Bund's infiltration is its leader Anton Böhm (1904–1998), who joined the NSDAP in 1933 and remained an "illegal" party member until the Anschluss in 1938, even serving as an informant to the Austrian Nazis' intelligence services and the Gestapo in Munich ([34]: 103, 189–95).[24] Arguably, the Bund constituted one of Nazism's most important intellectual bridgeheads in the powerful Austrian Catholic milieu during the crucial years leading up to the Anschluss ([34]: 100–1).

In 1933, Böhm published a programmatic comment on the political situation following the Nazi takeover in Germany, referring also to the persecution of the Jewish population: "There can be no doubt that the strong Jewish influence in Germany has had baleful consequences. Therefore, the anti-Jewish measures in Germany are justified as acts of national self-defense" ([39]: 106–7).

Over the following years, the Bund published a number of articles supporting the anti-Jewish persecutions in Nazi Germany [40].[25] The Bund's official mouthpiece also denounced the Viennese "Jewish press" as a corrosive influence in Austrian public life, attacked Jews as an alien element within the Catholic-German Austrian population, and warned against the dangers of "racial" and religious intermarriage ([41–43]: 20–1, [44]: 215).

While the Bund's periodical welcomed the German Nazis' anti-Jewish policies, its stance towards National Socialism as a whole was more complex. Although the Bund shared the Nazis' contempt for parliamentary democracy and all forms of cultural and intellectual modernism, as well as their glorification of the German *Volk* as the basis for cultural regeneration, they nevertheless regarded the NSDAP with the same suspicion as they did all other political parties. Catholicism remained the central point of reference, and the NSDAP was mainly judged according to its policies towards the Church. In 1933, Böhm signaled that the organization would support the Nazis' "national revolution" in Germany provided that Hitler would choose to strengthen the anti-capitalist tendencies of his movement and, more importantly, grant the Catholic Church and Christianity generally its due place in the German Reich [45]. In the following issue, Böhm openly called for the integration of the Nazis into the Austrian government ([39]: 110).

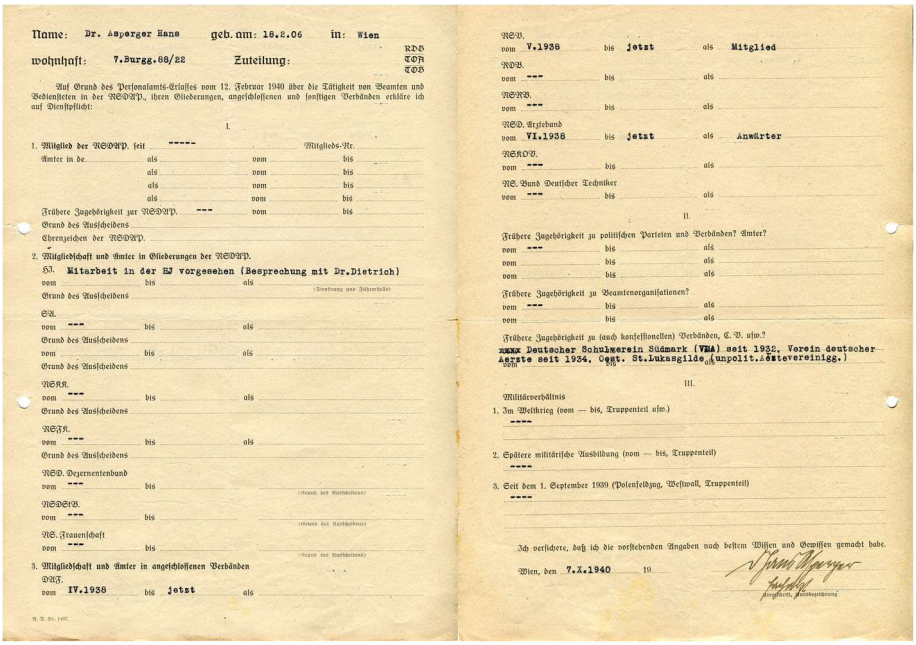
Within the organization, which was far from ideologically homogenous, Asperger belonged to a group called the *Fahrende Scholaren* (Wandering Scholars), part of the Bund's decidedly *völkisch* and right-wing faction. He was associated with the inner circle of "organic romanticists" around Michael Pfliegler (1891–1972), a Catholic priest and founding member of the Bund, and its leader Anton Böhm ([33]: 207–8, 342; [34]: 63–5).[26]

After the Anschluss, at least some of the Bund's former members joined anti-Nazi networks, notably in Innsbruck and Lower Austria ([35]: 46). Resistance activities, which included an assembly of 300 youths in Vienna on the night of the German invasion, were primarily the work of the younger generation. By contrast, the older generation to which Asperger belonged tended to seek immediate accommodation with Nazism ([36]: 586–8, 839). This is evident in Asperger's path after 1938, as he joined a number of Nazi organizations (although not the NSDAP) and sought to accommodate himself with the new regime.

Bund Neuland was the most important but not the only political influence in Asperger's life. The physicians within the Bund delegated him to the St. Lukas guild, which promoted medical ethics along Catholic principles. Regarding eugenics, its position was ambivalent; it opposed some tenets of Nazi race hygiene such as forced sterilizations while developing its own eugenic program within the bounds of Catholicism ([46]: 106–16).[27]

According to a questionnaire dated 1940, Asperger was also a member of the *Verein Deutscher Ärzte in Österreich* (Association of German Doctors in Austria, Fig. 3).[28] "German" in this context refers to a Pan-German orientation, excluding Jewish doctors. The *Verein Deutscher Ärzte* emerged from a 1904 federation between the anti-Jewish *Verein Wiener Ärzte* and various Pan-German medical associations in Austria ([4]: 78). In the 1920s and again after the Nazi takeover in Germany, the organization called to limit the number of Jewish students ([47]: 90). A considerable portion of leading (non-Jewish) Viennese doctors, including the former head of the pediatric clinic Clemens Pirquet, belonged to the association—an indication of how widespread anti-Jewish sentiment was in Viennese medical circles ([4]: 78).

In the same questionnaire, Asperger mentioned another membership indicating his affinity to the Pan-German nationalist wing, despite his Catholic orientation. In 1932, he joined the *Deutscher Schulverein Südmark* (German School Association for the Southern Border Region), which sought to strengthen German cultural influence abroad with the help of German-speaking minorities. Many of the *Schulverein*'s members were close to the



Name: Dr. Asperger Hans geb. am: 18.2.06 in: Wien

wohnhaft: 7.Burgg.86/22 Zuteilung:

Auf Grund des Personalamts-Erlasses vom 12. Februar 1940 über die Tätigkeit von Beamten und Bediensteten in der NSDAP., ihren Gliederungen, angeschlossenen und sonstigen Verbänden erkläre ich auf Dienstpflicht:

I.

1. Mitglied der NSDAP. seit ----- Mitglieds-Nr.
Ämter in de... als ... vom ... bis ...
Frühere Zugehörigkeit zur NSDAP. --- vom ... bis ...
Grund des Ausscheidens
Ehrenzeichen der NSDAP.

2. Mitgliedschaft und Ämter in Gliederungen der NSDAP.
HJ. Mitarbeit in der HJ vorgesehen (Besprechung mit Dr.Dietrich)
vom ... bis ... als ...
Grund des Ausscheidens
SA.
vom --- bis ... als ...
Grund des Ausscheidens
vom ... bis ... als ...
Grund des Ausscheidens
NSKK.
vom --- bis ... als ...
Grund des Ausscheidens
NSFK.
vom --- bis ... als ...
Grund des Ausscheidens
NSD. Dozentenbund
vom --- bis ...
NSDStB.
vom --- bis ...
NS. Frauenschaft
vom --- bis ...
3. Mitgliedschaft und Ämter in angeschlossenen Verbänden
DAF.
vom IV.1938 bis jetzt als ...

NSV.
vom V.1938 bis jetzt als Mitglied
NSV.
vom --- bis ... als ...
NSRB.
vom --- bis ... als ...
NSD. Ärztebund
vom VI.1938 bis jetzt als Anwärter
NSKOV.
vom --- bis ... als ...
NS. Bund Deutscher Techniker
vom --- bis ... als ...

II.

Frühere Zugehörigkeit zu politischen Parteien und Verbänden? Ämter?
vom --- bis ... als ...
vom ... bis ... als ...
vom ... bis ... als ...
Frühere Zugehörigkeit zu Beamtenorganisationen?
vom --- bis ... als ...
vom ... bis ... als ...
Frühere Zugehörigkeit zu (auch konfessionellen) Verbänden, C. V. usw.?
xxxx Deutscher Schulverein Südmark (VDA) seit 1932. Verein deutscher Ärzte seit 1934. Ostr. St.Lukasgilde (unpolit. Ärztevereinigg.)
vom ... bis ... als ...

III.

Militärverhältnis
1. Im Weltkrieg (vom — bis, Truppenteil usw.)
---
2. Spätere militärische Ausbildung (vom — bis, Truppenteil)
---
3. Seit dem 1. September 1939 (Polenfeldzug, Westwall, Truppenteil)
---

Ich versichere, daß ich die vorstehenden Angaben nach bestem Wissen und Gewissen gemacht habe.

Wien, den 7.X.1940 19...

**Fig. 3** In this questionnaire from October 1940, Asperger reported several memberships in organizations affiliated with the Nazi Party. He refrained, however, from joining the NSDAP itself (WStLA, 1.3.2.202.A5, Personalakt)

Austrian *Großdeutsche Volkspartei* (Greater German People's Party), which in 1933 formed an alliance with the Austrian Nazi Party.[29]

Despite these associations, there is no indication that Asperger actively sympathized with the Nazi movement prior to 1938, unlike many of his colleagues. Rather, the evidence points to an ambivalent attitude. Potential obstacles to his supporting National Socialism were his religious convictions, his humanist background, and his elitist, cultivated habitus. Furthermore, following the ban of the Austrian Nazi Party in 1933, the movement remained attractive only to a core of ideologically hardened supporters, whereas for mere sympathizers or opportunists, the risks of adherence far outweighed potential advantages. Nevertheless, Asperger's record of organizational affiliations over the years prior to 1938 suggests that there was more common ideological ground than has previously been acknowledged. Asperger's political socialization in Neuland likely blinded him to National Socialism's destructive character due to an affinity with core ideological elements (see [36]: 848–9).[30] In 1974, Asperger himself put it this way: "[Then] the National Socialist time arrived, whereupon it was clear from my previous life that one could well go along with many let's say quote unquote 'national' things, but not with the inhuman [ones]" [3].[31]

In post-World War II Austria, "national" as a political label invariably referred to Pan-Germanism and is to this day used by right-wing groups as a euphemism to avoid overt association with (neo-) Nazism. In other words, Asperger in 1974 distanced himself from the *Unmenschlichkeiten* (inhumanities) of National Socialism, but not from its Pan-German program, which in 1938 had led to the annexation of Austria and later to World War II. Asperger's ambivalent attitude towards National Socialism was already palpable in a diary entry from April 1934 (when he spent some time in Nazi Germany), which evinced both skeptical distance and a certain fascination: "How a whole people marches in one direction, fanatical, with narrowed vision, certainly, but with enthusiasm and dedication, with enormous discipline and formidable vigor. Only soldiers, soldierly thinking—ethos—German paganism."[32]

## Political trajectory after the Anschluss in 1938

The established narrative concerning Asperger's relationship to National Socialism after 1938 is that Asperger actively opposed the regime, or at least kept his distance, under considerable professional and personal risk. In 1993, Lorna Wing argued that as a devout Catholic, he could not have been a Nazi ([24]: 330). This argument is misleading, however, given the overlap discussed above between Catholicism and the *völkisch* extreme right represented by organizations such as the Bund Neuland.

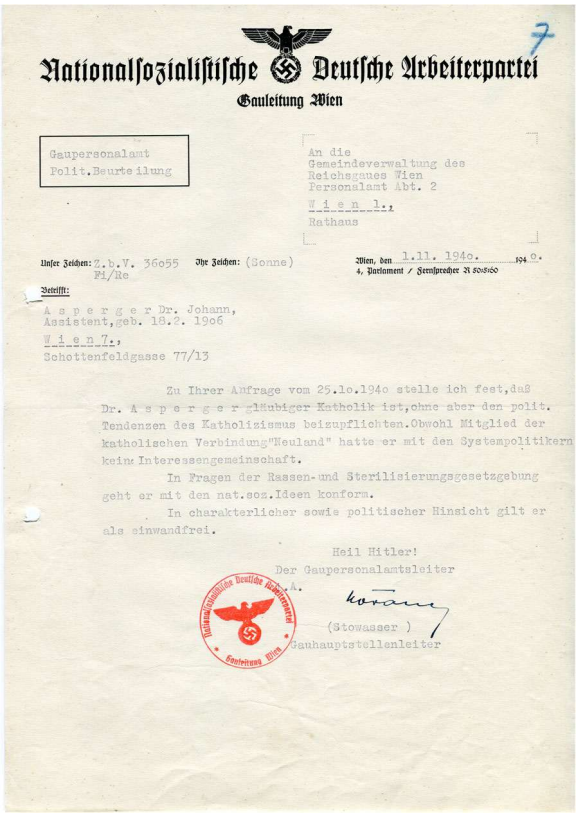
The strongest claim to the effect that Asperger was an active opponent of the Nazis and that he risked his life defending the children in his care is based on an episode reported in Adam Feinstein's book on the pioneers of autism research. Allegedly, the Gestapo twice came to the clinic to arrest Asperger, either because of his 1938

talk [1] or because he had refused to "hand [patients] over to officials" ([20]: 17–8). The only known source for this claim is Asperger himself, who mentioned the incident in 1962 at his inauguration as the Vienna chair of pediatrics [48] and in the above-cited 1974 interview:

> It is totally inhuman—as we saw with dreadful consequences—when people accept the concept of a worthless life. […] As I was never willing to accept this concept—in other words, to notify the [Public] Health Office of the mentally deficient—this was a truly dangerous situation for me. I must give great credit to my mentor Hamburger, because although he was a convinced National Socialist, he saved me twice from the Gestapo with strong, personal commitment. He knew my attitude but he protected me with his whole being, and for that I have the greatest appreciation [3].[33]

This is the only recorded instance I could find in which Asperger publicly mentioned Nazi "euthanasia"—despite the fact that this was such an incisive event for his field and its patients.[34] According to this account, the Gestapo was after Asperger because he refused to report patients with certain deficiencies to Vienna's Public Health Office. It is true that doctors were increasingly obliged to report patients to the authorities in defiance of patient/physician confidentiality. Regarding race hygiene policies, the two most important instances were the compulsory reporting of patients as mandated by the sterilization law and of children with mental deficiencies who were slated for "euthanasia."[35] Based on the available evidence, it is impossible to determine whether Asperger in some cases abstained from reporting children who met the criteria for child "euthanasia." However, it is documented that he personally referred a number of children to the Spiegelgrund "euthanasia" facility ("Limits of 'educability': Asperger and the Spiegelgrund 'euthanasia' facility" and "Asperger's diagnoses compared to those at Spiegelgrund" sections).

Other facts speak against Asperger's self-portrayal as a man persecuted by the Gestapo for his resistance to Nazi race hygiene, who had to flee into military service to avoid further problems. On several occasions, he published approving comments on race hygiene measures such as forced sterilizations (see [49]: 353; for further examples, see the "'The best service to our *Volk*': Asperger and Nazi race hygiene" section), and as is discussed further below, the Nazi hierarchy saw him as someone willing to go along with race hygiene policies. In July 1940, the deputy Gauleiter of Vienna wrote to Asperger's superior and protector Franz Hamburger that the party had "no objections whatsoever" against his assistant.[36] The Vienna Gestapo, when asked for a political assessment of Asperger, answered in November 1940 that they had nothing on him.[37] This contradicts claims that Asperger's early publications after the Anschluss, including those most frequently cited as proof for his public opposition to Nazi policies, were perceived by the regime as expressions of political opposition.



Nationalsozialistische Deutsche Arbeiterpartei
Gauleitung Wien

Gaupersonalamt
Polit.Beurteilung

An die
Gemeindeverwaltung des
Reichsgaues Wien
Personalamt Abt. 2
W i e n I.,
Rathaus

Unser Zeichen: Z.b.V. 36055 Fi/Re Ihr Zeichen: (Sonne) Wien, den 1.11. 1940. 194 0.
4, Parlament / Fernsprecher R 50-5-60

Betrifft:
A s p e r g e r Dr. Johann,
Assistent, geb. 18.2. 1906
W i e n 7.,
Schottenfeldgasse 77/13

Zu Ihrer Anfrage vom 25.1o.194o stelle ich fest, daß Dr. A s p e r g e r gläubiger Katholik ist, ohne aber den polit. Tendenzen des Katholizismus beizupflichten. Obwohl Mitglied der katholischen Verbindung "Neuland" hatte er mit den Systempolitikern keine Interessengemeinschaft.
In Fragen der Rassen- und Sterilisierungsgesetzgebung geht er mit den nat.soz. Ideen konform.
In charakterlicher sowie politischer Hinsicht gilt er als einwandfrei.

Heil Hitler!
Der Gaupersonalamtsleiter
i.A.
(Stowasser)
Gauhauptstellenleiter

**Fig. 4** Despite Asperger's Catholic orientation, the Nazi Party authorities considered Asperger to be "politically irreproachable" and as someone who "was in conformity with the National Socialist racial and sterilization laws" (WStLA, 1.3.2.202.A5, Personalakt)

Initially, before Asperger had a chance to prove his willingness to adjust to the new political order, the NSDAP was unsure about his loyalty. Immediately following the Anschluss, a preliminary investigation was initiated to decide whether the "Decree for the Reorganization of the Austrian Professional Civil Service" of 31 May 1938, which stipulated the dismissal of Jewish and politically undesirable officials ([50]: 235), applied to Asperger. In June 1939, the official charged with implementing the decree, Otto Wächter (1901–1949), decided to close the file because Asperger was 'politically acceptable' from the National Socialist standpoint.[38] According to the Vienna NSDAP Personnel Office, Asperger was "unobjectionable with respect to his character and politics." His Catholic orientation was considered a minus, but this was mitigated by the fact that he had not been actively involved with the Christian Social Party or the Austrofascist

regime. Crucially, the assessment concluded that Asperger "was in conformity with the National Socialist racial and sterilization laws" (Fig. 4).[39]

This investigation in all likelihood constituted the basis for Asperger's claim, made 24 years later, that he had faced persecution by the Gestapo. Hamburger was certainly in a position to decisively influence the outcome of such a procedure, by vouching for his protégé's willingness to cooperate with the regime—a less dramatic but much more plausible version than the alleged arrest, for which no documentary evidence exists. This explanation also correlates with Asperger's 1974 account that Hamburger saved him "from the Gestapo" rather than "from being arrested by the Gestapo," as he put it in 1962. If the latter story were true, it would be difficult to explain why Asperger (to the best of my knowledge) did not publicly mention it until 17 years after the war, although it would have benefitted both him and Hamburger.[40] In all, this investigation is the only documented instance of political trouble for Asperger; the sources otherwise reflect a spotless record of political accommodation with National Socialism.

In this context, a crucial question concerns Asperger's role in a truly heroic episode involving the pediatrician Josef Feldner (1887–1973), who over many years volunteered on the Heilpädagogik ward. In September 1942, he took in Hansi Busztin (1925–1996), a Jewish patient of his, and hid him until the end of the war. Unusually, Busztin lived a relatively open life, with regular visits to the public library and the opera; he estimated that around 100 people knew about him, many of whom provided support [51]. In a memoir written in the 1980s, Busztin referred to "a group of opponents of National Socialism" on the Heilpädagogik ward, "nearly all of whom knew" about him and "helped his later adoptive father in various situations."[41] Did Asperger belong to this circle of supporters? Busztin does not mention Asperger—and, interestingly, Asperger did not mention the episode even in instances where he was trying to establish his anti-Nazi credentials [3, 48] or in his 1975 obituary for Feldner [52]. Remarks published by Asperger in 1962 on the occasion of Feldner's 75th birthday suggest, however, that he at least knew about Feldner's activities, but did not play an active role in them:

> It is clear that such a spirit had to be diametrically opposed to National Socialism. He acted accordingly. What he said and did during those years often made his friends' hair stand on end. There are episodes—confrontations with the Gestapo, the hiding over years of a Jewish student whose family had been exterminated—which could have been taken from an adventure novel [53].

This episode could help explain why Asperger joined the military in March 1943.[42] In the 1974 interview already mentioned, he claimed to have volunteered to escape reprisals from the Gestapo because he had refused to cooperate with Nazi race hygiene policies [3]. While this is contradicted by the favorable assessments he continued to receive from Nazi officials (for example during the vetting for his Habilitation), the cited evidence and the timeline of events suggest a direct connection—namely, that he wanted to get away from the Vienna clinic in case Busztin were discovered.

One of the main arguments for Asperger's ostensible distance to National Socialism is the fact that he never joined the NSDAP.[43] Given the high proportion of party members among non-Jewish physicians, this is certainly significant. This does not mean, however, that Asperger kept a principled distance from the NSDAP apparatus. In fact, he sought membership in several organizations affiliated with the NSDAP. According to a 1940 questionnaire, Asperger joined the *Deutsche Arbeitsfront* (German Labor Front, DAF) in April 1938, the *Nationalsozialistische Volkswohlfahrt* (National Socialist People's Welfare Organization, NSV) in May 1938, and (as a candidate; see below) the *Nationalsozialistischer Deutscher Ärztebund* (National Socialist German Physicians' League, NSDÄB) in June 1938. He also mentioned that he had committed himself to working for the Hitler Youth.[44]

The DAF and the NSV were mass organizations often used to demonstrate loyalty to the regime while avoiding the ideological commitment of NSDAP or SS membership. The NSDÄB was a different matter, however. It saw itself as the ideological spearhead of the Nazi Party within the medical profession, as an advisor to the NSDAP "in all questions regarding public health and race biology" and as a recruitment pool for medical positions in the party apparatus. While full membership was restricted to NSDAP members, other health professionals who supported the goals of the NSDÄB could obtain the status of candidates, as did Asperger [54].[45]

These memberships should be seen against the backdrop of the heavy Nazi influence at the clinic (see [4]: 120–1). Most likely, Asperger took these decisions in order to protect and further his career. By foregoing NSDAP membership, he chose a middle path between keeping his distance to the regime and outright alignment.

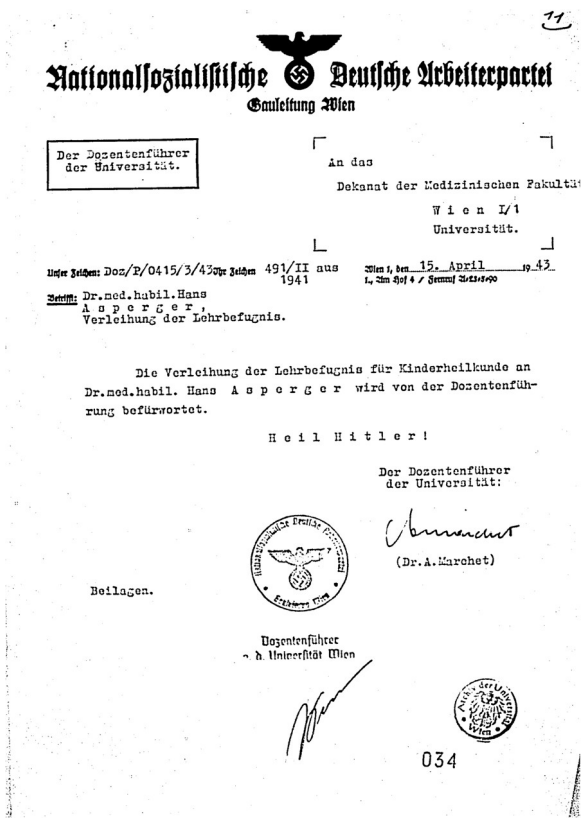
It is important to note that Asperger had all the political protection he needed through his mentor Franz Hamburger. Given the hierarchical structure of Austrian universities and the strong position of clinic chiefs, Hamburger was in a position to make or break Asperger's career even under less complicated political circumstances. The political capital Asperger enjoyed thanks to Hamburger's unwavering patronage was much

stronger than anything he could have achieved on his own. Hamburger was one of the NSDAP's figureheads within the Vienna medical school and had considerable clout within the Nazi medical establishment both in Vienna and—thanks to his position as president of the German Association of Pediatrics—in Germany generally ([4]: 129, 134). After the Anschluss, when the ban on the NSDAP was lifted, Hamburger could openly declare his allegiance to Adolf Hitler ([4]: 126). In a programmatic speech in 1939 ("National Socialism and Medicine,") he revealed how central Nazi ideology was to his approach to medicine: "A teacher of obstetrics, a teacher of pediatrics, internal medicine, or neurology has to be a true National Socialist. He has to be completely permeated with the foundations of National Socialist life and health leadership" ([55]: 142). Asperger, without being a convinced National Socialist, clearly managed in Hamburger's view to conform somehow to this highly ideological model of a physician.

As mentioned above, NSDAP functionaries on several occasions wrote confidential assessments of Asperger's political orientation. Although they are the best sources available regarding Asperger's attitude towards National Socialism and his standing in the eyes of the regime, these documents have not previously been examined. In all, they demonstrate how after an initial phase of distrust the party authorities came to see Asperger in an increasingly positive light. On 4 January 1939, for example, Asperger's *Ortsgruppenleiter* (Local Party Group Leader) put the following on record: "no merits for the [Nazi] movement," "attitude towards the NSDAP before the Anschluss indifferent," "does not participate in public political life," and "political orientation of the family Christian-Social". It was noted positively that he had not taken any stance against the Nazi takeover in Austria. The *Kreisleiter* (District Party Leader) added to the same document: "his readiness to engage is only partially existent, because as a former Christian-Social he is quite indifferent."[46]

Less than 2 years later, Asperger's political evaluations had changed in tone, even if his past affiliation with the Christian-Social camp was still held against him. One of several similar documents from his NSDAP personnel file reads as follows:

> In response to your enquiry from 25 October 1940 I declare that Dr. Asperger is a faithful Catholic, but without supporting the political tendencies of Catholicism. Although he was a member of the Catholic association 'Neuland', he had no common interests with the politicians of the [former Austrian] system. Regarding questions of the racial and sterilization laws he conforms to National Socialist ideas. With respect to his character and in political terms he is considered unobjectionable.[47]



Nationalsozialistische Deutsche Arbeiterpartei
Gauleitung Wien

Der Dozentenführer der Universität.

An das
Dekanat der Medizinischen Fakultät
Wien I/1
Universität.

Unser Zeichen: Doz/P/0415/3/43 Ihr Zeichen 491/II aus 1941 Wien I, den 15. April 1943

Betrifft: Dr.med.habil.Hans Asperger, Verleihung der Lehrbefugnis.

Die Verleihung der Lehrbefugnis für Kinderheilkunde an Dr.med.habil. Hans Asperger wird von der Dozentenführung befürwortet.

Heil Hitler!

Der Dozentenführer der Universität:

(Dr.A.Marchet)

Beilagen.

Dozentenführer a.d. Universität Wien

034

**Fig. 5** In April 1943, the Vienna chapter of the NSDAP's *Nationalsozialistischer Deutscher Dozentenbund* (National Socialist German Lecturers' League) approved Asperger's application to receive his postdoctoral Habilitation. (UAW, MED PA 17, Asperger)

Another high-ranking Nazi official's evaluation from roughly the same time is similar in tone:

> Dr. Asperger hails from Catholic circles and his orientation during the period of the [previous Austrian] system was strictly Catholic. He was a member of the Catholic organization 'Neuland' and of the physicians' association 'Lukas Guild'. He has never taken active steps of any kind against National Socialists, although it would have been easy for him to procure incriminating evidence at the Pediatric Clinic, which was staffed exclusively with Nazi physicians. In terms of his character, Dr. A. receives favorable descriptions.[48]

Due to his political past, the party hierarchy treated Asperger with a certain reservation. This changed over time, however, as he was increasingly regarded as politically reliable, and no obstacles to his career resulted. This development culminated in Asperger obtaining his Habilitation in 1943, the academic qualification necessary to become a lecturer (and, eventually, a professor).

According to the Nazi doctrine, medicine should be based both on science and the ideology of National Socialism. Therefore, Asperger had to both submit a postdoctoral thesis (his work on "autistic psychopaths") and pass political vetting by the *Nationalsozialistischer Deutscher Dozentenbund* (National Socialist German Lecturers League)—which raised no objections (Fig. 5).[49] Additionally, since he had not obtained the title of *Facharzt* (medical specialist) in pediatrics, the NSDAP *Gauärzteführer* (Physicians' Leader) of Vienna, Otto Planner-Plann (1893–1975), had to certify that he had the necessary qualifications. This is another indicator that Asperger enjoyed the trust of the highest ranks of the Nazi medical establishment in Vienna.[50]

After the Anschluss, Asperger tried to prove his loyalty to the new regime in various ways. In public lectures (which were later published), he argued in favor of his discipline's mission within the Nazi state and declared his allegiance to the tenets of Nazi medicine (see the "'The best service to our *Volk*': Asperger and Nazi race hygiene" section). Indeed, Asperger went so far in these attempts that his collaborator, Josef Feldner, had to reign him in lest he risk his credibility: "Your lecture: the introduction is good as it is (maybe just a little bit too Nazi for your reputation). E.g., I would drop the thanks to the Führer. … I write what I have in mind, forcing myself to blow Hitler's horn a little. Maybe you can make something of it."[51] Asperger's case files also demonstrate how he tried to prove his loyalty. Beginning in 1938, he took to signing his diagnostic reports with "Heil Hitler"—a merely symbolic, but revealing gesture.[52]

### Asperger's Jewish patients

The question of Jewish patients on Asperger's ward has not been raised in the literature so far, despite the fact that their fate is relevant for a number of reasons. How they were diagnosed and what decisions about their future were taken at the clinic had an important impact on their chances of survival. The files on the Jewish children also provide insights regarding Asperger's actions under National Socialism and on his general attitude towards Jews.

Jewish children were proportionately under-represented among the ward's patients even before they were successively excluded from public medical institutions after 1938. Perhaps the strong Nazi influence that pervaded the clinic after Hamburger's takeover in 1930 deterred Jewish parents from seeking the clinic's services—although the case records of Jewish children from the decade before the Anschluss (16 in total), except for isolated instances of stereotyping, show no evidence of anti-Jewish bias.[53]

At the time of the Nazi takeover in Austria, two 13-year-old Jewish boys, Alfred S. and Walter Brucker, were patients at the ward. Alfred's file contains no evidence that he was treated in any way differently from the other children. Admitted because of a scuffle at school, Asperger diagnosed the boy as an "autistic psychopath" on 22 March 1938. He found Alfred's intellectual capabilities "above average in some respects" and recommended placing him with Jewish foster parents rather than returning him to his non-Jewish foster mother (whom Alfred liked). At the time, approximately 8000 children had been entrusted to foster families by Vienna's youth welfare services. A number of these children—like Alfred—were Jews living with non-Jewish families. When the Nazis took over the city administration, this came to be regarded as a problem, and Jewish foster children were separated from their caretakers and segregated in Jewish orphanages, which for many became death traps during the Holocaust. Whatever his specific motivation might have been, in recommending Alfred's placement specifically with Jewish foster parents, Asperger anticipated the Nazis' official policy of segregation which took shape in the following years ([56]: 90, 101).[54] At a time when Jews were subjected to humiliation and violence in the streets and anti-Semitism became official policy, the decision to highlight the boy's Jewish background—for which no medical or pedagogical reasons were given—seems questionable. A safer alternative would have been to avoid any reference to Alfred's biological family, although in retrospect, it is impossible to say whether this would have made a difference. The diagnostic report itself is rather benevolent in tone; Asperger considered Alfred capable of functioning among adults, who would feel less provoked by his behavior than children. Ultimately, Asperger's recommendation was not followed, and Alfred was transferred to a Jewish orphanage. His fate is unknown.[55]

Walter Brucker was admitted to the clinic on 14 March 1938, the day following the Anschluss, because of extreme agitation. His record allows a rare insight into daily life on Asperger's ward during these critical days. On 15 March, amidst cheering youngsters, Walter had to listen to a triumphant speech by Hitler. Despite the fact that as a Jew Walter had every reason to panic, his fearful reaction was held against him. The entry of that day (not in Asperger's handwriting) stated that Walter "is much more disagreeable than three weeks ago, when he was [last] here. During Hitler's speech, he put his head into his hands on the table and stared into a void. He was very agitated; when a child broke out in cheers he opened his eyes wide and turned pale." Asperger's diagnosis all but ignored the boy's precarious situation and framed his mental troubles as follows: "severe psychopathy, with a particular sensitivity and paranoid irritability." Asperger thus pathologized and de-politicized the boy's reactions to the anti-Jewish persecution then pervading

the city; based on the same logic, in a formulation that was perhaps meant as an act of generosity, he stressed that Walter could not be held fully responsible for his sometimes aggressive reactions. In his diagnosis, Asperger omitted the fact that Walter was Jewish and that his life was under threat from the Nazi regime. Although this is in line with Asperger's general tendency to attribute mental troubles to "constitution" rather than environmental factors, in this particular case, it is possible that he was also trying not to highlight the boy's Jewish background (in contrast to his actions in Alfred's case). As it turns out, Walter indeed had every reason to be fearful. He died on 26 February 1945 as a slave laborer of "Projekt Riese," the construction in Lower Silesia of underground facilities that included Hitler's new headquarters [57].

As far as the written record is concerned, there is no indication that Asperger was guided by personal animosity towards Jews, but there is a notable absence of empathy for their plight under Nazi rule.[56] The report he wrote in November 1940 on 11-year-old Ivo P. supports this interpretation. He stressed that the boy was "not constitutionally dissocial," and that he had good potential, provided that he would be held under permanent supervision in an institutional setting. Almost as an afterthought, he added: "The only problem is that the boy is a *Mischling* of the first degree" (Nazi jargon meaning that he had one Jewish parent)—a piece of information that under the circumstances was extremely dangerous for the boy.[57]

Racial stereotyping became—not surprisingly—more frequent following the Anschluss. Marie Klein, admitted as a 9-year-old in late 1939, was described by one of Asperger's assistants as a "normally developed, slightly underweight girl of Jewish appearance." Asperger himself remarked that her manner of speaking stood "in contrast to her quite Jewish character" and noted on the cover sheet of her record that she was a "Mischling." According to her file, Marie had never caused any trouble until she and her mother—who was a Catholic of Jewish descent—were forced out of their apartment in August 1938.[58] They had to move to an asylum run by the Catholic relief organization "Caritas Socialis" for Catholics of Jewish descent and children classified as "non-Aryan."[59] From then on, Marie began to suffer from violent fits, which led to her admittance first to the psychiatric clinic and then to Asperger's ward. When she spoke of the violent abuse she had suffered at the asylum, this was taken as an indication of her dishonesty rather than an explanation for the changes in her behavior.[60] Two years after her transfer from the Heilpädagogik ward to a children's home in February 1940, Marie Klein was deported to the Wlodawa ghetto, 11 km north of the Sobibor extermination camp. The precise time of her death is unknown, but in summer 1942, there was an "Aktion" specifically targeting Jewish children between 10 and 14 years of age (Marie would have been 12 by then), who were separated from their parents and killed in the gas chambers at Sobibor [58, 59].

Lizzy Hofbauer, a 12-year-old Jewish girl, was admitted in 1939 because of severe mental troubles: "Two days before admittance she acted as if insane, talked of anti-Jewish persecution, was in great fear, asked herself is she was confused or insane. She thought a Jewish acquaintance had died from hanging, but could be convinced that this was not true." Asperger interpreted these signs of distress as symptoms of schizophrenia and wrote the following: "For her age and race conspicuously retarded sexual development."[61] These comments suggest that Asperger had at least partly internalized the sexualized anti-Jewish stereotypes circulating at the time.

This leads to the broader question whether Asperger held anti-Semitic views. Apart from the case files quoted above, there is scant direct evidence. On the one hand, hostility towards Jews and their alleged corrupting influence was a common ideological denominator of the groups Asperger associated with. Until the end of his life, as far as his public statements are concerned, he never distanced himself from the racialized anti-Semitism that pervaded Austrian and German political life during the twentieth century nor did he comment on the destruction this had brought down on the Jews of Europe during the Holocaust.[62] On the other hand, Asperger worked closely with Jewish colleagues such as Anni Weiss and Georg Frankl before the Anschluss—a relationship that due to the tightly knit community at the Heilpädagogik ward went beyond the purely professional and was renewed after the war ([10]: 102–4, 109). Like many aspects of Asperger's life, his relationship to Jews was fraught with ambivalence—and further complicated by the fact that his early career profited from the removal of so many Jewish colleagues, including those he called his friends.

## "The best service to our *Volk*": Asperger and Nazi race hygiene

Although Asperger published at least a dozen papers during the Nazi period, the existing (especially English-language) literature focuses almost exclusively on two of these: "The Mentally Abnormal Child" from 1938 and "The Autistic Psychopaths in Childhood" from 1944 [1, 2]. In the following, I will broaden this narrow scope and present an analysis based on the full range of Asperger's published statements on politics, race hygiene, and the role of Heilpädagogik in society. I will show that Asperger on several occasions supported tenets of Nazi race hygiene and medicine, contributing to their legitimization.

Among Asperger's Nazi-era publications, the 1938 paper stands out for several reasons. Published 5 years

before Leo Kanner's famous 1943 article on autism, it contains the first account in the scientific literature of "autistic psychopathy" as a not previously described syndrome. As the written version of a lecture held less than 7 months after the Anschluss, it also reveals how Asperger positioned himself vis-à-vis the new rulers as someone who could be trusted to adapt to the new political situation. Crucially, Asperger opened with an endorsement of National Socialism's anti-individualistic and totalitarian approach to medicine and health:

> We stand in the midst of a massive reorganization of our intellectual and spiritual life, which has seized all areas of this life—not least in medicine. The central idea of the new Reich—that the whole is more than its parts, and that the *Volk* is more important than the individual—had to bring about fundamental changes in our whole attitude, since this regards the nation's most precious asset, its health ([1]:1314).

Before the initiation of "euthanasia" killings in 1939, the most serious consequence of these ideas was the Law for the Prevention of Hereditarily Diseased Offspring of July 1933, under which 220,000 individuals had already been forcibly sterilized in Germany by the beginning of 1938 ([60]: 233).[63] Asperger's audience of physicians were well aware of these policies, which had been widely debated in medical circles, so they must have understood what he meant by the following exhortation to cooperate with the regime's sterilization policies:

> You know by what means one strives to prevent the transmission of diseased hereditary material—many cases that belong here are hereditary disorders—and to promote hereditary health. We physicians have to take on the tasks that accrue to us in this area with full responsibility ([1]:1314).

Asperger repeated this motive of "responsible cooperation" with Nazi race hygiene in later writings. We will see shortly what these tasks entailed and how he handled them in the context of his own work. In his lecture, he went on to specify how the sterilization law should be implemented with regard to those children who had "features opposed in nearly every way" to the high-functioning autistic type described for the first time in the paper:

> These children are intellectually below average (including to the degree of feeble-mindedness)—whereby with intelligence we mean abstract intelligence—whereas practical reason, in short everything that has to do with instinct, including the practical usefulness and the values of character, are much better developed in relative terms. These cases are important—or at least they will be as soon as the Law for the Prevention of Hereditarily Diseased Offspring comes into force here. If the physician has to take a decision in such a case, he will not be allowed to do so based solely on a questionnaire or the intelligence quotient. Rather, he will base it primarily on his knowledge of the child's personality, taking into account all of the child's skills in addition to abstract intelligence ([1]:1317).

This passage has been quoted as evidence that Asperger tried to publicly protect his patients from forced sterilizations ([8]: 464; more cautiously [9]: 206–7). This call for restraint is all the more significant given the pending investigation into Asperger's political reliability (closed in June 1939, see above). Why did these comments then not hurt his standing in the eyes of the Nazi hierarchy, which came to the conclusion that he was in conformity with Nazi race hygiene policies?

It should be noted that calling for a "holistic" approach to children's personalities was not unusual as such—it was in fact characteristic of the approach at the Heilpädagogik ward since Lazar's days. In the ideological context of post-Anschluss Vienna, putting *Gemüt* ("soul" or "character") and "practical intelligence" over "abstract intelligence," far from being out of line, corresponded with the Nazis' overall disdain for analytical thought, which they connoted as "Jewish." Indeed, the official legal commentary on the sterilization law defined "feeble-mindedness" along similar lines ([61]: 119). The notion of *Lebensbewährung* ("probation in life"), which the sterilization courts applied in cases with unclear heredity, also underlines how race hygiene policy was guided by a "holistic" approach to intelligence ([62]: 124). In 1940, practical skills and "performance" became the decisive criteria in decisions on race hygiene measures.[64]

It is important to note that Asperger focused on skills, where others were primarily concerned with defects. Overall, however, assessing "hereditary value" according to a range of criteria rather than intelligence alone could cut both ways for the patients; those classified as "autistic psychopaths" may well have scored better on intelligence alone. While Asperger's 1938 speech should not be misconstrued as a fundamental critique of race hygiene, it is an example of how he managed to formulate certain concerns without violating the boundaries of the politically acceptable.

Another of Asperger's publications (from 1939) captured in a nutshell the central tenets of Nazi medicine, including its typically euphemistic language, as in "restrictive measures":

> In the new Germany, we physicians have assumed an abundance of new responsibilities in addition to our old ones. To the task of helping the individual patient is added the great obligation to promote the health of the *Volk*, which is more than the welfare of the individual. I do not need to elaborate on the enormous dedicated work being performed in terms of positive, supporting measures. But we all know that we also have to carry out restrictive measures. Just as the physician often has to make painful incisions during the treatment of individuals, we also have to perform incisions on the national body [*Volkskörper*], out of a sense of great responsibility: We must ensure that the diseased who would transmit their diseases to remote generations, to the detriment of the individual and of the *Volk*, are stopped from transmitting their diseased hereditary material ([63]:943).

The potential impact of the Nazi race hygiene paradigm on Asperger's work was to a large extent determined by the role inheritance was thought to play in the transmission of personality traits and mental disorders. In this regard, Asperger stressed the benefits of optimal environmental conditions (such as those present at his clinic) even when hereditary makeup (what he referred to as "constitution") was defective:

> Therefore we are called more than others to contribute decisively to what is probably the most important area of research on human heredity, namely the questions concerning the inheritance of mental traits and mental abnormalities. We must also lead the way in the practical tasks of eugenics, especially with regards to the problems relating to the Law for the Prevention of Hereditarily Diseased Offspring—and not just the physicians, but also the special school teachers we work with. But we also have […] opportunities few others have to study the decisive question: 'What influence do optimal environmental conditions have on hereditarily burdened individuals, what can "education in spite of inheritance" achieve, is pedagogic work with individuals outside the norm worth the trouble?' ([49]:353)

Although many race hygienists were more dogmatic in terms of a one-sided genetic determinism, Nazi ideology was not monolithic. Asperger's flexible approach was not only compatible with hardline measures such as forced sterilizations (as this passage illustrates), it was also in line with other powerful currents such as the Hitler Youth's paradigm of pedagogy and leadership or the mainstream of Nazified Heilpädagogik ([64]: 161–6, 178–92).[65]

In his 1944 paper on autism, Asperger reiterated his belief that an individual's possibilities of mental development were primarily determined by their genetic makeup; thus, Heilpädagogik could only hope to achieve improvements within these predetermined parameters: "It has been firmly established that psychopathological states are anchored in the human constitution and are therefore inheritable; yet it has also been established that it is vain to hope to find a clear, simple mechanism of inheritance" ([2]: 135). While this view has stood the test of time with regard to specific disorders such as autism, it was seriously misguided in other cases, for example, when Asperger diagnosed children as young as five in terms reminiscent of Lambroso's "born prostitutes" or "born criminals." In cases of sexual abuse, he often tended to blame the victims, based on the notion of constitutionally determined patterns of behavior which supposedly encouraged (or "seduced") the perpetrators.[66]

A key element in the established narrative of Asperger as a principled opponent of Nazi policies derives from his repeated appeals to treat troubled children with the utmost dedication to help them overcome their challenges ([20]: 17, [21]: 127–9). A number of Asperger's publications indeed convey an attitude of sympathy towards his patients, and on several occasions, he pleaded for tolerance and attention towards them. One of the most significant passages in this regard is contained in his 1944 paper on autism:

> We think that such individuals have their own place in the organism of the social community, which they fully occupy, some of them maybe in ways nobody else could. […] Such individuals show more than others what capacities for development and adaptation even abnormal personalities dispose of. Often, in the course of development, possibilities for social integration arise which one would not have expected before. […] This fact determines our attitude and our value judgment towards difficult individuals of this and other kinds and gives us the right and the obligation to stand up for them with the whole force of our personality ([2]:135).

This is in line with his 1938 speech, in which he also expressed his determination to side with his patients:

> But let me discuss this problem today not from the standpoint of the *Volk* as a totality—in this case one would have to primarily focus on the Law for the Prevention of Hereditarily Diseased Offspring—but from the standpoint of the abnormal children. How much can we accomplish for these children shall be the question ([1]:1314).

Again the question is whether this approach put Asperger at odds with the regime or even made him vulnerable to reprisals, which is a central claim in the narrative of his resistance to the Nazis. The evidence, however, does not support this. Indeed, the fact alone that Asperger's statements continued to be published in journals controlled by Nazi loyalists shows that they were not perceived as critical of the regime. Furthermore, Asperger's career advanced unhindered during this period. Repeatedly vetted for promotion, he received positive assessments regarding his political reliability, as discussed in the "Political trajectory after the Anschluss in 1938" section.

Most importantly, it is a misunderstanding that therapeutic support for "abnormal" children had no place in the Nazi state, determined as it was to exterminate mentally disabled individuals. Due to increasing labor shortages, it became a political and military imperative to rehabilitate as many potential workers as possible, even those considered of inferior hereditary quality. In the context of "euthanasia," the extermination of "incurable" patients—after attempts to improve their condition had failed—coincided with an increased interest in "active therapy." The dichotomy of murder and therapy is exemplified in the introduction of electroconvulsive therapy, which was promoted by "T4," the organization responsible for the gassing of tens of thousands of patients, to reduce the residual group of "incurable" patients [65].[67] In this light, Asperger's pleas to spare no effort in educating and guiding "difficult" children were not necessarily a challenge to Nazi pedagogy and race hygiene; rather, this was easily compatible with the Nazi state's aim to control, discipline, and organize children and youths deemed "worthy" of belonging to the *Volksgemeinschaft* ("people's community"). This was stressed by Asperger himself, who repeatedly insisted on the productive role Heilpädagogik could play within the new Nazi order, including in his 1938 speech:

> And if we help them [the abnormal children] with all our dedication, we also render the best service to our *Volk*; not only by avoiding that they burden the *Volksgemeinschaft* with their dissocial and criminal acts, but also by trying to ensure that they fulfill their duties as productive individuals in the living organism of the *Volk* ([1]:1314).

Indeed, even the most virulent Nazis among Asperger's colleagues endorsed therapy for those seen as potential assets to the state. This includes Asperger's mentor Franz Hamburger and also applies to Erwin Jekelius, a youth psychiatrist trained at Hamburger's clinic, who in 1940 became the main organizer of the "T4" killing operation in Vienna. He made sure that local authorities and hospitals cooperated and that the operation ran smoothly. From June 1940 to the end of 1941, Jekelius directed the child killing facility Am Spiegelgrund, where hundreds of disabled children were murdered.[68]

Jekelius had received part of his training at the Therapeutic Pedagogy Ward under Asperger's direction, where he was employed from August 1933 to February 1936 ([10]: 102, [118]). The two men maintained professional contacts during the Nazi period. In 1941, when Jekelius became the first chairman of the newly established Viennese Association for Therapeutic Pedagogy, Asperger represented the Pediatric Clinic along with Hamburger ([4]: 172–3). At Vienna's Main Health Office, where Jekelius directed a unit in charge of "the mentally ill, psychopaths, and addicts"—a position that he used as a cover for his activities for "T4"—Asperger on 1 October 1940 began to work (part-time) as a medical specialist and evaluator of children with mental "irregularities" (*Auffälligkeiten*). One document in Asperger's personnel file suggests that in this capacity, he was attached to Jekelius' unit, while others place him in a different unit of the same department, a discrepancy possibly due to disruptions in the city administration during this period.[69] In any case, the fact that Asperger was named as a member of Jekelius' staff suggests that he obtained the position on Jekelius' recommendation or at least with his consent. Due to a lack of sources, the exact nature of Asperger's work for the city in this context (and of his collaboration with Jekelius) remains unclear—with the crucial exception of the screening of more than 200 children in a mental institution in Gugging near Vienna, many of whom were sent to die at Jekelius' Spiegelgrund institution (see the "Limits of 'educability': Asperger and the Spiegelgrund 'euthanasia' facility" section).

Erwin Jekelius represents Nazi medicine in its most inhumane extremes: a fanatical Nazi and a murderer responsible for the deaths of thousands of patients. Had Asperger deviated from the party line, Jekelius would certainly have reined him in. Instead, this is what Jekelius had to say about Asperger and his therapeutic approach:

> At this opportunity, I would like to remind you of the substantial lecture on therapeutic pedagogy which our Dr. Asperger gave last year in this same place. He explained in a vivid and convincing way that especially in the Third Reich, with an abundance of new tasks and a lack of manpower, one cannot relinquish those who 'stand at the margin'. He mentioned impressive examples of former patients at the Heilpädagogik ward who proved themselves brilliantly on the internal and external front during the great struggle for the final liberation of our German people. And more than one former 'problem child' who today bears the Iron Cross for valiant

> behavior before the enemy would probably have gone to the dogs had one not taught him according to therapeutic pedagogic principles how to defeat the inner enemy ([66]:386).

To be sure, when their writings are set side by side, there is an enormous divide between the two men in tone. This is also apparent in the following passage, in which Jekelius states what should be done with children not deemed treatable with Heilpädagogik: "The idiot is sent to an asylum, and the anti-social to a concentration camp for minors" ([66]: 385).[70] This is far harsher language than Asperger ever used, who instead emphasized empathy for "abnormal" children. But as Jekelius' approving nod to Asperger indicates, even he agreed on the role of Heilpädagogik in rehabilitating troubled children in order to turn them into productive members of the German body politic.

This utilitarian approach, broadly accepted as the raison d'être of Heilpädagogik, is a leitmotif throughout Asperger's writings during the Nazi period and beyond:

> I wanted to emphasize this from the beginning, when I talk today about our Aesculapian obligation specifically towards the psychologically abnormal individual, as I see this obligation. […] The question is: is the task of caring for intellectually or personally abnormal individuals worth our full commitment? […] The mentioned facts show us well enough that we often have to be very careful with the disdainful verdict of 'inferior value' and potential consequences that might follow from it. […] But if we care for these people—and be it with painful commitment and willing to make sacrifices—we will be able to take at least part of them to a point where they will not be a burden and danger to the national community, but its productive members ([63]:944).

In the 1941 paper referred to by Jekelius, Asperger defined the relationship between his own professional credo and the Nazi state's pedagogic program in even more explicit terms:

> Our time has brought revolutionary changes in the field of education: Whereas in earlier times a number of philosophical, political, and religious orientations stipulated their pedagogic goals and consequently were in competition with each other, today National Socialism has established its pedagogic goal and demands that it be the only valid one. As much as this development is to be approved, we nevertheless have to stress: This one goal, the integration into the National Socialist state, can only be achieved with these children by using different means. […] From innumerable reports and visits, also from letters from the front, from soldiers' visits we know how many of our former children, including very difficult cases, entirely fulfill their duties in their professions, in the armed forces, and in the [Nazi] party, not a few among them in eminent positions. This is how we know that the success of our work is worth the effort [67].[71]

This paper was originally presented in September 1940 at a prominent pediatric conference in Vienna. Asperger was one of only three speakers from Vienna. The keynote speaker was Reich Health Leader Leonardo Conti (1900–1945).[72] While this helps explain Asperger's references to the war effort and the party, it also demonstrates that he was deemed trustworthy enough to represent his field in such a prominent forum and that the positions he adopted were by no means considered unacceptable or even controversial by the Nazi hierarchy. On the same occasion, Werner Villinger (1887–1961), the founding father of youth psychiatry in Nazi Germany and an expert evaluator for the "T4" killing campaign, expressed the dichotomy between "education" and "elimination": "Only where this [successful educational attempts] proves to be impossible, a weeding out needs to take place, with permanent internment in a work colony of sorts" ([68]: 1161).[73] The complex and sometimes contradictory attitude towards children with disabilities or other challenges is underlined by the fact that the Hitler Youth had special formations for the blind and the deaf ([64]: 166–75). Overall, as we have seen, it was not in dispute that Heilpädagogik had an important role to play in helping alleviate the acute shortage of manpower that threatened Nazi Germany's war effort.

The decisive question that remained was what should happen to the residual group of children whose disabilities were so impairing that efforts towards rehabilitation could not be justified under the utilitarian approach dominant at the time, and also professed by Asperger. While Jekelius explicitly mentioned "concentration camps" (for the rebellious) and "asylums" as a last resort (omitting the extermination of disabled children then taking place under his direction), Asperger chose to remain silent on this matter. This has critical implications, not least with regard to the relatively small subset of his patients whom he labeled as "autistic psychopaths."[74] Some authors argue that Asperger put the spotlight on children at what is often called the "high-functioning" end of the spectrum, interpreting this as a tactic to protect all children with autistic traits from race hygiene measures (e.g., [21]: 129, 216). This argument is problematic for several reasons.

First, the idea that Asperger tried to protect autistic children from Nazi race hygiene cannot be easily reconciled with the fact that he dedicated a section of his

1944 paper to the hereditary basis of the condition, insisting that "any explanation based on exogenous factors is absurd". While this position anticipated later advances in autism research, the question arises whether under the circumstances it was prudent to put such an emphasis on heredity. Had protecting his autistic patients been his primary goal, he could have taken a more flexible position, one less likely to draw the attention of race hygienists to his patients ([2]: 128–32).

Second, his prognoses for the "autistic psychopaths" were far from universally optimistic. In his 1938 paper "The Mentally Abnormal Child," he presented two boys. One boy was "intelligent far beyond his age" but suffered from mental and physical "oversensitivities" (no link to autism). The other represented the first case of an "autistic psychopath" in medical literature. Like the first boy, he exhibited "a contrast between pathological and in some ways valuable traits," but as Asperger insisted, he suffered from a "profound disorder of the personality." In this article, Asperger did not highlight the potential of "autistic psychopaths" but rather contrasted them unfavorably with other, less impaired patients. Even if the boy Asperger chose as an example of "autistic psychopathy" clearly belonged to the "high-functioning" group, Asperger emphasized that the condition varied greatly in terms of "social prognosis" and "worthiness." While he deemed some of the "autistic psychopaths" capable of "great intellectual achievements," in other cases, "autistic originality" was deemed "bizarre, eccentric, and useless", with "fluid transitions towards schizophrenia" whose "main characteristic is also autism, the loss of any contact with the surroundings" [1]. The four boys featuring in his better known 1944 paper also varied considerably regarding the degree of their impairments, belying the notion that he focused on the most promising cases in order to present "autistic psychopathy" in a mostly favorable light. Fritz had (for his age) outstanding abilities in mathematics, but was incapable of attending regular school, having passed the first three school years by homeschooling. Harro's autistic symptoms were less severe, but despite his good intellectual potential, he also had great difficulties concentrating and learning in the traditional school setting. The best hope for "autistic psychopaths," according to Asperger, was to find a way to compensate for the lack of "instinctive social adaptation" via the intellect. The problem was, however, that the "autistic character" also occurred in the "intellectually lesser able, and even in the severely feebleminded" ([2]: 85–103). In the case of Ernst, Asperger expressed "doubt whether he was particularly smart or feeble-minded" (he struggled to keep up even in special school). But, as Asperger insisted, there were "numerous clearly feeble-minded children who also exhibited the unmistakable features of the autistic psychopath" ([2]: 108). These latter cases, according to Asperger, were often very similar to conditions caused by organic brain damage such as birth trauma. He illustrated this with the fourth case in his study, Hellmuth, whom he described not as an "autistic psychopath" but as an "autistic automaton" ([2]: 110–1).

One could argue that even though Asperger mentioned children with impairments so severe as to exclude them from any useful place in society, he nevertheless embellished the overall picture of "autistic psychopathy" as far as his scholarly standards would allow him. Indeed, he insisted that only a small number of "autistic psychopaths," those additionally burdened with a "clear mental inferiority," were incapable of at least some degree of social integration. Nevertheless, the argument that Asperger focused on the better-functioning cases in order to protect all of his patients (presumably, by deflecting attention from the less well-functioning) is questionable given that Asperger by no means withheld from his readers the severe impairments of some of the boys.

Third, there is a fundamental flaw in the assumption that highlighting the potential of some of his patients would benefit all of them. The children at the lower end of the spectrum did not benefit from the potential ascribed to those on the higher end, even if they shared the overall diagnosis of "autistic psychopathy." Their fate did not depend on the diagnostic label but on the individual assessment of their skills or disabilities. If anything, the utilitarian argument of "social worth" employed by Asperger (and by many of his colleagues) increased the danger to those children who could not fulfill these expectations. Focusing on the higher functioning children did nothing to lift the boat for all of them; those on the lower end still risked being left to drown. Often, Heilpädagogik's function in this context was to decide where to draw the line.

The preference for children who could be expected to respond positively to pedagogical intervention and the exclusion of the "hopeless" was a feature of Heilpädagogik from its inception in early twentieth-century Austria. It is important to keep in mind that the mission of Asperger's Heilpädagogik ward was primarily to deal with "difficult" children who caused problems that their caregivers were unable to confront without professional help.[75] Children with severe mental disabilities were considered to fall outside the remit of Heilpädagogik since they promised no tangible progress. At the 1935 founding meeting of the Austrian Society of Heilpädagogik, Theodor Heller (1869–1938), one of its most influential figures, stated: "Curative pedagogy, however, will only attend to the educable elements and must hardly burden itself with the care for idiots." The "uneducable" should be cared for in special institutions on humanitarian grounds, by contrast to the rationally and economically justified

efforts of Heilpädagogik for the "educable" ([69]: 8–9).[76] During the Nazi period, *Bildungsunfähigkeit* (uneducability) became the key criterion in the child "euthanasia" program [70].

Highlighting the potential of some patients should not then be mistaken for the defense of all children with disabilities. Rather, it served to point out the usefulness of Heilpädagogik to society. Also, Asperger did not adopt this strategy in reaction to the Nazi takeover in Austria. A 1937 paper (with the same title he would use in 1938) already used similar arguments in support of Heilpädagogik's mission [71]. It is not hard to see why in the post-Anschluss climate Asperger felt it necessary to explain what he and his discipline had to offer to the new political regime, by stressing his allegiance to the fundamental principles of National Socialism and by adapting earlier arguments of Heilpädagogik's utilitarian mission to the new political realities.

Overall, Asperger's pleas to devote the best possible care to "abnormal" children did not place him outside the mainstream of Heilpädagogik and the nascent discipline of youth psychiatry under National Socialism. The papers presented to the first conference of the newly founded German Society for Child Psychiatry and Heilpädagogik, held in Vienna in September 1940, also reveal that Asperger's positions clearly aligned with the opinions considered legitimate at such a representative forum. Although some of the speakers emphasized Heilpädagogik's role in implementing mechanisms of race hygienic selection, the positive aspects of helping children reach their potential (within the limits set by their inherited constitution) also had a prominent place. If Asperger's writings on his patients stood out because of their warmer tone, nothing, however, of what he said was out of line with the officially sanctioned discourse ([72]; for details, see also [73]).[77]

The adaptation of the Viennese brand of Heilpädagogik to the new political order and its race hygiene paradigm was facilitated by the fact that, since 1930, Hamburger had purged the influence of currents such as psychoanalysis and established the predominance of a purely biologistic paradigm based on the importance of inherited "constitutional" defects [74, 75]. Asperger, who had begun his career under Hamburger, shared many of these views, including a staunch opposition to psychoanalysis [76].

Heilpädagogik, then, was not only compatible with the Nazi state's goal of building a national community (while excluding "unworthy" and "racially alien" elements); there was even an increased demand for experts willing to draw the line between those who could be expected to become useful members of this community and those who should be cast aside ([73]: 184). This increased demand, together with the exclusion of Jewish doctors,[78] led to additional career opportunities for Asperger, for example, his appointment as an expert witness in May 1938 to the Vienna Juvenile Court.[79] As mentioned, in October 1940, he additionally acquired a part-time position at the Public Health Office as the city's medical specialist for "abnormal children," a function related to Vienna's special school system.[80] In this capacity, he routinely wrote expert opinions which are hard to reconcile with his 1974 claim not to have reported patients to this office [3]. According to Hamburger, Asperger's expert opinions were regarded as the "highest authority" not only by the youth welfare office and the youth court but also by the National Socialist Welfare Organization (NSV).[81]

Public health offices in Nazi Germany systematically collected information for a "hereditary index" (*Erbkartei*) of the whole population, designed to direct race hygiene measures against those deemed of inferior hereditary quality.[82] Staff at the Spiegelgrund "euthanasia" facility routinely reported patients in this context.[83] The records from Asperger's ward, by contrast, contain only a small number of such documents.[84] This would indicate that Asperger was indeed reluctant to report his patients for the "hereditary index"—provided that the records have not been purged of incriminating documents, which cannot be ruled out, since they were kept at the clinic where Asperger was director from 1946 to 1949 and again from 1962 until his retirement in 1977 [77]. In some cases, however, he demonstrably cooperated in such matters. At least seven patient files from his ward contain correspondence with the Public Health Office's Department for Hereditary and Racial Care (*Erb- und Rassenpflege*), in four cases signed by Asperger personally. There is no indication as to why the department responsible for the "hereditary index" was involved in these cases but not in so many other similar ones.[85]

A sample of 30 patients admitted both to Asperger's ward and to Spiegelgrund allows for a comparison of how children were diagnosed at the two institutions. In the next section, we will see what this comparison reveals about Asperger's diagnostic approach, not least with regard to his often-claimed "pedagogical optimism" (details on the sample are also offered there). Regarding references to heredity and race hygiene, the result is the following: In 14 of the 30 cases, the files contain reports suggesting a hereditary factor in the child's condition. In two of these cases, both Asperger and the Spiegelgrund staff suggested a hereditary etiology. In two other cases, Asperger included a reference to heredity in his report, but the Spiegelgrund staff did not. In ten of the cases, however, only the Spiegelgrund doctors referred to heredity. In the four cases in which Asperger referred to a hereditary factor, he did so by using the term "degenerative" (for example ascribing to the children a

"degenerative constitution" or "degenerative personality"), without however suggesting any eugenic measures such as sterilization.[86] The doctors at Spiegelgrund were clearly more inclined to refer to heredity, either directly as an alleged etiological factor or indirectly by including negative information on the child's *Sippe* (kin).

Neither the Spiegelgrund files nor the case records from Asperger's own ward contain evidence that he ever reported one of his patients to the Public Health Office for the purpose of sterilization.[87]

These findings support Asperger's claim of non-cooperation with the sterilization program, though here, too, we must allow for the possibility of files having been purged. This raises the question whether this non-cooperation by omission should be considered a form of resistance. It is important to note that the sterilization program in Nazi Austria was never implemented on a scale comparable to Nazi Germany between 1934 and 1939 and that children were not its primary targets. In Vienna, the Hereditary Health Court decreed a total of 1515 sterilization cases. Although in one case a child as young as 13 was ordered to be sterilized, 83% of victims were older than 20 ([78]: 97, 144).[88] Failure to comply with the sterilization law was widespread at the time, and there are no indications that this carried personal risks such as persecution by the Gestapo ([78]: 115). In 1942, the Public Health Office complained to the director of the general hospital (to which Hamburger's pediatric clinic belonged) that the hospital's clinics often failed to report patients with hereditary conditions ([78]: 116). Also, for those of Asperger's patients who were admitted to the clinic, this responsibility fell on Hamburger as the director, shielding Asperger from—in any event unlikely—consequences.[89]

Crucially, only one of the surviving patient records from Asperger's ward contains an explicit reference to the sterilization law; the documents are in accordance with Asperger's publicly stated position on sterilization, calling for 'responsible implementation.' In 1940, Asperger wrote a diagnostic opinion on Therese B., a 16-year-old former patient whose father wanted to have her sterilized because of alleged promiscuity. Asperger diagnosed her with psychopathy and "traits of nymphomania," but pointed out that strictly speaking, she did not fall within the purview of the sterilization law, since her behavior had in all likelihood been caused by an earlier encephalitis, and not by a hereditary defect.[90]

More problematic is a report on a 15-year-old deaf-mute boy which Asperger addressed to the Health Office's Department of Hereditary and Racial Care in March 1942. Under the category "kin," Asperger listed various cases of deaf-muteness among Ernst's relatives.[91] Although Asperger did not explicitly refer to sterilization, the information provided meant that the addressee would have to initiate a sterilization procedure on the grounds that the condition appeared to be hereditary.[92] Asperger could have omitted this information without any risk, but in this case (as in those he referred to Spiegelgrund, analyzed in the next section), it seems that he was willing to cooperate as long as he did not have to take direct responsibility for the consequences.

There is one case in which documents suggest that Asperger may have helped shield a patient from possible persecution. In the fall of 1939, he examined Aurel I., the 14-year-old son of a civil servant, who showed "behavioral peculiarities." In his report, Asperger wrote that the boy would suffer mental and physical damage if placed among a group of children, which resulted in his exemption from school. His family then moved him to the countryside, where he spent the war in the care of relatives. In a 1962 letter, his sister credited Asperger with having saved Aurel from "castration" and possibly worse.[93] Asperger wrote his report just days before the sterilization law was introduced in Austria, an event that was widely publicized [79]. In 2009, a Cologne art dealer (who had bought Aurel's estate of drawings and papers) wrote to Asperger's daughter speculating that Aurel, who after the war was diagnosed with schizophrenia, might have shown autistic traits when examined by Asperger.[94] Ultimately, it is impossible to say with certainty what happened in 1939, and to what extent the dramatic elements of the story are a product of the years that passed before the quoted letters were written.

What emerges from the available sources is that Asperger's approach to the forced sterilization program was ambivalent. On the one hand, as mentioned, he publicly signaled his fundamental agreement with the policy while calling for its cautious and "responsible" implementation—which is consistent with his overall strategy to demonstrate his willingness to cooperate with the regime without taking hardline positions on race hygiene. At the same time, based on his ward's patient records, it appears that he abstained from reporting children for sterilization—a stance that does not seem to have put him at odds with the Nazi authorities, given the circumscribed implementation of the sterilization law in Austria. By the time the first procedures under the sterilization law were carried out in Austria in the fall of 1940, the prevention of "hereditarily diseased offspring" could rely on another, more radical method; with the establishment of Am Spiegelgrund in July 1940, the child "euthanasia" program had a dedicated killing facility in Vienna. Even if the vast majority of Asperger's patients did not suffer from the degree of mental disability that the program was designed to eradicate, a number of them were

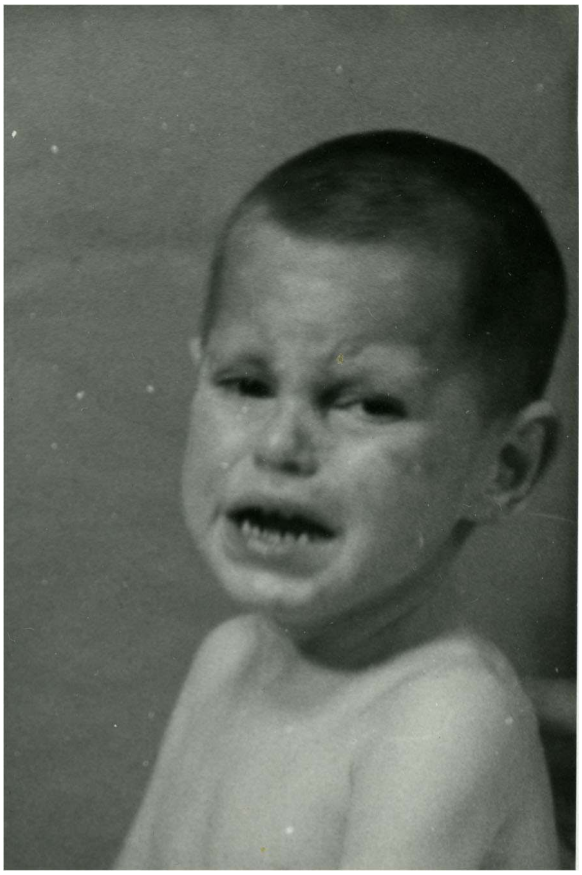


**Fig. 6** Herta Schreiber at the Spiegelgrund "euthanasia" clinic, where she died 3 months after admission (photo has been cropped) (WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichte Herta Schreiber)

killed at Spiegelgrund. His role in this context is the topic of the next section.

### Limits of "educability": Asperger and the Spiegelgrund "euthanasia" facility

In his wartime publications, Asperger appears as someone who declared his willingness to cooperate with the Nazi state, propagated—albeit less enthusiastically than others—elements of Nazi race hygiene, and tried to argue that his discipline had an important role to play within the new political order. His main argument was the ability of Heilpädagogik to turn troubled, difficult, or "abnormal" children into useful members of society. His professed pedagogical optimism reached its limits, however, in children with greater degrees of mental disability. Although in his ward he usually dealt with more promising cases, in the course of his manifold activities as an expert for "abnormal" children, he was also confronted with children for whom the Nazi state had little more in mind than discreet medicalized extermination. In this regard, as we will see, his record was mixed.

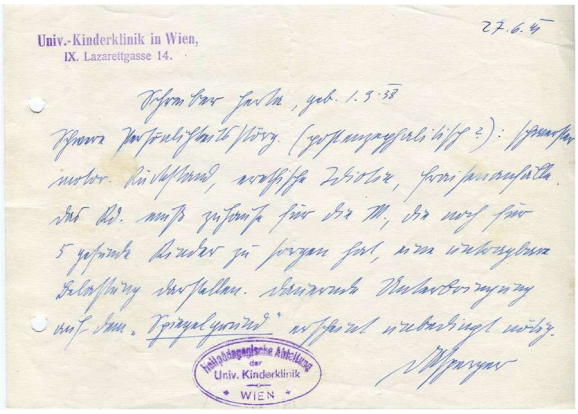


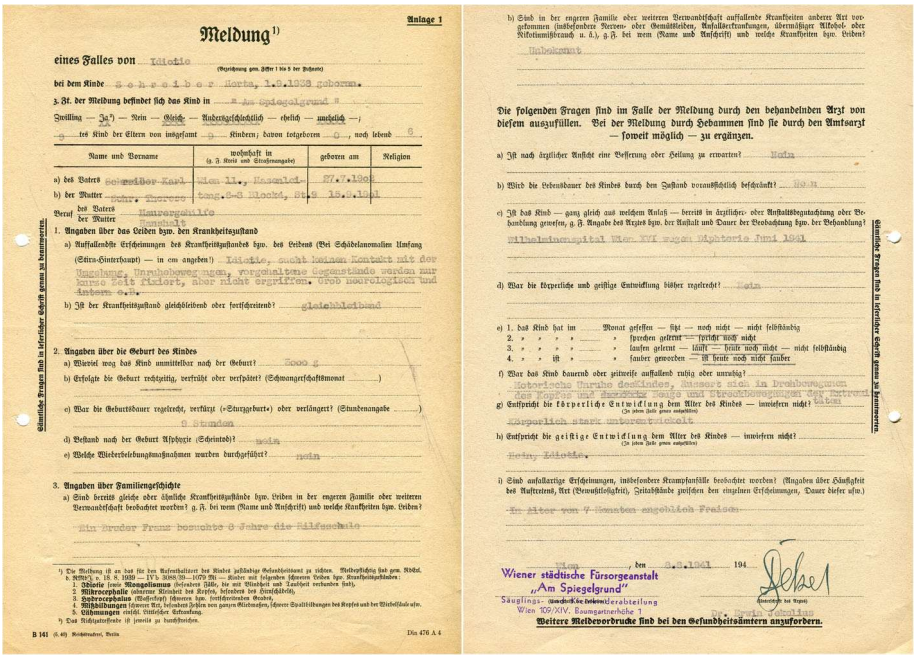

**Fig. 7** Hans Asperger recommended Herta's transferal to Spiegelgrund because she "must be an unbearable burden to her mother," 27 June 1941 (WStLA)

Am Spiegelgrund was founded in July 1940 on the premises of Vienna's Steinhof psychiatric hospital, after approximately 3200 patients had already been sent to the T4 killing facility in Hartheim [80]. The new facility was headed by Erwin Jekelius, Asperger's former colleague at the university clinic. During Jekelius' tenure at Spiegelgrund, the facility became a collecting point for children who did not conform to the regime's criteria of "hereditary worthiness" and "racial purity." From 1940 to 1945, nearly 800 children perished at the institution; many of them murdered by poisoning and other methods [81].

On 27 June 1941, 2 months before her third birthday, Asperger examined a girl at his clinic named Herta Schreiber (Fig. 6). The youngest of nine children, Herta showed signs of disturbed mental and physical development ever since she had fallen ill with encephalitis a few months before. Asperger's diagnostic report on Herta reads as follows:

> Severe personality disorder (post-encephalitic?): most severe motoric retardation; erethic idiocy; seizures. At home the child must be an unbearable burden to the mother, who has to care for five healthy children. Permanent placement at Spiegelgrund seems absolutely necessary.[95] (Fig. 7)

Herta was admitted to Spiegelgrund on 1 July 1941. On 8 August, Jekelius reported her to the Reich Committee for the Scientific Registration of Serious Hereditary and Congenital Illnesses, the secret organization behind child "euthanasia." In the form he sent to Berlin, Jekelius pointed out that Herta had no chance of recovery but that her condition would not curtail her life expectancy—an unacceptable combination in the eyes of the euthanasia "experts" (Fig. 8). On 2 September, a day after her third birthday, Herta died of pneumonia, the most common



Meldung[1]

Anlage 1

eines Falles von Idiotie

bei dem Kinde Schreiber Herta, 1.8.1938 geboren.

z. Zt. der Meldung befindet sich das Kind in Am Spiegelgrund

Zwilling — Ja[2]) — Nein — Gleich- — Andersgeschlechtlich — ehelich — unehelich —;

1. Angaben über das Leiden bzw. den Krankheitszustand

a) Auffallendste Erscheinungen des Krankheitszustandes bzw. des Leidens (Bei Schädelanomalien Umfang (Stirn-Hinterhaupt) — in cm angeben!) Idiotie, sucht keinen Kontakt mit der Umgebung, Unruhebewegungen, vorgehaltene Gegenstände werden nur kurze Zeit fixiert, aber nicht ergriffen. Orob neurologischen und Anhaltspunkte.

b) Ist der Krankheitszustand gleichbleibend oder fortschreitend? gleichbleibend

2. Angaben über die Geburt des Kindes

a) Wieviel wog das Kind unmittelbar nach der Geburt? 2000 g

b) Erfolgte die Geburt rechtzeitig, verfrüht oder verspätet? (Schwangerschaftsmonat .....)

c) War die Geburtsdauer regelrecht, verkürzt (»Sturzgeburt«) oder verlängert? (Stundenangabe .....) 8 Stunden

d) Bestand nach der Geburt Asphyxie (Scheintod)? nein

e) Welche Wiederbelebungsmaßnahmen wurden durchgeführt? nein

3. Angaben über Familiengeschichte

a) Sind bereits gleiche oder ähnliche Krankheitszustände bzw. Leiden in der engeren Familie oder weiteren Verwandtschaft beobachtet worden? g. F. bei wem (Name und Anschrift) und welche Krankheiten bzw. Leiden? Ein Bruder Franz besuchte 8 Jahre die Hilfsschule

b) Sind in der engeren Familie oder weiteren Verwandtschaft auffallende Krankheiten anderer Art vorgekommen (insbesondere Nerven- oder Geisteskrankheiten, Unfallerkrankungen, übermäßiger Alkohol- oder Nikotinmißbrauch u. ä.), g. F. bei wem (Name und Anschrift) und welche Krankheiten bzw. Leiden? Unbekannt

Die folgenden Fragen sind im Falle der Meldung durch den behandelnden Arzt von diesem auszufüllen. Bei der Meldung durch Hebammen sind sie durch den Amtsarzt — soweit möglich — zu ergänzen.

a) Ist nach ärztlicher Ansicht eine Besserung oder Heilung zu erwarten? Nein

b) Wird die Lebensdauer des Kindes durch den Zustand voraussichtlich beschränkt? Ja

c) Ist das Kind — ganz gleich aus welchem Anlaß — bereits in ärztlicher- oder Anstaltsbegutachtung oder Behandlung gewesen, g. F. Angabe des Arztes bzw. der Anstalt und Dauer der Beobachtung bzw. der Behandlung? Wilhelminenspital Wien XVI wegen Diphterie Juni 1941

d) War die körperliche und geistige Entwicklung bisher regelrecht? Nein

e) 1. das Kind hat im ..... Monat gegessen — ißt — noch nicht — nicht selbständig
2. » » » » ..... » sprechen gelernt — spricht noch nicht
3. » » » » ..... » laufen gelernt — läuft — heute noch nicht — nicht selbständig
4. » » ißt » ..... » sauber geworden — ist heute noch nicht sauber

f) War das Kind dauernd oder zeitweise auffallend ruhig oder unruhig? Motorische Unruhe des Kindes, äußert sich in Drahtbewegungen, Aus Krämpfe sind derzeitige Angst und Erregungszustände der Betreuerin

g) Entspricht die körperliche Entwicklung dem Alter des Kindes — inwiefern nicht? (In jedem Falle genau angeben!) Körperlich stark unterentwickelt

h) Entspricht die geistige Entwicklung dem Alter des Kindes — inwiefern nicht? (In jedem Falle genau angeben!) Nein, Idiotie.

i) Sind anfallartige Erscheinungen, insbesondere Krampfanfälle beobachtet worden? (Angaben über Häufigkeit des Auftretens, Art (Bewußtseinsstörung), Zeitabstände zwischen den einzelnen Erscheinungen, Dauer dieser usw.) Im Alter von 7 Monaten angeblich Fraisen

Wien, den 8.8.1941 194

Wiener städtische Fürsorgeanstalt „Am Spiegelgrund" Säuglings- (Kinder- und Jugend-) Abteilung Wien 109/XIV. Baumgartnerhöhe 1

Dr. Erwin Jekelius (Unterschrift des Arztes)

Weitere Meldevordrucke sind bei den Gesundheitsämtern anzufordern.

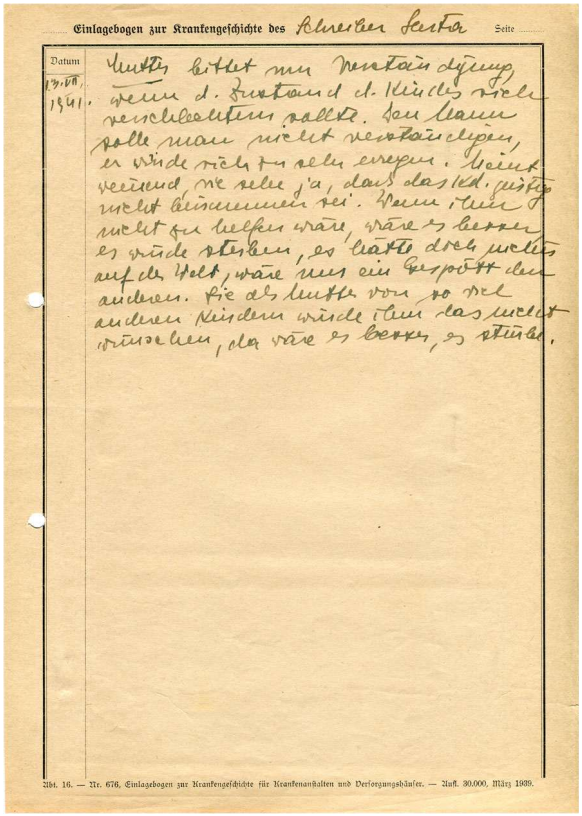
Sämtliche Fragen sind in leserlicher Schrift genau zu beantworten.

[1]) Die Meldung ist an das für den Aufenthaltsort des Kindes zuständige Gesundheitsamt zu richten. Meldepflichtig sind gem. Abschn. II Ziffer 1 a. 18. 8. 1939 — IV b 3086/39 — 1079 RMI. — Kinder mit folgenden schweren Leiden bzw. Krankheitszuständen:
1. **Idiotie** sowie **Mongolismus** (Gefallenen Zahl), die mit Blindheit und Taubheit verbunden sind),
2. **Mikrocephalie** (abnormer Kleinheit des Kopfes, bestanden des Hirnschädels),
3. **Hydrocephalus** (Wasserkopf) schweren bzw. fortschreitenden Grades,
4. **Mißbildungen** schwerer Art, besonders Fehlen von ganzen Gliedmaßen, schwerer Spaltbildungen des Kopfes und der Wirbelsäule usw.
5. **Lähmungen** endlich sämtliche Erkrankung.

[2]) Das Nichtzutreffende ist jeweils zu durchstreichen.

B 141 (6. 40) Reichsdruckerei, Berlin. Dm 476 A 4

**Fig. 8** On 8 August 1941, Erwin Jekelius reported Herta to the Reich Committee for the Scientific Registration of Serious Hereditary and Congenital Illnesses, the secret organization responsible for the child "euthanasia" program (WStLA)



Einlagebogen zur Krankengeschichte des Schreiber Herta Seite .....

Datum

19.VIII. 1941.

Mutter bittet um Verständigung wenn d. Zustand d. Kindes sich verschlechtern sollte. Sonst lasse man nichts verständigen, es würde sich zu sehr erregen. Meint weinend, sie sehe ja, dass das Kind geistig nicht beisammen sei. Wenn ihm nicht zu helfen wäre, wäre es besser es würde sterben, es hätte doch nichts auf der Welt, wäre nur ein Gespött den anderen. Sie als Mutter von so vielen anderen Kindern würde ihm das nicht wünschen, da wäre es besser, es stürbe.

Abt. 16. — Nr. 676. Einlagebogen zur Krankengeschichte für Krankenanstalten und Versorgungshäuser. — Aufl. 30.000. März 1939.

**Fig. 9** A note in Herta's Spiegelgrund file suggests her mother was aware that her daughter would be killed at the clinic (WStLA)

cause of death at Spiegelgrund, which was routinely induced by the administration of barbiturates over a longer period of time.[96]

A note in Herta's Spiegelgrund file indicates that her mother not only knew what fate awaited her child at the facility but that she accepted or even expected it:

> Mother asks to be notified if the condition of the child should get worse. The husband should not be informed, he would be too upset. She says in tears that she can see for herself that the child is mentally not well. If she cannot be helped, it would be better if she died. She would not have anything in this world, she would only be ridiculed by others. As the mother of so many other children she would not want that for her, so it would be better if she died.[97] (Fig. 9)

In the context of Nazi-ruled Vienna, it seems that Herta's mother, with a husband at war and six children to take care of—one of them with a severe mental disability—had reached a point where the possibility of having that responsibility taken off her shoulders would seem like a relief, even if it meant knowingly surrendering her daughter to death. In a society permeated by contempt for "unworthy life," the social stigma of mental disability must have been acute—and the fear of ridicule is indeed the main argument in the quoted document. From Herta's religious denomination *gottgläubig* (theistic),

it can be inferred that the family had left the Catholic Church under the influence of the Nazis' opposition to organized religion, a practice that was usually followed only by a radical minority of Nazi sympathizers ([82]: 281–3). To this, we have to add a lack of institutional support since more and more homes for disabled children were dissolved and rededicated as institutions for the "healthy" and "valuable" children.

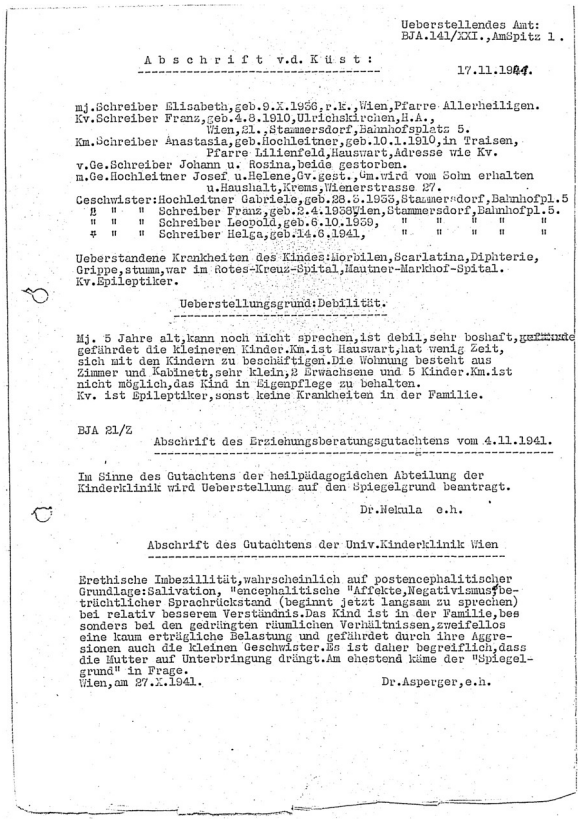
What took place between Herta's mother and Asperger before the latter decided to transfer Herta to Spiegelgrund? Did they openly discuss the possibility of "euthanasia"? If so, did she turn to Asperger with her mind already made up, or was it he who offered this as a "solution" to her? Or did he decide independently what he thought best, based on the information she provided? From the available documents, we cannot know with certainty. All we have to go by is Asperger's short note on Herta in which he calls for her "permanent placement" at Spiegelgrund—whether this was a conscious euphemism for murder or not, it is clear that he did not expect Herta to return.

This case is revealing not least with respect to Asperger's therapeutic credo. As previously mentioned, he repeatedly called for giving people with mental anomalies the best available care in order to develop their potential as far as possible. However, he never addressed the question of what should happen in cases without hope of improvement. The children Asperger advocated for were those who promised some future benefit to society. We must not confuse them with the group labeled *bildungsunfähig* (uneducable), which was targeted for murder in the child "euthanasia" program. In Herta Schreiber's case, Asperger did not expect any future improvement, rendering further efforts futile. His diagnosis (albeit with a question mark) was "post-encephalitic status." In 1944, he published an article on this topic, in which he wrote: "All the work done at our ward is carried forward by a strong pedagogic optimism [...]. But in the case of these post-encephalitic personalities, we too have to say that one in most cases has to largely capitulate" ([83]: 116).[98] The transfer of Herta Schreiber to the Spiegelgrund facility looks like such a capitulation.

Perhaps it is no coincidence that another girl who was recommended for transferal to Spiegelgrund by Asperger suffered from similar symptoms, also attributed to an earlier infection. According to Asperger's evaluation, the case of 5-year-old Elisabeth Schreiber (no apparent relation to Herta) bears other similarities as well:

> Erethic imbecility, probably on a post-encephalitic basis. Salivation, 'encephalitic' affects, negativism, considerable language deficit (is now slowly starting to speak), with relatively better comprehension. In the family, the child is without a doubt a hardly bearable burden, especially under their crowded living conditions, and due to her aggressions she endangers the small siblings. Therefore it is understandable that the mother pushes for institutionalization. Spiegelgrund would be the best possibility.[99] (Fig. 10)

According to Asperger's notes, it seems that Elisabeth's mother was also unable or unwilling to take care of her, but there was no explicit reference to the possibility of her death. What can be said with a degree of certainty is that she sought institutional care for her daughter and that Asperger recommended transferal to the killing facility. However, Elisabeth was not immediately transferred to Spiegelgrund, probably because there was no bed available. Instead, she was sent to another institution for children with mental defects, where she stayed for a few months. In March 1942, she was transferred to Spiegelgrund. One of the nurses wrote that she was friendly and affectionate but that she spoke only one word: "Mama." She died of pneumonia—like Herta and so many other children at Spiegelgrund—on 30 September 1942, shortly before her sixth birthday.[100]



Ueberstellendes Amt:
BJA.141/XXI.,AmSpitz 1.

A b s c h r i f t v.d. K ü s t :

17.11.1944.

mj.Schreiber Elisabeth,geb.9.X.1936,r.k.,Wien,Pfarre Allerheiligen.
Kv.Schreiber Franz,geb.4.8.1910,Ulrichskirchen,H.A.,
Wien,21.,Stammersdorf,Bahnhofsplatz 5.
Km.Schreiber Anastasia,geb.Hochleitner,geb.10.1.1910,in Traisen,
Pfarre Lilienfeld,Hauswart,Adresse wie Kv.
v.Ge.Schreiber Johann u. Rosina,beide gestorben.
m.Ge.Hochleitner Josef u.Helene,Gv.gest.,Um.wird vom Sohn erhalten
u.Haushalt,Krems,Wienerstrasse 27.
Geschwister:Hochleitner Gabriele,geb.28.6.1933,Stammersdorf,Bahnhofpl.5
B " " Schreiber Franz,geb.5.4.1935Wien,Stammersdorf,Bahnhofpl.5.
" " " Schreiber Leopold,geb.6.10.1939, " " " " "
# " " Schreiber Helga,geb.14.6.1941, " " " " "

Ueberstandene Krankheiten des Kindes:Morbilen,Scarlatina,Diphterie,
Grippe,stumm,war im Rotes-Kreuz-Spital,Mautner-Markhof-Spital.
Kv.Spileptiker.

Ueberstellungsgrund:Debilität.

Mj. 5 Jahre alt,kann noch nicht sprechen,ist debil,sehr boshaft,gefährde
gefährdet die kleineren Kinder.Km.ist Hauswart,hat wenig Zeit,
sich mit den Kindern zu beschäftigen.Die Wohnung besteht aus
Zimmer und Kabinett,sehr klein,2 Erwachsene und 5 Kinder.Km.ist
nicht möglich,das Kind in Eigenpflege zu behalten.
Kv. ist Epileptiker,sonst keine Krankheiten in der Familie.

BJA 21/Z

Abschrift des Erziehungsberatungsgutachtens vom 4.11.1941.

Im Sinne des Gutachtens der heilpädagogischen Abteilung der
Kinderklinik wird Ueberstellung auf den Spiegelgrund beantragt.

Dr.Nekula e.h.

Abschrift des Gutachtens der Univ.Kinderklinik Wien

Erethische Imbezillität,wahrscheinlich auf postencephalitischer
Grundlage:Salivation, "encephalitische "Affekte,Negativismus,be-
trächtlicher Sprachrückstand (beginnt jetzt langsam zu sprechen)
bei relativ besserem Verständnis.Das Kind ist in der Familie,bes
sonders bei den gedrängten räumlichen Verhältnissen,zweifellos
eine kaum erträgliche Belastung und gefährdet durch ihre Aggre-
sionen auch die kleinen Geschwister.Es ist daher begreiflich,dass
die Mutter auf Unterbringung drängt.Am ehestend käme der "Spiegel-
grund" in Frage.
Wien,am 27.X.1941. Dr.Asperger,e.h.

**Fig. 10** In the case of Elisabeth Schreiber, Asperger also recommended transferal to Spiegelgrund (WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichte Elisabeth Schreiber)

Was Asperger aware that Elisabeth would have almost no chance of survival at Spiegelgrund, that he was sending Herta to her death? Is it possible that he meant "permanent placement" just in its literal meaning, or do we have to consider it a euphemism for murder (comparable to "special treatment," "final solution," or less obliquely, "euthanasia")? Significantly, the extermination of the mentally ill was never explicitly referred to in written documents, at least not outside the smallest circles of the initiated. For example, Hitler's 1939 "authorization" providing cover for the extermination of 70,000 people in gas chambers only mentioned the intention to "accord a merciful death" in individual, carefully selected cases ([84]: 114). In documents not protected as state secrets, it would have been a grave breach to even mention the possibility of killing patients. Asperger's expression, used in reference to a secret killing facility, could hardly be understood as anything other than a recommendation for "euthanasia"—provided that he knew what was going on there.

While the "euthanasia" killings at Spiegelgrund (as elsewhere) were officially a secret, and parents were routinely deceived about the true nature of the institution and the fate awaiting their children, rumors nevertheless abounded, and Asperger was in an exceptional position to know the truth. After his arrest in 1945, Ernst Illing (1904–1946), Jekelius' successor as Spiegelgrund's director, gave the following statement:

> I point out that my clinic [Spiegelgrund] was always overcrowded, since other clinics […], including the University Pediatric Clinic, transferred—or wanted to transfer—such hopeless cases, evidently because they believed that in my clinic euthanasia was possible on account of the mentioned circular, while they were not allowed to practice euthanasia. I am absolutely convinced that the directors of the mentioned institutions were aware of euthanasia and the mentioned circulars.[101]

Illing had every reason to diminish his own responsibility, but there is further evidence for the close ties between Spiegelgrund and the university clinic. As mentioned before, Spiegelgrund's founding director Jekelius had trained under Hamburger and Asperger; Jekelius and Asperger were colleagues at the Vienna Public Health Office, and all three men played a leading role in the establishment of the Viennese Association for Heilpädagogik in 1941, part of a broader attempt to strengthen curative pedagogy's profile in Nazi Germany as a medical discipline in accordance with race hygiene ([4]: 172–3). In line with Illing's testimony, children were routinely sent from the pediatric clinic to Spiegelgrund ([13]: 203). A number of them were subjected to tuberculosis vaccine experiments by Asperger's colleague Elmar Türk. After the experiments, the children were sent to Spiegelgrund, where they were murdered so that the vaccine results could be compared with the pathological findings. Staff at the pediatric clinic were not only aware of what happened at Spiegelgrund but exploited the research opportunities created by the murders [85].

Furthermore, knowledge of the mass murders euphemized as "euthanasia" was not limited to insiders; it was in fact widespread among the Viennese population. During the so-called "T4" killing campaign, patients' relatives staged public protests in front of the Steinhof psychiatric hospital in Vienna. They could not prevent approximately 3200 Steinhof patients from being transported to the gas chamber at Hartheim, but they took a courageous stance against the regime's campaign of murder.[102] Rumors were so widespread that the Viennese edition of the *Völkischer Beobachter*—the Nazi Party's daily newspaper—was compelled to deny the killings. The article mentioned lethal injections and even gas chambers, which shows how specific the public's knowledge was ([86]: 7). Anny Wödl, a Viennese nurse, had no doubt that the transfer of her son Alfred to Spiegelgrund, enforced in early 1941 despite her resolute resistance, would mean his death ([87]: 298). Even abroad, the killings at Spiegelgrund became known. In the fall of 1941, the Royal Air Force dropped leaflets mentioning both the Steinhof hospital and Jekelius' name in connection with the systematic murder of patients.[103]

In light of this evidence, it seems extremely implausible that Asperger—a longtime colleague of Erwin Jekelius and a well-connected player in his professional field—was unaware of the activities at Spiegelgrund. When he reflected on the Nazi period in 1974, Asperger did not mention the child "euthanasia" program directly but claimed that he had from the outset refused to accept the Nazis' concept of "unworthy life" or to participate in race hygiene measures, implicitly acknowledging that he was aware of its ramifications [3].

In the cases of Herta and Elisabeth, were there alternatives to sending them to Spiegelgrund? Could he have saved their lives? Under the circumstances, and given the parents' lack of support, ensuring the long-term survival of the two children would certainly have been difficult. Facilities for children with severe disabilities continued to exist (both public and religious), but they were under pressure to hand over those among their patients deemed "unworthy" of support. Nevertheless, Asperger was under no obligation to send children directly to the killing facility, even if they suffered from severe disabilities. He could, without any risk to himself, have transferred them elsewhere, and in a number of other cases, he did just that.

Among the children who died at Spiegelgrund, there were at least four others apart from Herta and Elisabeth who had previously been examined by Asperger, two of them while the Spiegelgrund "euthanasia" facility was already in operation. Their conditions were so severe that the "euthanasia" apparatus ultimately caught up with them, although Asperger initially had them transferred to other institutions.[104] Why did he send Herta and Elisabeth to Spiegelgrund, but not Richard and Ulrike? While Asperger's diagnostic report on Richard (who was diagnosed at Spiegelgrund with "mongolism") is not included in the surviving records, Ulrike's file contains a report in which Asperger described her as "mentally extremely retarded, severely autistic," and as a "severe burden" at home. Over the course of a year, he had observed a process of "cerebral decay" which led him to recommend a home for mentally disabled children.[105] There is insufficient evidence to determine with certainty why he decided one way or the other, although in the cases of Herta and (less clearly) Elisabeth, the attitude of the parents may have played a role. The evidence in these two cases suggests that at least under the given circumstances he accepted the killing of disabled children as a last resort. This needs to be kept in mind when assessing Asperger's role in a wave of transferals to Spiegelgrund which resulted in the deaths of a considerable number of children.

In November 1941, the authorities in Niederdonau (the province surrounding Vienna) noticed that patients in the children's ward at the Gugging psychiatric hospital were not attending school, despite not having been excused.[106] An expert committee was consequently convened to evaluate the children with regard to their "educability." Children evaluated as "educable neither in a special school nor within a psychiatric institution" were to be "delivered to the operation of Dr. Jekelius as soon as possible."[107] This formulation implies that the recipients of the document would know who Dr. Jekelius was and that the children deemed "uneducable" by the committee should be killed.

Due to overlapping jurisdictions (the Gugging hospital was on Viennese territory and property of the city, but leased to the Niederdonau administration), the committee consisted of seven members from both provinces. Asperger was asked to join in his role as medical advisor for Vienna's special school system. He was the only expert on Heilpädagogik on the panel and the only clinician with scientific credentials (the only other physician was the director of the Gugging mental institution, the psychiatrist Josef Schicker, 1879–1949).

After 106 children had been transported in March and May 1941 to the killing center in Hartheim, at the end of that year, 220 patients remained on the ward. In the commission's report, dated 16 February 1942, all children of school age were classified into various categories, with 35 (9 girls and 26 boys) labeled as "uneducable" and "unemployable," the keywords for "euthanasia." The report does not include their names, rendering it impossible to establish with certainty what happened to them individually.[108] However, there is evidence for a number of later transferals from Gugging to Spiegelgrund with fatal outcomes.[109]

On 20 May 1942, 3 months after the commission convened in Gugging, nine boys were transferred to Spiegelgrund. All of them were dead within a few months. By the end of that year, another 20 children (9 girls and 11 boys) followed, only to meet the same fate. During 1943, 12 children (8 boys and 4 girls) were taken to Spiegelgrund, none of whom survived.[110] The death rate of 100% indicates that these children were sent to Spiegelgrund to die. The time-lapse between the commission's visit and some of the transferals is most likely due to the fact that Spiegelgrund was routinely running over capacity; it is also possible that in some cases, further observation was considered necessary.

The commission relied on suggestions prepared by Schicker but examined the children individually and took a decision in each case. Among a group of 50 children whom the director deemed unfit for school and wanted to keep in Gugging, the committee found 18 who in their opinion warranted further pedagogical efforts. However, regarding the 35 children placed in the lowest category by Schicker, the commission confirmed his verdict in every case: "The school-age children who are uneducable, incapable of any development or occupation [*nicht bildungs- und entwicklungs- bzw. beschäftigungsfähig*] were examined and it was determined that in none of these cases noteworthy education results could be expected."[111] By changing the diagnosis for 18 children of the first group, the commission improved their chances of being sent to a special school rather than remaining at the mental hospital, which means that they faced a lesser risk of being selected for killing. Even so, 20 children of the original 50 ended up as "euthanasia" victims at Spiegelgrund, in addition to the 35 children whose classification as hopeless cases slated for "euthanasia" had been confirmed by the panel. In all, 59 of 158 children evaluated by the commission died at Spiegelgrund before the end of the war, a death rate of 37.3%.[112]

Was the commission in a position to save at least some of the children had they wanted to? Due to the limited sources available, this question cannot be answered conclusively. What can be shown, however, is that at least in some cases their families wanted to take them into their care but were not permitted to do so by the authorities. Engelbert Deimbacher was a patient at the children's ward when the commission visited. He

was deaf-mute from his birth in 1929. His case file mentions hydrocephaly and severe mental disability. Although he could not attend school, there was hope he might be able to improve his physical abilities to perform simple tasks. He was described as lively and sociable. Engelbert's file contains three letters from his father asking him to be released into his care, the last of which was received on 15 February 1942, 3 days before the commission's visit. The requests were denied on all three occasions, the last under the pretext that further examinations were necessary. On 20 May 1942, Engelbert was transferred to Spiegelgrund, where he died on 8 November.[113] In the case of Georgine Schwab (born 1934), her grandmother repeatedly pleaded for her release, again to no avail.[114] The files contain numerous similar examples, proving that these children were neither unwanted nor unloved.[115]

In this case, it seems that Asperger was a well-functioning cog in a deadly machine. Even if the ultimate responsibility for the deaths of these children fell on Schicker, Gugging's director, who signed off on the transferals, and on the Spiegelgrund staff, the episode shows that the authorities trusted Asperger to lend his expertise to the selection of children for elimination.

### Asperger's diagnoses compared to those at Spiegelgrund

In his publications, Asperger projected an image of himself as benevolent, optimistic, and affectionate towards the children in his care—a characterization echoed in the biographical literature. While there is little doubt that he was passionate about his work and genuinely cared about many of his patients, in the context of this paper, we must ask whether this positive attitude extended to those children who did not offer hopes of future development or who defied attempts to educate or discipline them. Based on the narrative promoted by Asperger himself and others who took his cue, one would expect to find considerable differences between his reports on troubled children and those written by colleagues committed to the idea of "unworthy" lives and their exclusion from the body politic.

The records of 46 children who were examined both by Asperger at his Heilpädagogik Ward and at Spiegelgrund allow this to be put to the test; of these 46 children, 6 died at the "euthanasia" facility; their cases, including those of Herta and Elisabeth Schreiber, are discussed above. The following analysis focuses on the remaining 40 children (12 girls, 28 boys), who survived Spiegelgrund and were later transferred to other institutions or discharged.[116] In ten of these cases, Asperger explicitly called for transferal to Spiegelgrund, and in four, he recommended an "institution under curative pedagogic leadership," which also points to the Spiegelgrund.[117] Although other instances—especially the Youth Welfare Administration—were also involved in determining what would happen to the children, Asperger was the leading expert in the field, and his diagnostic reports and recommendations were often decisive.

Unlike with Herta and Elisabeth Schreiber, in the 14 cases in question, there is no indication that Asperger expected the children he recommended for transferal to Spiegelgrund (explicitly or by suggestion) to be killed there. Although the Spiegelgrund facility was established to implement the child "euthanasia" program, it also carried out long-term observation of children with developmental or other problems, housed infants with less severe disabilities, and also served as a disciplinary facility for the youth welfare system [81]. The conditions of these 14 children appear not to have been so severe as to make them targets for extermination, although sending them to Spiegelgrund nevertheless put them at considerable risk. According to the survivors' testimony, children were routinely subjected to violence, including medicalized forms of torture, and the older ones lived in fear of being killed.[118]

The sample of 40 Spiegelgrund survivors previously examined by Asperger includes 30 cases with sufficient documentation to allow a comparison between Asperger's evaluations and those of his colleagues who were directly involved in the murder of disabled children (the cases excluded from the direct comparison due to insufficient documentation include Friedrich K., who fit the profile of "autistic psychopathy"[119]). Is there any evidence in these files that Asperger attempted to draw a positive picture of the children in order to minimize the risk they faced from the Nazis' race hygiene policies? To be sure, the direct comparison raises certain problems: The assessments varied in length and depth, they did not adhere to common diagnostic standards, and sometimes considerable time passed between them so that the children's conditions could have evolved in the meantime, for better or for worse. Despite these limitations, the files represent a unique opportunity to assess Asperger's work as a diagnostician within the institutional and methodological context of his time and place. Spiegelgrund, established not only for child "euthanasia" but also for dealing with "difficult" or "asocial" children, epitomizes the implementation of race hygiene in pediatrics, youth psychiatry, and youth welfare. The senior staff at Spiegelgrund (who were the authors or signatories of the medical reports analyzed here) were committed Nazis and race hygienists. Against this background, any systematic bias Asperger might have had in favor of his patients would have to be visible in this sample. And yet, out of these 30 cases, there are only 2 in which Asperger appears to judge the children less harshly than his peers at Spiegelgrund. In 16 or just over half of the cases, Asperger and the diagnosticians at

Spiegelgrund came to comparable conclusions. In the remaining 12, Asperger took a more negative and in some instances an outright disparaging view of his patients.

Gerald St. is the second boy in the sample who besides the aforementioned Friedrich K. was described, among other labels, as "autistic." Asperger saw him in July 1941, when he was 28 months old. He diagnosed him with "intellectual retardation" and a "disturbed personality," and more specifically with a "restriction of personal contact, abrupt impulses, increased and inadequate affects, and stereotypical movements." In the context of a "normal children's community," he considered the boy an "unbearable burden" and therefore recommended either private care or transferal to Spiegelgrund.[120] Gerald was admitted to Spiegelgrund 8 months later, via two other institutions. The first psychological assessment at Spiegelgrund came to similar conclusions: "intellectually retarded, especially with regard to language," "impulsiveness," and "tendency to tantrums." "It is very difficult to establish contact, the child just talks in a spontaneous and autistic manner." The overall diagnosis was "neuropathy."[121] A year later, Heinrich Gross (1915–2005), one of the most notorious Austrian "euthanasia" perpetrators, came to a much more optimistic result and recommended Gerald's release into the care of his grandparents as Gerald, although still behind in his overall development, had caught up regarding his mental abilities. Gross now described the boy as emotionally responsive, cheerful, and excitable.[122] This is an example of Asperger's reputed "pedagogical optimism" ringing hollow in the face of what he actually wrote in his patients' files.

Gerald was initially described in similar terms by Asperger and at Spiegelgrund. Leo A., by contrast, is a typical example of the 12 out of 30 cases in which Asperger appears harsher than his peers. Born in April 1936 to a single mother, Leo was placed in foster care immediately after his birth. At age four, Leo was an intelligent but difficult child. He suffered from fits of rage and was accused of cruelty towards animals. In November 1940, he was sent to Asperger's ward for observation and diagnosis. In his assessment, Asperger qualified Leo as a "very difficult, psychopathic boy of a kind which is not frequent among small children." Although he was "in some respects intellectually ahead of his age," Asperger pointed out the boy's "heightened impulsiveness" and his "acts of malice carried out with great skill." Asperger's recommendation contains an expression he often used to characterize his ideal style of education: What the boy needed was the "very sovereign guidance" (sehr überlegene Führung) that only an institution following the principles of Heilpädagogik (such as Spiegelgrund) could provide.[123] Leo was sent to Spiegelgrund 4 months later, after a stay with his aunt. After 4 months of observation, Erwin Jekelius and Heinrich Gross signed their own assessments: Leo was "very well developed in every respect and very intelligent." He was found to be solitary and withdrawn in the company of other children and easily irritated, but he caused no difficulties. While not very helpful towards other children, no signs of a lack of empathy (*Gemütsarmut*) had been observed. Jekelius' and Gross' recommendation was to return the boy to his father since they thought that the difficulties leading to his hospitalization had been caused by his environment in foster care. Asperger's diagnosis of "psychopathy"—with its implication of a constitutional, potentially lifelong condition—had no merit in the eyes of his former collaborator Jekelius.[124]

In this as in other cases, Asperger's belief in the etiological preponderance of innate constitutional factors (or, alternatively, organic brain damage) led him to negative verdicts on his patients, which could easily turn into self-fulfilling prophecies.

Asperger's report on another 4-year-old, Karl E. (like Leo a foster child), is similarly harsh and devoid of any discernible positive bias when measured against the diagnoses produced at Spiegelgrund. Asperger characterized him as "a psychopathic infant who causes considerable pedagogic difficulties: marked irritability […], a tendency towards negativistic reactions and acts of malice, demanding character." He recommended transferal to a closed institution as the only viable possibility for the boy, conceding that in this case, the boy had potential thanks to his intelligence.[125] After several months of observation at Spiegelgrund, Jekelius concluded that "contrary to the assessment at the pediatric clinic, the diagnosis of psychopathy could not be confirmed." The boy's behavior was not outside the normal range: He was "very intelligent" and "solved with ease" the questions and puzzles put to him by the psychologist.[126]

The case of 16-year-old Johann K. illustrates Asperger's tendency to downplay the importance of the children's circumstances (including instances of mistreatment and abuse) and to explain difficulties they may have experienced (or caused to caregivers) with alleged constitutional deficiencies. Asperger called Johann a "semi-imbecile," although he conceded that his achievements at school were not that bad considering he had missed years of school because of bone tuberculosis. Asperger saw the main problem in the boy's "severe irritability and lack of inhibition in every respect (severe aggressions, sexual over-excitability, prodigality, laziness)." Provided that he was placed under "very sovereign, inexorable guidance," Asperger thought it possible that Johann could be used for unskilled labor. Left with his parents or grandparents, Asperger considered the boy a "danger to his environment" who would without a doubt

end up "in total neglect." He recommended removing the boy from his family and referring him to a closed institution.[127] For unknown reasons, Johann was not sent to the institution recommended by Asperger, but to Spiegelgrund. Ernst Illing, Jekelius' successor, concurred with Asperger that the boy's intellectual development was lacking. By contrast to Asperger, Illing pointed to an alleged "hereditary burden" based on his mother's moral conduct and raised the possibility of sterilization. And yet, Illing's assessment of Johann's character remained more optimistic than Asperger's: In his view, the main problem had been a lack of "pedagogic encouragement"; despite his difficult childhood, the boy suffered from "no major abnormalities," apart from a lack of initiative that Illing attributed to his lengthy hospital stays. He also saw no need for institutional care, recommending instead placement with a foster family in one of the "rural suburbs of Vienna."[128]

Another example of Asperger's tendency to downplay the consequences of neglect or abuse are his comments on two sisters of 7 and 5 years, whom he saw in February 1941 because their mother had difficulties with them. He wrote that Charlotte (the younger one) was "more severely degenerative than her sister," "intellectually clearly retarded," and "always ready for serious mischief," The mother, whom he characterized as "not very intelligent and mentally slightly strange," was in his view not able to cope with the two girls, requiring their immediate placement in a closed institution.[129] Illing's conclusion on Charlotte, by contrast, stressed that she had spent the first years of her life in institutions and in foster families and that her mother had severely neglected her when she took custody. Where Asperger had seen signs of "degeneration," Illing squarely attributed Charlotte's difficulties (and her slight "mental retardation") to the neglect she had experienced, although he also pointed to alleged hereditary deficiencies in her family.[130]

As mentioned, of these 30 cases, there are only 2 in which Asperger appears to have taken a more positive position than his peers at Spiegelgrund: In November 1938, he saw 6-year-old Johann T., whom he described as "an erethic, feeble-minded boy who recognizes no danger and who, unless constantly supervised, due to his restless drivenness endangers himself and his surroundings." Asperger recommended institutionalization at the Biedermannsdorf reformatory near Vienna (Spiegelgrund had not been established yet).[131] At Biedermannsdorf, as in similar institutions, children were routinely subjected to emotional, physical, and sexual violence from their peers and from staff [88]. It is hardly surprising then that Johann did not make much progress over the next years. In May 1941, Jekelius diagnosed the boy as "uneducable" and an "imbecile" and demanded his transferal to Spiegelgrund. Despite the dangerous diagnosis, Johann survived the "euthanasia" facility, though his later fate remains unknown.[132] Asperger's diagnosis in this case appears more lenient and optimistic, but it is possible that Johann's state deteriorated during the 30 months between the two diagnoses, especially in light of the adverse conditions at Biedermannsdorf.

The second case is similarly inconclusive. In October 1940, Asperger saw the 16-year-old Hildegard P. because her promiscuous lifestyle had aroused the authority's suspicions. Despite describing her in unflattering terms ("not many inhibitions in sexual regards,") he recommended releasing Hildegard into the care of her mother but placing her under close surveillance by the National Socialist Welfare Organization (NSV).[133] Seven weeks later, Jekelius decided to institutionalize Hildegard on the grounds of her "sexual depravation." Although there are many examples in which Asperger had no qualms committing girls to closed institutions on similar grounds, in this case, he showed more leniency. For Hildegard, it meant the difference between freedom and confinement to a reformatory.[134]

The cases analyzed here demonstrate that Asperger did not refrain from diagnoses such as "feeble-mindedness," which could entail serious dangers in the context of a youth welfare system dominated by an eliminatory ideology towards the weakest members of society. In one regard, however, Asperger did show a certain restraint. As outlined in a previous section, while the Spiegelgrund staff routinely included information on the patients' and their families' "hereditary qualities" and sometimes even raised the possibility of (forcible) sterilization, Asperger in most cases avoided such references.

Apart from this qualification, the sample yields no evidence that Asperger proved more benevolent towards his patients than his peers at Spiegelgrund when labeling children with diagnoses that could have an enormous impact on their future—quite the opposite. Like many of his colleagues, Asperger had a marked tendency to separate children from their families—which he often considered dysfunctional—and to commit them to closed institutions. Of course, many children were exposed to violence or neglect at home, and institutional education in principle could have been a means of protecting them. All too often, however, it seems that Asperger preferred the pedagogical environment of a hierarchical institution over the home provided by parents he considered neurotic, incapable, or merely too "weak" in dealing with their child. In practice, though perhaps despite his best intentions, this meant that he regularly sent minors to institutions ripe with abuse and violence [89].

In 1941, Asperger sent a 15-year-old boy to a "labor education camp for work-shy youth" in Bavaria because

he hoped that strict discipline and forced labor would help alleviate his severe hypochondriac symptoms.[135] Although this case is in some respects unusual, it illustrates how authoritarian Asperger's approach could be. The case records kept by his clinic are full of examples revealing how he considered strict discipline and "sovereign guidance" (*überlegene Führung*, a signature phrase in his written reports) the answer to many of his patients' (and their caregivers') troubles.[136]

### Asperger in the post-war years

This is not the place to give a full account of Asperger's post-war career, which spanned more than three decades, therefore I will limit myself to a few points that are relevant in the context of this paper. Little is known about Asperger's life during the final 2 years of the war, which he spent in the Wehrmacht. After 9 months of training and service in Vienna and Brünn/Brno, he was sent to Croatia in December 1943 with the 392nd Infantry Division, deployed for "protection" of the occupied territories in Yugoslavia and the fight against "partisans."[137] The German forces' tactics against irregular troops in Yugoslavia included mass killings of civilians as hostages or in reprisals, resulting in tens of thousands of deaths ([90]: 161). Asperger briefly mentioned his war experiences in his 1974 interview:

> […] I was in the war, I was deployed in Croatia in the anti-partisan war… I would not like to miss any of these experiences. It is good that a man knows how he behaves in mortal danger, with the bullets whistling. It is also a proving ground. And a ground where one has to care for others. It is also a great gift from destiny that I never had to gun anybody down [3].[138]

After the defeat of Nazi Germany, Asperger returned to the Vienna University Pediatric Clinic. The Heilpädagogik ward had sustained severe damage from a bomb attack which also killed Viktorine Zak, Asperger's closest assistant [3]. On 1 September 1945, Asperger applied for the confirmation of the Habilitation he had obtained in 1943—all such degrees awarded during the Nazi period were made void upon liberation, pending an inquiry into the candidate's political background. As mentioned, in 1938, Asperger had joined the National Socialist Welfare Organization (NSV) and the German Labor Front (DAF) and had applied for membership in the National Socialist German Physicians' League (NSDÄB).[139] In contrast to party formations such as the SS or Hitler Youth, these were considered "affiliated organizations" of the Nazi Party, and not part of the NSDAP itself. This distinction allowed Asperger to emerge with a clean slate under the Austrian implementation of denazification since he had never joined the NSDAP. He avoided the career interruptions that many of his colleagues faced and retained his position as the head of the Heilpädagogik ward.[140] Additionally, from July 1946 to May 1949, he served as provisional director of the pediatric clinic. In 1957, he moved to Innsbruck, where he headed the local university pediatric clinic until 1962 when he was formally appointed as Chair of the Vienna Pediatric Clinic, the most prestigious position in Austrian pediatrics.[141]

With respect to Austria's Nazi past, judging from his writings, Asperger formed part of the wall of silence established during the first years after the war. He made a rare reference to the Nazi period in his 1977 retirement speech from the Vienna clinic, vaguely referring to the Germans' "arrogance, hubris, [and] cruel iniquities" which had "inexorably led to war" and to "terrible suffering." As in his 1974 interview [3], he painted the war in terms of his personal experiences as an existential learning opportunity ([4]: 196, [91]: 217). According to some, Asperger in 1938 risked his life to speak out against the threat that race hygiene ideology posed to the children in his care. In 1977, while explicitly addressing the war in a speech summarizing his intellectual legacy, he did not care to mention National Socialism, its millions of victims, or even the hundreds of children, some of them his patients, who had been killed practically under his eyes.

Although later in his career he represented pediatrics as a whole, Heilpädagogik remained his central concern. At least in Austria, he dominated the field for decades, curtailed only by competition from the emerging discipline of youth psychiatry.[142] Judging from his writings after 1945, the central tenets of his thinking and his pedagogical approach remained relatively unchanged. On a conceptual level, he saw his main opponents in the representatives of psychoanalysis and related theories focusing on dynamic psychological processes and childhood experiences ([76]: 2–3, 272, and numerous other passages). In principle, he also distanced himself from the genetic determinism typical of Nazi race hygiene, at least to the extent necessary to claim a space for his own discipline and its therapeutic options ([76]: 55). Yet despite his often-stressed "pedagogic optimism," he believed that his patients were a "selection of children with endogenous constitutional damages" ([76]: 79). It is hardly surprising, then, that he would refer to his work as a heroic and often hopeless fight against the terrible odds of constitutional deficiencies of all kinds ([76]: 272–5). A typical example of his approach is a 1952 paper on the "Psychopathology of Young Criminals," in which he named three groups of children with constitutional or organic defects as particularly prone to committing crimes: the so-called "unstable" (or "disorganized") type, those with encephalitis-induced brain damage, and the "autistic, with disturbed instincts, especially

those with normal or above-average intelligence" ([92]: 31).

Despite his emphasis on heredity and constitution, he mostly avoided explicit references to eugenics, which due to its association with Nazi crimes had become discredited in mainstream scientific discourse, at least in Austria and Germany. In one passage of his textbook, he criticized the term "unworthy of living" and stressed the need to dedicate the best schools and the best teachers to the education of the mentally disabled ([76]: 93). However, in a book with very few references overall, he also quoted Otmar von Verschuer (1896–1969), one of the leading race hygienists in Nazi Germany with ties to Josef Mengele [93, 94], and Johannes Lange (1891–1938), a contributor to the Nazis' "Bible" of race hygiene [95]), using their twin research to bolster his views on the importance of heredity ([76]: 53–4, 140, 144, 207, 274). In his handbook on Heilpädagogik, Asperger also included the following passage on the eugenic dangers of "feeblemindedness":

> Multiple studies, above all in Germany, have shown that these families procreate in numbers clearly above the average, especially in the cities. [They] live without inhibitions, and rely without scruples on public welfare to raise or help raise their children. It is clear that this fact presents a very serious eugenic problem, a solution to which is far off—all the more, since the eugenic policies of the recent past have turned out to be unacceptable from a human standpoint ([76]:88).[143]

While eugenics appeared only of peripheral concern to Asperger, the idea of an inherited "general inferiority of the nervous system" as a common etiological basis for most childhood disorders was of central importance to him ([76]: III, 1–3, 53–61, 272). In a number of passages, this is linked to the concept of "degenerative stigmas"—small bodily anomalies, which were supposed to indicate the "degenerative constitution" of some of his patients ([76]: 84, 85, with a reference to Lombroso, 86–7, 125, 142, 194).

One troubling consequence arising from this approach is how Asperger regarded the sexual abuse of children. He was convinced that victims of sexual abuse shared a common constitutional disposition and certain character traits such as "shamelessness," leading them to "attract" such experiences, while children with "natural defensive forces" should be able to "reject" them ([96]: 27).[144] If a child suffered from trauma as a result of abuse or rape, Asperger again took this as a sign of an inherent constitutional weakness, since a "healthy personality" should be able to "outgrow" even "brutal acts of sexual violation" without suffering any damage in terms of psychological development ([96]: 24, [76]: 58–60, 197, 262–3). In his textbook, the only examples offered on this subject are cases in which the abuse was presented as a fabrication of the child, reinforcing the impression that the victims were always to blame—either because they were phantasizing, if not outright lying, or because they had "provoked" the deeds due to their constitutional predisposition ([76]: 233, 250–6).[145]

The case of 15-year-old Edith H. illustrates the continuity of Asperger's thinking on sexual abuse from the Nazi to the post-war period. Edith was admitted to the Heilpädagogik ward in April 1941 because she had been sexually abused by a 40-year-old man. In his report, Asperger called her "under-developed with regard to intellect and character." He deplored that she lacked "moral sense" and did not show any remorse about what had happened. He recommended placing her in permanent welfare care (*Fürsorgeerziehung*), not just because of her "severe sexual depravation" but also because of the moral danger she allegedly posed to her environment. A few months later, in accordance with Asperger's recommendation, the court ordered her forced admittance to Spiegelgrund. During her stay, according to the physician Helene Jokl and Spiegelgrund's director Erwin Jekelius, she was friendly, helpful, and comradely, but also lazy and susceptible to both positive and negative influences. In contrast to Asperger, they considered her intelligence average, but echoed his opinion on Edith's "sexual depravity." They recommended sending her to Theresienfeld, a reformatory for girls.[146]

In a similar vein, Asperger rejected the possibility that constitutionally healthy children could suffer from war-related trauma. Any observable symptoms were again either due to some inborn constitutional defect or arose from the desire to gain material advantages, such as pensions ([76]: 141, 194).[147] The case of Max G. is an example of the impact this narrow focus on a child's alleged "constitution" could have on their lives. In 1938, when Max was 6 years old, his family was torn apart by the Nazis' anti-Jewish policies. His Jewish father was forced into a divorce and spent 5 years in a concentration camp. With his mother, Max then moved to Znojmo, a town annexed from Czechoslovakia after the 1938 Munich Agreement, from where he was expelled along with the German-speaking population in 1945. At 14 years old, he was living in war-torn Vienna with his father. In August 1946, Asperger wrote an expert opinion for the Juvenile Criminal Court on Max, who was accused of a series of thefts. Not a single word in his assessment referred to the fate of the boy's father or to the fact that as a "half-Jew" he had himself been under threat of persecution for half his life. While other documents in the file stressed that the boy had finished school with good grades despite his difficult situation,

Asperger described him as "intellectually clearly deficient." Based on the boy's apparent "overfamiliarity" and "unreliability," he diagnosed him as an "epileptoid psychopath," a condition he described as the opposite of "autistic psychopathy" with respect to social behavior. In November 1946, after Max was fired from an apprenticeship that was seen as his last chance to prove his worth, based on Asperger's diagnosis and recommendation, the boy was sent to the Eggenburg reformatory.[148]

As in other countries, the Austrian public has over the last years been confronted with a wave of revelations on the violence, abuse, and neglect pervading institutions set up to protect children from precisely such conditions [74, 97–103]. The same is true for children with disabilities, who were often kept in asylum-type institutions where they were denied rehabilitation or therapy and exposed to severe hospitalism [104, 105].[149] In this context, a critical assessment of Asperger's brand of Heilpädagogik with its "pronounced dominance of restrictive pedagogical concepts" ([74]: 613) is overdue. Specifically, what needs to be investigated is how the ideas he promoted of "hereditary constitutions" as the root of most mental troubles, his bias against victims of sexual and other abuse, his unwavering belief in the benefits of closed educational institutions, and his emphasis on the authority of the "genius educator"—the ideal of a towering father-figure that he had created for himself—impacted the lives of thousands of children who were often stigmatized with the label of "constitutional defectiveness" on scientifically dubious grounds and institutionalized.

## Conclusions

The aim of this paper is to provide a factual basis for the debate on Hans Asperger's career in Vienna during the Nazi period. The main conclusion is that the narrative of Asperger as a principled opponent of National Socialism and a courageous defender of his patients against Nazi "euthanasia" and other race hygiene measures needs to be revised in light of the examined evidence. What emerges is a much more problematic role played by this pioneer of autism research and the namesake of Asperger's syndrome. Kondziella, in his 2009 paper on neurological eponyms with roots in the Nazi period, ascribed an "ambivalent role" to Asperger, classifying him as neither a "perpetrator" nor a "protestor" ([11]: 59). This broad categorization[150] must be re-evaluated now that we have a basis for a much more detailed and evidence-based assessment of Asperger's problematic role during this dark time.

Asperger's choices after Austria's Anschluss to Nazi Germany are best understood against the backdrop of his political socialization during his early years in the Bund Neuland, an organization combining both Catholic and Pan-German *völkisch* ideology. In the years before March 1938, the Bund became a Trojan Horse for illegal Nazi activists. While there is no evidence that Asperger actively supported Nazism before 1938, there was a common ideological ground, as he himself acknowledged after the war. The formative years he spent in an organization that often acted as a bridge between Catholic and Nazi circles help explain how Asperger could launch his career at the Vienna Pediatric University Clinic in 1931, at a time when its newly appointed director Franz Hamburger, a staunch Nazi, began pushing out the clinic's Jewish assistants and reorienting the institution according to his worldview.

After the Anschluss, like many Austrians who had not actively participated in the Nazi movement during the time it was banned (1933–1938), Asperger tried to acquire political credentials by joining a number of organizations affiliated with the Nazi Party. Unlike his colleagues at the pediatric clinic, however, he did not join the NSDAP or one of its paramilitary formations (such as the SA or SS). This decision did not hurt his career; he could afford to avoid the ideological commitment of party membership thanks to the protection provided by his mentor Hamburger, one of the Nazi figureheads in the Vienna Medical Faculty.

During the following years, repeated assessments of Asperger's political reliability show that the Nazi authorities saw him in an increasingly positive light, including as someone willing to go along with their ideas of race hygiene. As late as 1943/1944, when seeking approval of his postdoctoral thesis (the text on "autistic psychopaths" that later made him famous), he received the Nazi hierarchy's consent. Overall, during the years of the Nazi regime, Asperger managed to extend his professional activities beyond his university position, mostly within the Vienna municipal administration and the juvenile court system. The exclusion of Jewish doctors, psychologists, and pedagogues from their professions opened new opportunities for those in the field who were not affected by anti-Jewish legislation or political persecution. Apart from some initial reservations due to his Catholic orientation, there is no evidence that the Nazi authorities considered Asperger an opponent of their race hygiene agenda (or to their policies more generally) or that he ever faced reprisals such as the alleged attempts by the Gestapo to arrest him. A plausible origin of this account is the fact that a long-time associate of Asperger's, Josef Feldner, saved a Jewish boy by hiding him in his home. The way Asperger referred to this episode long after the war suggests that Feldner's heroic act and the risk of discovery by the authorities made Asperger fear for himself, which would explain his volunteering for military service.

Asperger's own attitude towards Jews appears ambiguous. As a member of Neuland, he at least tacitly accepted the organization's anti-Semitic tendencies expressed both in religious and racist-*völkisch* terms. Case records of his Jewish patients show that Asperger had an acute sense of their religious and "racial" otherness and that anti-Semitic stereotypes sometimes found their way into his diagnostic reports. After the Nazi takeover in Austria, the way he pathologized some children's mental troubles, rather than acknowledging the reality of the persecution they faced, suggests a certain indifference towards their fate under the regime's anti-Jewish policies. At the same time, his relationships with Jewish colleagues indicate that he separated the anti-Semitic prejudices pervading the social and political spheres in which he was moving from his personal relations—not an uncommon phenomenon in the history of anti-Semitism.

After March 1938, in line with his acquisition of political credentials by joining organizations affiliated with the Nazi Party, he used lectures and publications to signal his fundamental accordance with the Nazi state's programs concerning race hygiene and public health. At the same time, he called for the necessary resources to take care of the troubled or "endangered" children in need of Heilpädagogik's support. Although these statements deviated from the hard core of race hygiene ideology with its inhuman devaluation of the "hereditarily inferior," there is no indication that they were perceived as critical of Nazi policies, as some authors have claimed. Rather, Asperger's ideas about Heilpädagogik's mission within the Nazi state, with his emphasis on turning troubled children into useful members of the German body politic, were shared in many circles at the time. Given that Asperger used the same arguments after the war, there is no indication that the utilitarian logic of social worth he used to advocate for his patients—children considered difficult but who sometimes had normal or even above-average intellectual abilities—was merely a rhetorical strategy. Also, it would be a misunderstanding to assume that the small subset of his patients he diagnosed as "autistic psychopaths" benefited as a group from the fact that he considered some of them of superior intelligence. Just as with other diagnoses, everything depended on where they fell on the spectrum of intellectual and other abilities.

The real litmus test for Heilpädagogik under National Socialism was not how it treated the children with potential—in a time of increasing labor shortage, it was hardly controversial that they should be integrated into the "people's community" and contribute to the war effort—but those with disabilities so severe that from a utilitarian standpoint all efforts seemed futile. Since long before the Nazi period, Heilpädagogik had excluded children with severe disabilities from its remit, leaving them to psychiatric asylums or similar institutions. Overall, Heilpädagogik claimed to be able to salvage those who could be salvaged and to know where to draw the line.

Despite his advocacy, Asperger left the decisive question unanswered: What should happen with those who could not be helped by pedagogic, therapeutic, or medical means? Regarding these so-called "uneducable" children—who faced the greatest threat from the Nazis' race hygiene policies—Asperger's promises to turn his patients into valuable members of the "national community" proved futile.

With regard to such seemingly "hopeless cases" of mental disability, the records of Herta and Elisabeth Schreiber suggest that, at least under the circumstances, Asperger was willing to accept the killing of children as a last resort. In Herta's case, it seems that the mother consented to Asperger's decision to refer her directly to Spiegelgrund. According to Elisabeth's medical file, her mother also pushed for institutionalization, although there is no evidence that she knew what fate awaited her child.

Asperger's involvement in the selection of victims for the child "euthanasia" program includes an episode when, in 1942, he was part of a commission tasked with the screening of more than 200 residents of a home for children with mental disabilities in Gugging near Vienna. The commission's mandate was to categorize the children according to their intellectual abilities and prognoses and to define a residual group of "uneducable" children who should be killed at Spiegelgrund. Thirty-five children were placed in this group and later died at the "euthanasia" facility. While Asperger was not directly responsible for their deaths, this episode nevertheless shows to what extent he cooperated with the regime's murderous policies. His role on the commission was linked to his part-time employment at the City of Vienna's Public Health Office, an additional professional role he had voluntarily taken on in 1940. Cooperation with the "euthanasia" program was by no means obligatory since the operation was illegal even by the standards of Nazi Germany.

The great majority of Asperger's patients, however, was not threatened by the child "euthanasia" program—they were not mentally disabled, but simply considered "abnormal" or "difficult" in some way. The diagnostic labels they received at Asperger's clinic, while not life-threatening, nevertheless carried heavy consequences for them. Asperger's and his colleagues' opinions determined to a large extent whether a child would be taken from their family and put into foster care or even sent to a reformatory—institutions that were rife with abuse. A comparison between Asperger's diagnostic practices and those of his peers at Spiegelgrund (regarding, it should be noted, a group with more severe difficulties than

Asperger's average patients) reveals that Asperger's reports on these children were in many cases harsher in how he described their intellectual abilities, their character, and their future potential than those written at Spiegelgrund. These documents do not support Asperger's self-professed "pedagogic optimism" or his alleged benevolence towards his patients—quite the opposite.

On the other hand, he appears to have been less inclined to directly invoke the possibility of hereditary defects, which could have justified interventions such as forced sterilization. The case records from his ward contain very few references to the sterilization program or other race hygiene measures, suggesting that he was reluctant to report his patients to the authorities for these specific purposes. However, the fact that in some cases he did provide information to the authorities tasked with the implementation of race hygiene suggests that he did not fundamentally oppose these policies. This is also in line with his public comments on the sterilization law, in which he argued for its necessity, but called for "responsible implementation." Overall, the importance of this point should not be overstated because the sterilization law in Austria was implemented much later, and on a smaller scale than in Germany, many doctors and hospitals neglected to report their patients without any consequences, and children were not the main focus of the program. There is no evidence that Asperger deviated from the official position of the Nazi state on sterilization, which in this case had decided—at least in principle, and more so in Austria than in Germany—to institute mechanisms of due process for its implementation.

After the war, on the few occasions when Asperger publicly commented on National Socialism, he vaguely criticized "excesses" or moral failings, but did not address the reality of persecution, violence, and destruction wrought by the Nazi regime, especially against the Jewish population. In this unwillingness to deal with the past, he was typical of large segments of Austrian postwar society. In his professional field of Heilpädagogik, which he came to dominate during the three decades after World War II, this had detrimental consequences, as children from difficult backgrounds continued to be labeled as "constitutionally defective" and to be sent to closed educational institutions where abuse was rampant [97, 98].

An overall appraisal of Asperger's place in the history of youth psychiatry and Heilpädagogik and as a pioneer of autism research will have to go beyond the focus of this paper, which despite the importance of the Nazi period for understanding Asperger's life and work cannot replace a long due biography. Regarding Asperger's contributions to autism research, there is no evidence to consider them tainted by his problematic role during National Socialism.[151] They are, nevertheless, inseparable from the historical context in which they were first formulated, and which I hope to have shed some new light on. The fate of "Asperger's syndrome" will probably be determined by considerations other than the problematic historical circumstances of its first description—these should not, in any case, lead to its purge from the medical lexicon. Rather, it should be seen as an opportunity to foster awareness of the concept's troubled origins.

## Endnotes

[1]A copy of the postdoctoral thesis as submitted in 1942 is at the Vienna University Library. It is practically identical to the 1944 paper.

[2]In 1998, Schopler used Asperger's ties to the German Youth Movement to suggest a bias in Asperger's original sample in order to undermine his work on autism ([106]: 387). The significance of the Youth Movement in shaping Asperger's political and ideological orientation is analyzed in the "Asperger's political background before 1938" section; there is no verifiable connection to the composition of Asperger's patient population, however.

[3]Uta Frith's translation deviates from the original in at least two respects: She omitted the "general and somewhat discursive" introduction and chose to bring Asperger's language "into line with current terminology," using "autism" and "autistic personality disorder" where Asperger had written "autistic psychopaths" or just "personality disorder" ([7]: 37). For example, in the description of Hellmuth, Asperger's "die ganze Persönlichkeitsstörung, die hier besteht" in the translation becomes "his autism" ([7]: 67; [2]: 111). Frith also changed the title of the paper, replacing "autistic psychopaths" with "autistic psychopathy." These semantic shifts are of little consequence for most readers, but they compromise the reliability of the translation for a historical analysis of the early evolution of the autism concept, for which the influence of Eugen Bleuler's work on Asperger was central.

[4]One of the passages quoted by Gröger to support the claim of Asperger's "critical, differentiated attitude" is ([2]: 128), where Asperger asserts that autism does not follow a simple hereditary pattern. For a critical discussion of this and other arguments quoted in this literature review, see the "The best service to our *Volk*: Asperger and Nazi race hygiene" section, in which I analyze Asperger's stance on race hygiene.

[5]The source cited as evidence, an online publication by Colin Müller, accessed on 4 July 2006, is no longer available. A text by Müller under the same title available at http://autismus-kultur.de/autismus/geschichte/hans-asperger.html seems to have been changed, as it contains no reference to Asperger's alleged protection of children (accessed 5 July 2017).

[6]Johns Hopkins University Library holds the journal in which Asperger published his 1938 paper, covering the years 1888 to 1940 (and then again from 1947), https://catalyst.library.jhu.edu/catalog/bib_13574 (accessed 28 July 2016). The 1938 volume has a notation on the back cover that the copy was indeed received in 1938. Personal correspondence with Daniel Bell (Welch Medical Library, Johns Hopkins University), 1 August 2016. For a defense of Kanner's record, see [107]. For an interesting (if in some elements speculative) discussion of Frankl's role in the history of autism, see [108].

[7]I decided to share results of my work with the authors after meeting with John Donvan in September 2014 in Washington, D.C. He had contacted me after discovering my work via reports in Austrian media [109]. To his credit, Silberman quotes the new evidence against Asperger in the recent editions of his book.

[8]Municipal and Provincial Archives Vienna (WStLA), 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten. The files were found at the pediatric clinic and transferred to the archive in 2004 [77].

[9]In 1935, an American visitor described the ward as "unique" and "the only one of its kind in Europe." He was struck above all by the methodological and theoretical eclecticism and "an appreciable absence of what are ordinarily regarded as rigid methods, apparatus, statistics, formulae and slogans," a "highly subjective approach" which in his eyes set the clinic apart from contemporary scientific standards ([110]: 266, 274). The paper was written before Asperger took over the ward in May 1935, and it provides a vivid description of the unusual methods that were part of Lazar's legacy.

[10]WStLA, 1.3.2.202, Personalakt Hans Asperger, Asperger to Magistratsdirektion Wien, 16 September 1936, Beilage: Lebenslauf.

[11]The second one would appear in 1937 [71] (not to be confused with the paper of the same title he published in 1938, in which he first described a case of "autistic psychopathy" [1]).

[12]DÖW 6217, Liste von Gelehrten österreichischen Ursprungs in den Vereinigten Staaten, 1958; ([21]: 87). Frankl obtained his medical degree in 1922 and joined the Vienna Medical Chamber in 1924 (WStLA, 1.3.2.212.K1 Ärzte: Georg Frankl); it is unknown what he did between 1922 and 1927. Frankl's publications show that he was an established scholar of Heilpädagogik before Asperger (e.g., [111–116]).

[13]A list of scholars of Austrian origin compiled after the war by Austrian authorities lists him as "George Frankl, b. 1897; Child Psychiatrist, Kansas Univ. Medical Center, Kansas City." DÖW 6217, Liste von Gelehrten österreichischen Ursprungs in den Vereinigten Staaten, 1958.

[14]"Anni Frankl, born 25 April 1897; Asst. Prof. of Psychology; University of Kansas, Lawrence, Kansas." DÖW 6217, Liste von Gelehrten österreichischen Ursprungs in den Vereinigten Staaten, 1958.

[15]Asperger in his later years suggested that he was a direct successor to Erwin Lazar, while in reality, it was Bruck who introduced him to the therapeutic pedagogy as it was practiced at the Viennese clinic ([4]: 118–9).

[16]Since he never joined the NSDAP, in 1945, Asperger was considered politically "not incriminated" by the Austrian authorities and not affected by denazification measures. For details, see the "Asperger in the post-war years" section.

[17]WStLA, 1.3.2.202, Personalakt Erwin Jekelius (cf. [117]: 114); Jekelius published one paper on the ward's patients [118].

[18]Universitätsarchiv Wien, MED PA 17, Personalakt Hans Asperger, "Curriculum vitae," undated.

[19]Eppinger commited suicide in 1946, presumably because he feared being indicted in Nuremberg for his involvement in medical experiments at the Dachau concentration camp [119]. Asperger rarely published with co-authors; between 1930 and 1952, apart from Risak, he collaborated with Josef Feldner (whom he considered his teacher at the clinic) and three colleagues from the circle of Hamburger's assistants.

[20]Much less is known about the group of trainee doctors and assistants (before obtaining their Habilitation), such as Frankl and Asperger. It is unknown if any Jewish assistants remained after Frankl's departure in 1937.

[21]Asperger joined the CDSB in 1921 or 1922: Michael Hubenstorf, Hans Asperger–Biography (unpublished manuscript). In his 1974 interview, Asperger described how the Bund influenced his experience of puberty, which also points to the early 1920s. Overall, his account of the Bund was a-political.

[22]According to another source, the Bund had 1200 members in 1937 ([36]:590).

[23]See for example Bund Neuland's periodical *Neue Jugend*, 1935 to 1937.

[24]Taras Borodajkewycz, whose anti-Semitic remarks in 1965 triggered an affair regarding persistent (neo-)Nazi sentiments in Austria, had been another prominent Nazi-Catholic "bridge-builder" with close ties to Neuland ([34]: 207–8).

[25]One example, "Metropolitan civilization was to 80% a Jewish product, and its power over Germany was nearly absolute. This state of affairs had to be ended in a quick and radical way." ([120]: 93)

[26]For an analysis of the Bund's heterogeneous ideology and the relationship between its "right" and "left" wing, see [36]: 807–81.

[27]WStLA, 1.3.2.202, Personalakt Hans Asperger, Fragebogen, 7 Oct. 1940.

[28]WStLA, 1.3.2.202, Personalakt Hans Asperger, Fragebogen, 7 Oct. 1940.

[29]WStLA, 1.3.2.202, Personalakt Hans Asperger, Fragebogen, 7 Oct. 1940. Another document refers to Asperger membership in the Vaterländische Front (Fatherland Front, since 1934), the single party of the Austrofascist regime that governed Austria from 1933/34 to 1938. Since membership was obligatory for public employees, however, this is not a reliable indicator of political sympathies.

[30]One of these common elements was anti-Semitism, in its religious or racist version. The few available documents on Asperger's attitude towards Jews (including Jewish patients) are analyzed in the "Asperger's Jewish patients" section.

[31]In German, the passage reads: "Die nationalsozialistische Zeit kam, wobei es aus meinem bisherigen Leben klar war, dass man wohl mit vielen sagen wir nationalen in Anführungszeichen Dingen mitkam, aber nicht mit den Unmenschlichkeiten." Here as elsewhere in this paper, the translation reflects Asperger's often convoluted and ambiguous style in order to allow readers to form their own opinion.

[32]Private Archive Maria Asperger Felder, Hans Asperger, travel diary, spring 1934. Cited in [10]:103. I asked Asperger Felder for any relevant documents from her father (particularly, any evidence for his alleged troubles with the regime), but she declined, citing fears that Asperger's statements from the period might be misconstrued (personal correspondence with the author, 29 January 2017).

[33]The entire interview lasts 50 min, 3.5 of which are dedicated to the Nazi period and World War II. The translation is quoted from [20]: 18. The passage of his inaugural speech reads: "The connection we had formed during numerous 'peripatetic' conversations was so strong that he [Hamburger] felt impelled to save me twice from being arrested by the Gestapo with personal commitment and risking considerable danger to himself, although he knew very well that my ideological and political convictions ran counter to his own. I will not forget this!" ([48]: 937; translation by the author). As far as can be inferred from the written record, Hamburger after 1945 never used this alleged episode in his defense, although he faced considerable pressure due to his Nazi past. After Hamburg's death in 1954, Asperger abstained from writing an obituary for the man who supposedly saved him twice. 1962 is the first known mention of the alleged Gestapo episode and the only one where Asperger explicitly speaks of the possibility of arrest.

[34]For a review of Asperger's post-war reflections on National Socialism, see the final section of this paper.

[35]On 18 August 1939, the Reich Ministry of the Interior ordered the compulsory registration of "malformed etc. children." Notifications were collected by the public health offices and forwarded to the Reich Committee tasked with the implementation of the child "euthanasia" program: WStLA, 1.3.2.213.A1.155.150.30b,c, RdErl.d.RMdI. IVb 3.088/39-1079/Mi, 18 August 1939. Under the Law for the Prevention of Hereditarily Diseased Offspring of July 1933, specially created Hereditary Health Courts could mandate sterilization in case of one of the following diagnoses: congenital feeblemindedness, schizophrenia, manic-depressive disorders, hereditary epilepsy, Huntington's chorea, hereditary deafness or blindness, severe physical deformations, and severe alcoholism [61].

[36]Austrian State Archive (ÖStA), AdR, Gauakt 36055 Hans Asperger, NSDAP, Gauleitung Wien to Franz Hamburger, 13 July 1940.

[37]WStLA, 1.3.2.202, Personalakt Hans Asperger, Geheime Staatspolizei, Staatspolizeileitstelle Wien to Personalamt Wiener Gemeindeverwaltung, 9 November 1940.

[38]ÖStA, AdR, Gauakt 36055 Hans Asperger, STK/I-S-9733, Staatskommissar Otto Wächter an das ehemalige Unterrichtsministerium, 7 June 1939.

[39]ÖStA, AdR, Gauakt 36055 Hans Asperger, III D U/R/G1, Gaupersonalamt, 5 January 1939: Asperger Dr. Johann, signature illegible.

[40]We would additionally have to explain why Franz Hamburger also kept silent over an episode that could have helped his reputation, which after the war was badly damaged by his heavy Nazi involvement. Wolfgang Neugebauer, one of the leading historians of National Socialism in Austria, considers the Gestapo episode a complete fabrication (personal correspondence with the author, 2 December 2016).

[41]Hansi Busztin, Eitelkeit, undated [unpublished manuscript, mid to late 1980s]. Personal correspondence with Anna Goldenberg (Hans Busztin's granddaughter), 22 January 2017.

[42]WStLA, 1.3.2.202, Personalakt Hans Asperger, Hauptgesundheitsamt to Hauptpersonalamt, 28 June 1943.

[43]ÖStA, AdR, Gauakt 36055 Hans Asperger.

[44]WStLA, 1.3.2.202, Personalakt Hans Asperger, Fragebogen, 7 October 1940.

[45]In Vienna, 31.4% of those physicians who remained after the exclusion of all Jews from the profession joined the Nazi party, but only 17.6% were also members of the Ärztebund. In all of Austria (no numbers available for Vienna only), a further 8.5% became Ärztebund candidates like Asperger: Hubenstorf M. Nazi Doctors in Vienna (paper given at the conference "Austrian Physicians and National Socialism," Vienna, 16 April 2015).

[46]ÖStA, AdR, Gauakt 36055 Hans Asperger, Kreisleitung I. der NSDAP Wien to Ortsgruppenleiter, Fragebogen zur

politischen Beurteilung, 6 December 1938 (filled in and signed on 4 and 23 January 1939).

[47]ÖStA, AdR, Gauakt 36055 Hans Asperger, Gaupersonalamtsleiter Stowasser, 1 November 1940.

[48]WStLA, 1.3.2.202, Personalakt Hans Asperger, Schreiben des Führers des SD-Leitabschnittes Wien to Personalamt der Stadt Wien, 14 November 1940.

[49]WStLA, 1.3.2.202, Personalakt Hans Asperger, Dozentenführer der Universität (Dr. Marchet) to Dekanat, 17 November 1942 and 15 April 1943.

[50]UAW, MED PA 17, Personalakt Hans Asperger, "Bestätigung," 22 May 1942. The procedure to officially obtain the title was suspended because of the war.

[51]Private Archive Maria Asperger Felder, Josef Feldner, letter, undated. Cited in [10]: 104.

[52]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten.

[53]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1938.

[54]The city had approximately 200 Jewish foster children in its charge; how many of these were living with non-Jewish foster parents is unknown.

[55]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1938, Alfred S.; 1.3.2.209.1.A57, Psychiatrie: Krankengeschichten: Männer, Alfred S. According to Austrian data protection laws, in many cases (such as documents from public archives), full names can only be published if the person in question is confirmed dead.

[56]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1938, Walter Brucker.

[57]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1938, Ivo P. As in many other cases after March 1938, Asperger closed his report on Ivo with the salutation "Heil Hitler." Asperger exhibited a similar detachment in many of his recommendations for the transferal of children to Spiegelgrund, to which he referred as though to a normal pedagogical institution, despite its function as a killing facility. For an analysis of these transferals, see the "Limits of 'educability': Asperger and the Spiegelgrund 'euthanasia' facility" and "Asperger's diagnoses compared to those at Spiegelgrund" sections. Ivo P. was not sent to a "normal" home, as Asperger had recommended, but to an institution for "non-Aryan" children. His trace in the youth welfare office's records ends in 1943: 1.3.2.207.A6, KÜST-Kartei, Ivo P.

[58]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1939, Marie Klein.

[59]WStLA, 1.3.2.212, A 5/4, Gundel to Scharizer (Stellvertretender Gauleiter), 3 April 1941.

[60]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1939, Marie Klein.

[61]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1939, Lizzy Hofbauer. In February 1941, she was a patient at the Vienna Jewish Hospital on the ward of Viktor Frankl (1905–1997), who after the war would rise to worldwide fame as the author of the best-selling book *Man's Search for Meaning* [121] and as the creator of logotherapy and existential analysis. Citing "lack of space," Frankl wrote to Otto Pötzl (1877–1962) to have Lizzy transferred to the latter's Psychiatric-Neurological University Clinic, from where she was sent to Steinhof Psychiatric Hospital. Ten days after Frankl's letter, Lizzy was put on a transport to the extermination center Hartheim near Linz, run by the "T4" euthanasia program: WStLA, 1.3.2.209.1.A56, Krankengeschichte Lizzy Hofbauer; WStLA, 1.3.2.209.2.B5, Standesprotokoll 1941. This case stands in contrast to Frankl's later claim that Pötzl and himself had worked together to transfer Jewish patients from Pötzl's Psychiatric University Clinic to the Jewish hospital in order to save them from "euthanasia" ([122]: 60–1).

[62]For a history of anti-Semitism in Austria, see [123].

[63]The total number of forced sterilizations between 1934 and 1945 is estimated at 400,000 ([60]: 238).

[64]WStLA, 1.3.2.212.A7/7, "Richtlinien für die Beurteilung der Erbgesundheit," circular of the Reich Minister of the Interior (18 July 1940)-IV b 1446/40-1072c.

[65]The author also shows how educators frequently tried to improve their professional standing by stressing the potential of their own clientele, often at the expense of other groups labeled as farther down the value hierarchy (a strategy he calls "demarcation towards below"). On the accommodation of Heilpädagogik as a whole with the Nazi regime, see above.

[66]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten, e.g., case histories Elfriede P. (1935), who according to Asperger had shown a suspicious "interest" when sexually abused at age 5, or Kurt K. (1936), whom Asperger labeled an "unstable criminal" at the age of 12, see also the "Asperger in the post-war years" section.

[67]This view has recently been challenged on the grounds that the adoption of electroconvulsive therapy in Nazi Germany was in fact slower than previously assumed [124, 125]. My argument in this context, however, is based on the interest the "T4" organization took in the issue, which is not in dispute.

[68]In 1941, Jekelius fell out of favor with Hitler because of an affair with his sister Paula Hitler, who lived in Vienna. Jekelius was drafted into the army and sent to the front. After the war, Jekelius was arrested and put on trial by the Soviets. He died in a Moscow prison in 1952. Ministry of State Security of the USSR, Interrogation transcript with inmate Erwin Jekelius, 9 July

1948 (copy and German translation in DÖW 51401). For more details on Jekelius, see [13]. The "Action T4" was stopped in August 1941 after protests from victims' relatives and the churches. Nevertheless, in many psychiatric hospitals, patients continued to be killed until 1945 by means of starvation, neglect, and frequently also by more direct means such as poisoning or electric shock [80, 126].

[69]WStLA, 1.3.2.202, Personalakt Hans Asperger, Fragebogen für den Personalkataster, 27 November 1940, and further documents in the file.

[70]Jekelius did not explicitly mention the "euthanasia" killings—their existence was a state secret—but the meaning would have been clear to professional insiders (for more on how the knowledge of the killings spread among the population, see the "Limits of 'educability': Asperger and the Spiegelgrund 'euthanasia' facility" section). In 1942, the Spiegelgrund "euthanasia" clinic was renamed and for a period had the term "curative pedagogy" in its official designation—an indication that the discipline, far from being under threat from the regime, at least for a time was actually gaining ground; WStLA, 1.3.2.209.A1, Anstaltenamt, Normalien des Anstaltenamtes der Hauptabteilung V, A Nr. 500, 23 November 1942.

[71]In this text, Asperger refers to children "whose abnormity is not of a type that would call for sterilization, who would socially fail without our understanding and guiding assistance, but who with this help are able to occupy their place in the large organism of our people." ["Mein Augenmerk soll aber heute vor allem auf die gerichtet sein, deren Abnormität nicht von der Art ist, daß eine Sterilisierung in Frage käme, die aber auch ohne unsere verstehende und führende Hilfe sozial scheitern würden, mit dieser Hilfe aber ihren Platz in dem großen Organismus des Volkes ausfüllen können."] These children had little to do with those targeted for child 'euthanasia' or forced sterilization. Other examples for Asperger's utilitarian argumentation in favor of Heilpädagogik are to be found in ([63]:946) or ([2]:135). Arguing that children with abnormalities needed special assistance in order to become useful members of society (including the military) was a common strategy of professionals in Heilpädagogik and related fields during National Socialism, see for example ([64]:178–92).

[72]WStLA, 1.3.2.213.A1.158.160.30, Tagesordnung der vom 31. August bis 4. September 1940 in Wien stattfindenden 47. Ordentlichen Tagung der Deutschen Gesellschaft für Kinderheilkunde. Conti hanged himself in 1945 in a prison cell in Nuremberg.

[73]At the conference, the German Association for Youth Psychiatry and Curative Pedagogy was established, additional proof that the latter discipline was not controversial in the eyes of the regime [127]. For the proceedings of the 1940 Vienna conference, see [72].

[74]Between 1950 and 1986, 6459 children were admitted to the Heilpädagogik ward; of these, 228 (3.5%) were diagnosed with autistic spectrum disorders (74 "autistic psychopaths," 83 cases of early infantile autism, 71 cases with autistic features) ([128]: 293).

[75]The patient registry of Asperger's ward contains information on close to 2700 children admitted between 1935 and 1949. The most common reason for admission was "education problems" (*Erziehungsschwierigkeiten*): WStLA, 209.1.B1018 (prov.), Kinderklinik, Index 1921–1964.

[76]Heller's speech also contained powerful arguments against the forced sterilization program that was already underway in Germany. Due to his Jewish background, Heller became an early victim of Nazi persecution after the Anschluss. He died in December 1938, months after a suicide attempt he never recovered from. His wife and daughter were later deported and killed in Riga [129]. *Dementia infantilis Heller* (in English: Heller's syndrome, now better known as childhood disintegrative disorder) was named after him.

[77]Asperger himself did not give a talk at this one-day symposium, but he spoke at the pediatric conference that provided the framework (see above).

[78]In Vienna, 96 of approximately 110 pediatricians were considered Jewish according to Nazi racial legislation and lost their livelihoods, their homes, and in at least 12 cases their lives ([130]: 756).

[79]UAW, MED PA 17, Personalakt Hans Asperger, Prof. Franz Hamburger, Referaterstattung zur Habilitationsarbeit des Dr. Hans Asperger, 28 December 1942.

[80]WStLA, 1.3.2.202, Personalakt Hans Asperger, Personalamt to Leiter Personalamt, 9 November 1940; Gemeindeverwaltung der Stadt Wien to Hans Asperger, 12 November 1940. Asperger had worked part-time for the city's child welfare program in addition to his position at the Pediatric University Clinic since 1936.

[81]UAW, MED PA 17, Personalakt Hans Asperger, Prof. Franz Hamburger, Referaterstattung zur Habilitationsarbeit des Dr. Hans Asperger, 28 December 1942. After 1938, the NSV took over numerous children's homes; racially or politically "undesirable" children were removed from these institutions and concentrated in facilities such as Spiegelgrund: WStLA, 1.3.2.212.A7, Parville to Vellguth et al., 23 June 1941; Erlass Vellguth, 5 July 1942.

[82]In Vienna, information on more than 767,000 individuals was collected in this context. For details on this so-called *erbbiologische Bestandsaufnahme* (hereditary inventory), see [131].

[83]WStLA, 1.3.2.209.10.A1 (Spiegelgrund), Krankengeschichten: überlebende Knaben und Mädchen 1941–1945.

[84]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten.

[85]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1912–1944, case histories Gertrude S., Hildegard S., Helmuth R., Theodor M., Eduard G. (1940 and 1941), Elfriede V. (filed under 1932, documents from 1942), and Ernst T. (filed under 1935, documents from 1942). The Heilpädagogik ward mentioned to the Department of Hereditary and Racial Hygiene that Ernst T.'s father was Jewish, information that put the child in considerable danger. His fate is unknown.

[86]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Adolf R., Otto S., Karl S., Charlotte H. The terms "degenerative" and "degeneration," unlike today, clearly referred to negative hereditary traits, in the same sense as the now historic German term *Entartung*, see ([132]: 786–7).

[87]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1912–1944.

[88]The 1699 surviving Vienna records of initiated sterilization procedures show the following age distribution: 13 years, 1 case; 14 years, 5; 15 years, 22; 16 years, 31; 17 years, 44; 18 years, 76 (WStLA, 2.3.15.A1.1-3, Namensindex, Claudia Spring).

[89]Verordnung zur Ausführung des Gesetzes zur Verhütung erbkranken Nachwuchses, 5 December 1933, Reichsgesetzblatt Teil 1, Nr. 138, 1021.

[90]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten, 15/1933, Therese B.

[91]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten 1912–1944, case history Ernst M., 1930, Wiener Kinderklinik to Hauptgesundheitsamt, Erb- und Rassenpflege, 2 March 1942.

[92]Gesetz zur Verhütung erbkranken Nachwuchses, 25 July 1933, RGBl. I 1933, S. 529-31, §14.

[93]DÖW 51983, Stadtschulrat für Wien to Stephan I., 22 December 1939; Rosalia I. to Leo Navratil, 7 January 1962; Susanne Zander to Maria Asperger-Felder, 16 October 2009 (I thank Kathrin Hippler for these documents).

[94]DÖW 51983, Stadtschulrat für Wien to Stephan I., 22 December 1939; Rosalia I. to Leo Navratil, 7 January 1962.

[95]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: verstorbene Mädchen und Knaben 1940–1945, Krankengeschichte Herta Schreiber, Heilpädagogische Abteilung der Universitäts-Kinderklinik Wien, Befund Herta Schreiber, 27 June 1941, gez. Dr. Asperger. Overall, files pertaining to 562 out of a total of 789 victims have been preserved.

[96]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: verstorbene Mädchen und Knaben 1940–1945, Krankengeschichte Herta Schreiber. Together with hundreds of body parts from other children killed at Spiegelgrund, Herta's brain was preserved and used for research until decades after the war. The human remains were buried in 2002 in Vienna (cf. [85]).

[97]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: verstorbene Mädchen und Knaben 1940–1945, Krankengeschichte Herta Schreiber, Einlagebogen, 13 July 1941, no signature.

[98]The infamous "euthanasia" propaganda film *Ich klage an* (I Accuse) in a subplot uses a girl with encephalitis-induced brain damage to justify the killing of mentally disabled children.

[99]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: verstorbene Mädchen und Knaben 1940–1945, Krankengeschichte Elisabeth Schreiber (born 9 October 1936), Abschrift des Gutachtens der Univ. Kinderklinik Wien, 27 October 1941, Dr. Asperger.

[100]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: verstorbene Mädchen und Knaben 1940–1945, Krankengeschichte Elisabeth Schreiber.

[101]DÖW E 18.282, Vernehmung des Beschuldigten Dr. Illing, 22 October 1945, cited in ([133]: 44).

[102]Ministerium für Staatssicherheit der UdSSR, Verhörprotokoll des Inhaftierten Erwin Jekelius, 9 July 1948, Blatt 48/11f. (copy and translation in DÖW 51401), also ([134]: 208–9).

[103]DÖW 7906, Luftpost, Royal Air Force, fall 1941.

[104]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: verstorbene Mädchen und Knaben 1940–1945, Krankengeschichte Ulrike Mayerhofer, Krankengeschichte Richard Draskovic.

[105]In this case, Asperger used the term "autistic" in its original Bleulerian sense of a symptom associated with schizophrenia.

[106]In the Gugging psychiatric hospital, hundreds of patients were killed by doctors and nurses during the war [135].

[107]Lower Austria Provincial Archives (NÖLA), Erlass der Reichsstatthalterei in Niederdonau (Gauselbstverwaltung), 9 December 1941.

[108]NÖLA, Reichsstatthalter in Niederdonau to Dezernat III b-2, 2 March 1942.

[109]NÖLA, Reichsstatthalter in Niederdonau to Dezernat III b-2, 2 March 1942.

[110]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, B 4 Totenbuch.

[111]NÖLA, Reichsstatthalter in Niederdonau to Dezernat III b-2, 2 March 1942.

[112]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, B 4 Totenbuch.

[113]NÖLA, Heil- und Pflegeanstalt Gugging, Krankengeschichte Engelbert Deimbacher.

[114]NÖLA, Heil- und Pflegeanstalt Gugging, Krankengeschichte Georgine Schwab.

[115]Not all the files are preserved, and the surviving ones may not be complete. In a sample of 76 files concerning children who died at Spiegelgrund or, in a few cases, at Gugging, 21 contain correspondence with parents. In 6 of these (including the ones quoted above), the parents had asked to take the children into their care (NÖLA, Heil- und Pflegeanstalt Gugging, Krankengeschichten der Kinderanstalt).

[116]The 30 cases in the sample with detailed documentation: WStLA, 1.3.2.209.10.A1 (Spiegelgrund), Krankengeschichten: überlebende Knaben und Mädchen 1941–1945, Leo A., Karl E., Walter G., Arnold H., Alfred H., Johann K., Franz K., Gottfried K., Rudolf N., Roman R., Johann R., Adolf R., Josef R., Otto S., Karl S., Gerald St., Rudolf St., Richard S., Johann T., Leopold V., Erich We., Erich Wi., Charlotte H., Edith H., Lucia K., Edith M., Charlotte M., Hildegard P., Helene P., Charlotte R. The 10 cases excluded from the direct comparison between Spiegelgrund and Asperger's ward due to insufficient documentation (but included in the sample of 40): Anton R., Walter S., Erwin T., Mathilde H., Herta P., Margarete Schw., Margarethe Sch., Friedrich K., Theodor P. and Robert Sch.; the last three belong to WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten.

[117]As mentioned, Spiegelgrund's first director had trained at the Heilpädagogik ward; moreover, Spiegelgrund was the only institution in the area that at least for a time in 1942 had the term "Heilpädagogik" in its name ([13]: 201).

[118]Survivors' testimonies can be found at [http://gedenkstaettesteinhof.at/de/interviews, accessed 23 November 2016].

[119]Friedrich K. was just under 8 years old when in March 1942 Asperger diagnosed him with an "autistic personality" and a "severe psychopathic state"; according to Asperger, the boy was "intellectually low-ranking" but sometimes "surprised with good performances in some areas." Due to his "irresponsible" and unmotivated "compulsive activity" and his "substantial mental abnormality," Asperger considered the Spiegelgrund institution the only suitable option: WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten, 1942, Friedrich K. The boy was transferred to Spiegelgrund in May 1942 (via *Kinderübernahmsstelle*), where he stayed for 10 months before being sent to the children's home Wimmersdorf: WStLA, 1.3.2.207.A6, index card Friedrich K.

[120]WStLA, 1.3.2.209.10.A1, Krankengeschichten: überlebende Knaben und Mädchen 1941–1945, Gerald St., Asperger to BJA III, 30 July 1941.

[121]WStLA, 1.3.2.209.10.A1, Krankengeschichten: überlebende Knaben und Mädchen 1941–1945, Gerald St., 1. Psychologisches Gutachten, 11 June 1942, signed Igor Caruso. After 1945, Caruso (1914–1981) rose to prominence in Austria as the founder of his own psychoanalytical school. His involvement at Spiegelgrund became the subject of heated debate following a 2008 publication in which the topic was raised for the first time [136].

[122]WStLA, 1.3.2.209.10.A1, Krankengeschichten: überlebende Knaben und Mädchen 1941–1945, Gerald St., Ärztliches Gutachten, 22 July 1942, signed Heinrich Gross and Ernst Illing. After 1945, Heinrich Gross (1915–2005) became one of the most prominent psychiatrists in Austria, partly thanks to the scientific exploitation of the brain specimens obtained from the children killed at Spiegelgrund ([85]:112–4).

[123]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Leo A., Befund, 27 December 1940, signed Asperger.

[124]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Leo A., Befund und Gutachten, 23 September 1941, signed Heinrich Gross and Erwin Jekelius. It should be noted that the boy returned both to Spiegelgrund and the Heilpädagogik ward in 1942/1943, but the documents pertaining to these stays (assessments by Ernst Illing, Jekelius's successor at Spiegelgrund, and by one of Asperger's colleagues) are not relevant here.

[125]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Karl E., Befund, 25 October 1940, signed Asperger.

[126]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Karl E., Führungsbericht und Gutachten, signed Margarete Hübsch and Erwin Jekelius, 19 September 1941.

[127]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Johann K., Befund, signed Asperger, 16 September 1942.

[128]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Johann K., Gutachterliche Äußerung, signed Ernst Illing, 6 January 1943.

[129]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Charlotte H., Heilpädagogisches Gutachten, signed Asperger, 20 February 1941.

[130]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Charlotte H., Gutachterliche Äußerung, signed Ernst Illing, 5 August 1942.

[131]WStLA, 1.3.2.209.10.A1, Krankengeschichten: überlebende Knaben und Mädchen 1941–1945, Johann T.,

Asperger to Wohlfahrtsamt der Bezirkshauptmannschaft Mödling-Liesing, 26 November 1938.

[132]WStLA, 1.3.2.209.10.A1, Krankengeschichten: überlebende Knaben und Mädchen 1941–1945, Johann T., "Abschrift Küst" on Johann T., Befund Jekelius, probably 9 May 1941

[133]WStLA, 1.3.2.209.10.A1, Krankengeschichten: überlebende Knaben und Mädchen 1941–1945, Hildegard P., Heilpädagogisches Gutachten, signed Asperger, 2 October 1940.

[134]WStLA, 1.3.2.209.10, Nervenklinik für Kinder, Krankengeschichten: überlebende Mädchen und Knaben 1941–1945, Hildegard P., Führungsbericht und Gutachten, signed Jokl and Jekelius, 29 May 1941.

[135]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten, case history Karl M. On the *Wanderhof Herzogsägmühle*, see ([137]: especially 53–4).

[136]WStLA, 1.3.2.209.1.A47, Kinderklinik; Heilpädagogische Station: Krankengeschichten.

[137]Deutsche Dienststelle, Auskunft zur Wehrmachtdienstzeit des Dr. Hans Asperger, 28 July 2015. He returned to Vienna on 22 September 1945, after several months as a prisoner of war: WStLA, 1.3.2.202, Personalakt Hans Asperger, Inhaltsverzeichnis.

[138]The choice of the expression *niederschießen* (to gun down) in what sounds like a carefully scripted monologue hints at the particular character of the warfare he experienced, since it suggests the killing of unarmed individuals rather than military battle. A remark in his textbook, first published in 1952, points in a similar direction: "Also during the war, one had to experience time and again how strong the pressure of the 'collective' could be, what terrible deeds a group of people as a whole were capable of, deeds that none of them would have committed on their own in their civil lives" ([76]: 81).

[139]WStLA, 1.3.2.202, Personalakt Hans Asperger, Fragebogen, 7 October 1940.

[140]UAW, MED PA 17, Personalakt Hans Asperger, Personalblatt, 1 September 1945; Asperger to Professorenkollegium der med. Fakultät, 1 September 1945. On the denazification of the medical profession in Austria, see [138].

[141]UAW, MED PA 17, Personalakt Hans Asperger.

[142]This conflict also had political overtones, since the dominating figure in post-World War II youth psychiatry was Walter Spiel, a Social Democrat [74].

[143]This passage remained in the book at least until the fourth edition, which was published in 1965. The author wishes to thank Thomas Mayer for the reference to this passage. Regarding child "euthanasia," Asperger declared his fundamental opposition to the idea of "unworthy life" in a letter to a board member of the German Pediatric Association in 1961, when the organization was mired in controversy over the continued membership of Werner Catel, one of three "experts" of the child "euthanasia" program ([139]: 115).

[144]Asperger still argued along similar lines in the fourth edition of his handbook on Heilpädagogik ([140]: 284–6).

[145]According to a former collaborator, in the relative privacy of a case conference he called a 6-year-old girl a "whore" ([141]: 141). This is in keeping with the fact that in his textbook, Asperger quoted Lambroso and his idea of the "born criminal" and the "born prostitute" ([76]: 85).

[146]WStLA, 1.3.2.209.10.A1 (Spiegelgrund), Krankengeschichten: überlebende Knaben und Mädchen 1941–1945, Edith H.

[147]The concept of "pension neurosis" was created by German psychiatrists after World War I. It served to deny benefits to war veterans who suffered from what today would be called PTSD. After World War II, the concept was often turned against survivors of Nazi medical experiments, concentration camps, and ghettoes, again by denying a causal link between experiences of persecution and long-term effects on mental health ([142]: 166). A paper that Asperger published in 1939 with his colleague Heribert Goll demonstrates to what extent Asperger thought that inborn (if not necessarily hereditary) characteristics determined personality traits in later life. The article was published in the journal *Der Erbarzt*, edited by leading race hygienist Otmar von Verschuer (1896–1969) [143].

[148]WStLA, 1.3.2.207.A1-Zöglingsakten, F-H, 1946. I thank Gertrude Czipke for these documents. On the concept of the "epileptoid personality," see ([76]: 132–4). There is no indication that Max actually suffered from epilepsy. Asperger's diagnosis was based purely on personality traits he observed during his interaction with the boy, which he considered typical for epileptics.

[149]In 2014, the City of Vienna commissioned a research project on this affair, the results of which were published in 2017 [104].

[150]The other Austrian physician whom Kondziella places in this category is Andreas Rett (1924–1997), discoverer of Rett syndrome, a former NSDAP member who became a leading figure in Austrian child neurology after World War II with a special focus on the care of children with disabilities, for whom he proved an effective and tireless advocate. His paternalistic approach, focus on segregation, use of non-approved drugs, and support for sterilization remain controversial [104, 144]. Since Rett was born 18 years after Asperger, the two cases are however difficult to compare with regards to the Nazi period.

[151]On the question of "tainted eponyms," see among others [11, 145].

[152]A large part of the work for this article was completed at the author's previous institution, the Documentation Center of the Austrian Resistance (DÖW), Vienna.

#### Abbreviations

BAB: Federal Archives Berlin; CDSB: Christian-German Student Union; DAF: German Labor Front; DÖW: Documentation Center of the Austrian Resistance; NÖLA: Lower Austria Provincial Archives; NSDÄB: National Socialist German Physicians' League; NSDAP: National Socialist German Workers' Party; NSV: National Socialist People's Welfare Organization; ÖStA: Austrian State Archive; UAW: Vienna University Archives; WStLA: Vienna City and State Archives

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#### Author's contributions

Herwig Czech is the sole author. The author read and approved the final manuscript.

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#### References

1. Asperger H. Das psychisch abnorme Kind. Wien Klin Wochenschr. 1938;49:1314–7.
2. Asperger H. Die 'Autistischen Psychopathen' im Kindesalter. Arch Psychiatr Nervenkr. 1944;117:76–136.
3. Austrian Broadcasting Corporation. Geschichten und Geschichte. Autobiographische Aussagen von Hans Asperger. 1978 (first broadcast on 24 Dec 1974). https://www.mediathek.at/portaltreffer/atom/01782B10-0D9-00CD5-00000BEC-01772EE2/pool/BWEB. Accessed 28 March 2018.
4. Hubenstorf M. Pädiatrische Emigration und die 'Hamburger-Klinik' 1930-1945. In: Widhalm K, Pollak A, editors. 90 Jahre Universitäts-Kinderklinik am AKH in Wien. Umfassende Geschichte der Wiener Pädiatrie. Vienna: Literas Universitätsverlag; 2005. p. 69–220.
5. Wing L. Asperger's syndrome: a clinical account. Psychol Med. 1981;11:115–29.
6. Frith U. Asperger and his syndrome. In: Frith U, editor. Autism and asperger syndrome. Cambridge: Cambridge University Press; 1991. p. 1–36.
7. Asperger H. 'Autistic psychopathy' in childhood. Translated and annotated by Uta Frith. In: Frith U, editor. Autism and Asperger syndrome. Cambridge: Cambridge University Press; 1991. p. 37–92.
8. Schirmer B. Autismus und NS-Rassengesetze in Österreich 1938. Hans Aspergers Verteidigung der 'autistischen Psychopathen' gegen die NS-Eugenik. Die neue Sonderschule. 2002;47:460–4.
9. Gröger H. Das Syndrom des 'Autistischen Psychopathen.' Hans Asperger zwischen Pädiatrie, Kinderpsychiatrie und Heilpädagogik. Schriftenreihe der Deutschen Gesellschaft für Nervenheilkunde. 2003;14:199–213.
10. Asperger Felder M. 'Zum Sehen geboren, zum Schauen bestellt.' Hans Asperger (1906–1980): Leben und Werk. In: Castell R, editor. Hundert Jahre Kinder- und Jugendpsychiatrie. Biografien und Autobiografien. V&R unipress GmbH; 2008. p. 99–117.
11. Kondziella D. Thirty neurological eponyms associated with the Nazi era. Eur Neurol. 2009;62:56–64.
12. Czech H. Dr. Hans Asperger und die 'Kindereuthanasie' in Wien – mögliche Verbindungen. In: Pollak A, editor. Auf den Spuren Hans Aspergers Fokus Asperger-Syndrom: Gestern, Heute, Morgen. Stuttgart: Schattauer; 2015. p. 24–9.
13. Czech H. Der Spiegelgrund-Komplex. Kinderheilkunde, Heilpädagogik, Psychiatrie und Jugendfürsorge im Nationalsozialismus. Österreichische Zeitschrift für Geschichtswissenschaft. 2014;25:194–219.
14. Gröger H. Zur Ideengeschichte der medizinischen Heilpädagogik – Hans Asperger und das Syndrom des 'Autistischen Psychopathen.'. In: Pollak A, editor. Auf den Spuren Hans Aspergers Fokus Asperger-Syndrom: Gestern, Heute, Morgen. Stuttgart: Schattauer; 2015. p. 30–7.
15. Sousek R. Hans Asperger (1906–1980) – Versuch einer Annäherung. In: Pollak A, editor. Auf den Spuren Hans Aspergers Fokus Asperger-Syndrom: Gestern, Heute, Morgen. Stuttgart: Schattauer; 2015. p. 15–23.
16. Friedmann I. Die institutionelle Vernetzung der heilpädagogischen Abteilung der Universitätskinderklinik in Wien zwischen 1930 und 1945. In: Österreichische HochschülerInnenschaft, editor. Österreichische Hochschulen im 20. Jahrhundert. Austrofaschismus, Nationalsozialismus und die Folgen. Vienna: Facultas; 2013. p. 177–89.
17. Friedmann I. 'Es handelte sich um einen sonderlinghaften, triebhaft veranlagten Knaben.' Beispiele heilpädagogischer Gutachten für das Wiener Jugendgericht während der Jahre 1920–1970. Virus – Beiträge zur Sozialgeschichte der Medizin. 2016;14:267–84.
18. Friedmann I. Hans Asperger und die Heilpädagogische Abteilung der Wiener Universitätsklinik. Konzepte und Kontinuitäten. In: Krischel M, Schmidt M, Groß D, editors. Medizinische Fachgesellschaften im Nationalsozialismus. Bestandsaufnahme und Perspektiven. Berlin: LIT Verlag; 2016. p. 309–20.
19. Lyons V, Fitzgerald M. Did Hans Asperger (1906–1980) have Asperger syndrome? J Autism Dev Disord. 2007;37:2020–1.
20. Feinstein A. A history of autism: conversations with the pioneers. 1st ed. Chichester: Wiley-Blackwell; 2010.

21. Silberman S. NeuroTribes. The legacy of autism and the future of neurodiversity. 1st ed. New York: Avery; 2015.
22. Lyons V, Fitzgerald M. Asperger (1906–1980) and Kanner (1894–1981), the two pioneers of autism. J Autism Dev Disord. 2007;37:2022–3.
23. Fitzgerald M. Autism: Asperger's syndrome-history and first descriptions. In: Rausch JL, Johnson ME, Casanova MF, editors. Asperger's Disorder. New York: Informa Healthcare; 2008. p. 1–5.
24. Donvan J, Zucker C. In a Different Key: The Story of Autism. 1st ed. New York: Crown; 2016.
25. Hippler K, Klicpera C. Hans Asperger und 'seine Kinder' – eine retrospektive Untersuchung des Spektrums der 'autistischen Psychopathie' anhand von Wiener Krankenakten. Z Kinder Jugendpsychiatr Psychother. 2005;33:35–47.
26. Hippler K. Hans Asperger and his patients. In: Just MA, Pelphrey KA, editors. Development and brain systems in autism. New York: Psychology Press; 2013. p. 12–31.
27. Hubenstorf M. Tote und/oder lebendige Wissenschaft. Die intellektuellen Netzwerke der NS-Patientenmordaktion in Österreich. In: Gabriel E, Neugebauer W, editors. Von der Zwangssterilisierung zur Ermordung. Zur Geschichte der NS-Euthanasie in Wien Teil II. Vienna, Cologne, Weimar: Böhlau; 2002. p. 237–420.
28. Lazar E. Die Heilpädagogische Abteilung der Kinderklinik in Wien. Sonderabdruck aus der Zeitschrift für Kinderforschung. 1923;28:161–74.
29. Asperger H, Siegl J. Zur Behandlung der Enuresis. Arch Kinderheilkd. 1934; 102:88–102.
30. Hanak-Lettner W, editor. Die Universität. Eine Kampfzone. Vienna: Picus Verlag; 2015.
31. Hubenstorf M. Kontinuität und Bruch in der Medizingeschichte. Medizin in Österreich 1938 bis 1955. In: Stadler F, editor. Kontinuität und Bruch 1938–1945–1955. Beiträge zur österreichischen Kultur- und Wissenschaftsgeschichte. Wien, Munich: Jugend und Volk; 1988. p. 299–332.
32. Risak E, Asperger H. Neue Untersuchungen über das Auftreten von Melaninreaktionen im menschlichen Harn nach Sonnenbestrahlung. Wien Klin Wochenschr. 1932;45:134–6.
33. Seewann G. Österreichische Jugendbewegung 1900–1938. Die Entstehung der Deutschen Jugendbewegung in Österreich-Ungarn 1900 bis 1914 und die Fortsetzung in ihrem katholischen Zweig 'Bund Neuland' von 1918 bis 1938. Band 1. Frankfurt am Main: dipa-Verlag; 1974.
34. Behal B. Kontinuitäten und Diskontinuitäten deutsch-nationaler katholischer Eliten im Zeitraum 1930–1965. Ihr Weg und Wandel in diesen Jahren am Beispiel Dr. Anton Böhms, Dr. Theodor Veiters und ihrer katholischen und politischen Netzwerke (PhD thesis). Vienna, Universität Wien; 2009.
35. Luza R. The resistance in Austria, 1938–1945. Minneapolis: University of Minnesota Press; 1984.
36. Seewann G. Österreichische Jugendbewegung 1900–1938. Die Entstehung der Deutschen Jugendbewegung in Österreich-Ungarn 1900 bis 1914 und die Fortsetzung in ihrem katholischen Zweig 'Bund Neuland' von 1918 bis 1938. Band 2. Frankfurt am Main: dipa-Verlag; 1974.
37. Klösch C. Hermann Lein – 'Innitzer-Gardist' in Dachau und Mauthausen. 2000. http://www.gedenkdienst.at/index.php?id=231. Accessed 9 July 2015.
38. Reimann V. Innitzer. Kardinal zwischen Hitler und Rom. Fritz Molden: Vienna, Munich; 1967.
39. dr. n. m. [Anton Böhm]. Zur politischen Lage. Neuland. Blätter jungkatholischer Erneuerungsbewegung. 1933;10:103–11.
40. Korger F. Zur heutigen Behandlung der Judenfrage. Neuland. Blätter jungkatholischer Erneuerungsbewegung. 1933;10:171–4.
41. Hammer K. Die Wiener Pressefrage. Neuland. Blätter jungkatholischer Erneuerungsbewegung. 1934;11:36–41.
42. Hammer K. Die Wiener Pressefrage II. Neuland. Blätter jungkatholischer Erneuerungsbewegung. 1934;11:65–70.
43. LZ. Die Juden Wiens. Neuland. Blätter jungkatholischer Erneuerungsbewegung. 1935;12:19–21.
44. KW. Erwägungen zur Volkstumsarbeit in der Großstadt. Neuland. Blätter jungkatholischer Erneuerungsbewegung. 1935;12:213–5.
45. dr. n. m. [Anton Böhm]. Zur politischen Lage. Neuland. Blätter jungkatholischer Erneuerungsbewegung. 1933;10:81–8.
46. Löscher M. '...der gesunden Vernunft nicht zuwider...'? Katholische Eugenik in Österreich vor 1938. Innsbruck, Vienna, Bolzano: Studienverlag; 2009.
47. Hubenstorf M. Österreichische Ärzteemigration 1934-1945. Zwischen neuem Tätigkeitsgebiet und organisierten Rückkehrplänen. Ber Wiss. 1984;7:85–107.
48. Asperger H. Ecce Infans. Zur Ganzheitsproblematik in der modernen Pädiatrie (Wiener Antrittsvorlesung). Wien Klin Wochenschr. 1962;74:936–41.
49. Asperger H. 'Jugendpsychiatrie' und 'Heilpädagogik'. Munch Med Wochenschr. 1942;89:352–6.
50. Botz G. Nationalsozialismus in Wien. Machtübernahme und Herrschaftssicherung. 3rd ed. Buchloe: DVO; 1988.
51. Goldenberg A. Das Tagebuch des Hansi Busztin. Falter no. 2015;17:18–21.
52. Asperger H. In memoriam Dr. Josef Feldner. In: Bläsig W, Jansen GW, Schmidt MH, editors. Die Körperbehindertenschule. Eine Darlegung der gegenwärtigen didaktischen und methodischen Konzeption. Berlin-Charlottenburg: Marhold; 1975. p. 61–74.
53. Asperger H. Dr. Josef Feldner – 75 Jahre. Heilpädagogik. Beiblatt der Zeitschrift Erziehung und Unterricht. 1962;112:56–8.
54. Planner-Plann O. Zum Aufbau des nationalsozialistischen deutschen Ärztebundes in Österreich. Deutschösterreichische Ärztezeitung. 1938;1:51–2.
55. Hamburger F. Nationalsozialismus und Medizin. Wien Med Wochenschr. 1939;89:141–6.
56. Czech H. Erfassung, Selektion und 'Ausmerze.' Das Wiener Gesundheitsamt und die Umsetzung der nationalsozialistischen 'Erbgesundheitspolitik' 1938 bis 1945. Vienna: Deuticke; 2003.
57. DÖW. Database of Shoah victims. Entry Walter Brucker. http://www.doew.at/english. Accessed 18 Dec 2016.
58. DÖW. Database of Shoah victims. Entry Marie Klein http://www.doew.at/english. Accessed 18 Dec 2016.
59. DÖW. Wlodawa. http://ausstellung.en.doew.at/index.php?b=212&hl=wlodawa. Accessed 18 Dec 2016.
60. Bock G. Zwangssterilisation im Nationalsozialismus. Studien zur Rassenpolitik und Frauenpolitik. Opladen: Westdeutscher Verlag; 1986.
61. Gütt A, Rüdin E, Ruttke F. Gesetz zur Verhütung erbkranken Nachwuchses vom 14. Juli 1933. München: J. F. Lehmanns Verlag; 1934.
62. Gütt A, Rüdin E, Ruttke F. Gesetz zur Verhütung erbkranken Nachwuchses vom 14. Juli 1933 nebst Ausführungsverordnungen. München: J. F. Lehmanns Verlag; 1936.
63. Asperger H. Pädagogische Therapie bei abnormen Kindern. Med Klin. 1939; 35:943–6.
64. Brill W. Pädagogik der Abgrenzung. Die Implementierung der Rassenhygiene im Nationalsozialismus durch die Sonderpädagogik. Bad Heilbrunn: Julius Klinkhardt; 2011.
65. Schmuhl H-W. Reformpsychiatrie und Massenmord. In: Prinz M, Zitelmann R, editors. Nationalsozialismus und Modernisierung. 2nd ed. Darmstadt: Wissenschaftliche Buchgesellschaft; 1994. p. 239–66.
66. Jekelius E. Grenzen und Ziele der Heilpädagogik. Wien Klin Wochenschr. 1942; 55:385–6.
67. Asperger H. Zur Erziehungstherapie in der Jugendfürsorge. Monatsschr Kinderheilkd. 1941;87:238–47.
68. Riedel H. Kinderpsychiatrie und Psychotherapie in Wien. Munch Med Wochenschr. 1940;87:1161–3.
69. Heller T. Heilpädagogik in Österreich. Aus dem Vortrag anlässlich der Gründung der Österreichischen Gesellschaft für Heilpädagogik in Wien, am 3. Juli 1935. In: Asperger H, Heeger J, Radl H, editors. Sonderheft Dr. Theodor Heller. Beiblatt der Zeitschrift 'Erziehung und Unterricht' Jahrgang 1959. Vienna: Österreichischer Bundesverlag/Verlag für Jugend und Volk; 1959. p. 7–11.
70. Fuchs P. Zur Selektion von Kindern und Jugendlichen nach dem Kriterium der 'Bildungsunfähigkeit.' In: Rotzoll M, Hohendorf G, Fuchs P, Mundt C, Eckart WU, editors. Die nationalsozialistische 'Aktion T4' und ihre Opfer. Von den historischen Bedingungen bis zu den ethischen Konsequenzen für die Gegenwart. Paderborn: Schöningh; 2010. p. 287–96.
71. Asperger H. Das psychisch abnorme kind. Wien Klin Wochenschr. 1937;50:1460–1.
72. Anonym. Bericht über die 1. Tagung der Deutschen Gesellschaft für Kinderpsychiatrie und Heilpädagogik in Wien am 5. September 1940. Zeitschrift für Kinderforschung. 1943;49:1–119.
73. Schepker K, Fangerau H. Die Gründung der Deutschen Gesellschaft für Kinderpsychiatrie und Heilpädagogik. Der Weg von Paul Schröder zum Gründungsvorsitzenden. Z Kinder Jugendpsychiatr Psychother. 2016;44: 180–8.
74. Berger E. Die Österreichische Kinder- und Jugendpsychiatrie nach 1945 bis 1975. Das Geschwisterverhältnis zur Heilpädagogik Österreichischer Prägung. Eine Gratwanderung zwischen historischer Hypothek und sozialpsychiatrischem Anspruch. In: Fangerau H, Topp S, Schepker K, editors. Kinder- und Jugendpsychiatrie im Nationalsozialismus und in der Nachkriegszeit. Zur Geschichte ihrer Konsolidierung. Berlin, Heidelberg: Springer; 2017. p. 607–18.

75. Sieder R. Warum das Wiener Jugendamt seinem Erziehungsberater nicht folgte. In: Aichhorn T, Fallend K, editors. August Aichhorn – Vorlesungen zur Einführung in die Psychoanalyse. Für Erziehungsberatung und Soziale Arbeit. Mit einem Essay von Reinhard Sieder. Vienna: Löcker; 2015. p. 201–25.
76. Asperger H. Heilpädagogik. Einführung in die Psychopathologie des Kindes für Ärzte, Lehrer, Psychologen und Fürsorgerinnen. Vienna: Springer; 1952.
77. WAIS – Wiener Archivinformationsystem. Vollansicht Serie 1.3.2.209.1.A47. 2004/2005. https://www.wien.gv.at/actaproweb2/benutzung/print.xhtml?id=Ser+++++00001821ma8lnvent. Accessed 6 Feb 2016.
78. Spring C. Zwischen Krieg und Euthanasie: Zwangssterilisationen in Wien 1940–1945. Vienna: Böhlau; 2009.
79. Leixner L. Die Grausamkeit der 'Mitleidigen.' Das Gesetz zur Verhütung erbkranken Nachwuchses mit 1. Jänner auf die Ostmark ausgedehnt. Völkischer Beobachter 1938; 1938. p. 6.
80. Czech H. Nazi 'euthanasia' crimes in World War II Austria. Holocaust Hist Mem. 2012;5:51–73.
81. Czech H. Selektion und Kontrolle. Der 'Spiegelgrund' als zentrale Institution der Wiener Jugendfürsorge zwischen 1940 und 1945. In: Gabriel E, Neugebauer W, editors. Von der Zwangssterilisierung zur Ermordung. Zur Geschichte der NS-Euthanasie in Wien Teil II. Vienna, Cologne, Weimar: Böhlau; 2002. p. 165–87.
82. Schmitz-Berning C. Vokabular des Nationalsozialismus. Verlag Walter de Gruyter: Berlin, New York; 2007.
83. Asperger H. Postenzephalitische Persönlichkeitsstörungen. Munch Med Wochenschr. 1944;91:114–7.
84. Klee E. 'Euthanasie' im Dritten Reich. Die 'Vernichtung lebensunwerten Lebens.' Frankfurt am Main: Fischer Taschenbuch Verlag; 2010.
85. Czech H. Abusive medical practices on 'euthanasia' victims in Austria during and after world war II. In: Rubenfeld S, Benedict S, editors. Human Sujects research after the holocaust. Cham, Heidelberg, New York et al: Springer; 2014. p. 109–25.
86. Schödl L. Borgia-Rummel in Lainz. Völkischer Beobachter 1940; 1940. p. 7.
87. Neugebauer W. Die Klinik 'Am Spiegelgrund' 1940-1945. Eine 'Kinderfachabteilung' im Rahmen der NS-'Euthanasie.' Studien zur Wiener Geschichte. Jahrbuch des Vereins für die Geschichte der Stadt Wien 1996/97;52/53:289–305.
88. Malina P. Die Wiener städtische Erziehungsanstalt Biedermannsdorf als Institution der NS-Fürsorge – Quellenlage und Fallbeispiele. In: Berger E, editor. Verfolgte Kindheit. Kinder und Jugendliche als Opfer der NS-Sozialverwaltung. Vienna: Böhlau; 2007. p. 263–75.
89. Berger E. Verfolgte Kindheit. Kinder und Jugendliche als Opfer der NS-Sozialverwaltung. Vienna, Cologne, Weimar: Böhlau; 2007.
90. Schlarp K-H. Wirtschaft und Besatzung in Serbien 1941–1944. Ein Beitrag zur nationalsozialistischen Wirtschaftspolitik in Südosteuropa. Stuttgart: Steiner; 1986.
91. Asperger H. Erlebtes Leben. Fünfzig Jahre Pädiatrie. Padiatr Padol. 1977;12:214–33.
92. Asperger H. Die Psychopathologie der jugendlichen Kriminellen. In: Schneider F, editor. Jugendkriminalität. Vorträge des internationalen Kongresses über Probleme der Jugendkriminalität. Salzburg: Otto Müller Verlag; 1952. p. 26–40.
93. Gausemeier B. Rassenhygienische Radikalisierung und kollegialer Konsens. In: Sachse C, editor. Die Verbindung nach Auschwitz. Biowissenschaften und Menschenversuche an Kaiser-Wilhelm-Instituten. Dokumentation eines Symposiums. Göttingen: Wallstein Verlag; 2004. p. 178–98.
94. Massin B. Mengele, die Zwillingsforschung und die 'Auschwitz-Dahlem Connection.' In: Sachse C, editor. Die Verbindung nach Auschwitz. Biowissenschaften und Menschenversuche an Kaiser-Wilhelm-Instituten. Dokumentation eines Symposiums. Göttingen: Wallstein Verlag; 2003. p. 201–54.
95. Lange J. Erbliche Geisteskrankheiten und Psychopathien. In: Fischer E, Lenz F, Gottschaldt K, editors. Baur-Fischer-Lenz. Menschliche Erblehre und Rassenhygiene. Band I: 2 Hälfte Erbpathologie. Munich, Berlin: J. F. Lehmanns Verlag; 1940. p. 386–464.
96. Asperger H. Seelische Abwegigkeiten als Ursachen der Jugendverwahrlosung. In: Schneider F, editor. Jugendverwahrlosung. Salzburg: Otto Müller Verlag; 1950. p. 21–36.
97. Sieder R, Smioski A. Der Kindheit beraubt. Gewalt gegen Kinder in Erziehungsheimen der Stadt Wien. Innsbruck, Vienna, Bolzano: Studienverlag; 2012.
98. Berger E, Katschnig T. Gewalt in Wiener Heimen zwischen 1945 und 1990 – eine retrospektive Studie aus psychotraumatologischer Perspektive. Neuropsychiatrie. 2013;27:188–95.
99. Berger E. Kinderpsychiatrie in der NS-Zeit – Ordnungs- und Vernichtungspolitik in Kooperation mit Pädagogik und Fürsorge. Schriftenreihe der Deutschen Gesellschaft für Geschichte der Nervenheilkunde. 2009;15:229–37.
100. Berger E. Die Rolle der Kinder- und Jugendpsychiatrie in der NS-Zeit. Neuropsychiatrie. 2015;29:148–9.
101. Berger E. Die Kinderpsychiatrie in Österreich 1945-1975 – Entwicklungen zwischen historischer Hypothek und sozialpsychiatrischem Anspruch. Virus – Beiträge zur Sozialgeschichte der Medizin. 2016;14:239–48.
102. Medizin-Historische ExpertInnenkommission. Die Innsbrucker Kinderbeobachtungsstation von Maria Nowak-Vogl. Innsbruck: Medizinische Universität Innsbruck; 2013.
103. Ralser M, Sieder R, editors. Kinder des Staates (Österreichische Zeitschrift für Geschichtswissenschaft 25/1+2). Innsbruck, Vienna, Bolzano: Studienverlag; 2014.
104. Mayrhofer H, Wolfgruber G, Geiger K, Hammerschick W, Reidinger V, editors. Kinder und Jugendliche mit Behinderungen in der Wiener Psychiatrie von 1945 bis 1989. Stationäre Unterbringung am Steinhof und Rosenhügel. Wien: LIT; 2017.
105. Eisenreich R. Die Schande von Pavillon 15. Falter no. 22; 2013. p. 16–7.
106. Schopler E. Premature popularization of Asperger syndrome. In: Schopler E, Mesibov GB, Kunce LJ, editors. Asperger syndrome or high-functioning autism? New York: Plenum Press; 1998. p. 385–99.
107. Harris J. Book forum [on NeuroTribes and In a Different Key]. J Am Acad Child Adolesc Psychiatry. 2016;55:729–35
108. Robison JE. Kanner, Asperger, and Frankl. A third man at the genesis of the autism diagnosis. Autism. 2016; https://doi.org/10.1177/1362361316654283
109. Hager S. 'Er war Teil des Apparats.' Der Zeithistoriker Herwig Czech im Interview über die Arbeit des Heilpädagogen Hans Asperger während der NS-Zeit. 2014. http://www.wienerzeitung.at/dossiers/autismus/618698_Er-war-Teil-des-Apparats.html. Accessed 19 Dec 2016.
110. Michaels J. The Heilpedagogical Station of the Children's Clinic at the University of Vienna. Am J Orthopsychiatry. 1935;5:266–75.
111. Bruck V, Frankl G, Weiss A, Zak V. Erwin Lazar und sein Wirken. Zeitschrift für Kinderforschung. 1932;40:211–8.
112. Frankl G. Der Wirkungskreis der ärztlichen Heilpädagogik. Volksgesundheit. 1932;6:180–5.
113. Frankl G. Befehlen und Gehorchen. Eine heilpädagogische Studie. Zeitschrift für Kinderforschung. 1934;42:463–79.
114. Frankl G. Die Heilpädagogische Abteilung der Wiener Kinderklinik. Zeitschrift für Kinderschutz, Familien- und Berufsfürsorge. 1937;29:33–54.
115. Frankl G. Über postenzephalitischen Parkinsonismus und verwandte Störungen im Kindesalter. Zeitschrift für Kinderforschung. 1937;46:199–249.
116. Frankl G. Triebhandlungen bei Dissozialität nach Enzephalitis epidemica und anderen psychopathischen Störungen des Kindesalters. Zeitschrift für Kinderforschung. 1937;46:401–48.
117. Ertl KA. NS-Euthanasie in Wien. Erwin Jekelius: Der Direktor vom 'Spiegelgrund' und seine Beteiligung am NS-Vernichtungsprogramm (MA thesis). Vienna; 2012.
118. Jekelius E. Incontinentia alvi im Kindesalter. Arch Kinderheilkd. 1936;109:129–38.
119. Weindling P. "Unser eigener 'österreichischer Weg'": Die Meerwasser-Trinkexperimente in Dachau 1944. In: Czech H, Weindling P, editors. Österreichische Ärzte und Ärztinnen im Nationalsozialismus. Vienna: Dokumentationsarchiv des österreichischen Widerstandes; 2017. p. 133–77.
120. HB. Umschau. Neuland. Blätter jungkatholischer Erneuerungsbewegung. 1934;11:93–5.
121. Frankl VE. Man's search for meaning. New York: Washington Square Press; 1946.
122. Frankl V. Was nicht in meinen Büchern steht. Lebenserinnerungen. München: Quintessenz; 1995.
123. Pauley B. Eine Geschichte des österreichischen Antisemitismus. Von der Ausgrenzung zur Auslöschung. Vienna: Kremayr & Scheriau; 1993.
124. van den Bussche H. Personalprobleme, Disziplinkrise und Selbstdeprofessionalisierung der Psychiatrie im Nationalsozialismus. Schriftenreihe der Deutschen Gesellschaft für Geschichte der Nervenheilkunde. 2015;21:127–69.
125. Rzesnitzek L, Lang S. 'Electroshock therapy' in the third Reich. Med Hist. 2017;16:66–88.
126. Czech H. From 'action T4' to 'decentralized euthanasia' in Lower Austria: the psychiatric hospitals at Gugging, Mauer-Öhling and Ybbs. http://www.memorialgugging.at. Accessed 15 Jan 2017

127. Nedoschill J, Castell R. Der Vorsitzende der Deutschen Gesellschaft für Kinderpsychiatrie und Heilpädagogik im Zweiten Weltkrieg. Prax Kinderpsychol Kinderpsychiatr. 2001;50:228–37.
128. Hippler K, Klicpera C. A retrospective analysis of the clinical case records of 'autistic psychopaths' diagnosed by Hans Asperger and his team at the University Children's Hospital, Vienna. Philos Trans R Soc Lond B. 2003;358:291–302.
129. Asperger H, Heeger J, Radl H, Geleitwort. In: Asperger H, Heeger J, Radl H, editors. Sonderheft Dr. Theodor Heller. Beiblatt der Zeitschrift 'Erziehung und Unterricht' Jahrgang 1959. Österreichischer Bundesverlag/Verlag für Jugend und Volk; 1959. p. 5–6.
130. Seidler E. Das Schicksal der Wiener jüdischen Kinderärzte zwischen 1938 und 1945. Wien Klin Wochenschr. 1999;18:754–63.
131. Czech H. Die Inventur des Volkskörpers. Die 'erbbiologische Bestandsaufnahme' im Dispositiv der NS-Rassenhygiene in Wien. In: Mayer T, Hofer V, Baader G, editors. Eugenik in Österreich. Biopolitische Methoden und Strukturen von 1900–1945. Vienna: Czernin; 2007. p. 284–311.
132. Baur E, Fischer E, Lenz F, editors. Menschliche Erblichkeitslehre und Rassenhygiene. Band I: Menschliche Erblichkeitslehre. Band II: Menschliche Auslese und Rassenhygiene (Eugenik). München: J.F. Lehmanns Verlag; 1932.
133. Dahl M. Endstation Spiegelgrund. Die Tötung behinderter Kinder während des Nationalsozialismus am Beispiel einer Kinderfachabteilung in Wien. Vienna: Erasmus; 1998.
134. Klee E. Dokumente zur 'Euthanasie.' Frankfurt am Main: Fischer TB; 1985.
135. Czech H. Von der 'Aktion T4' zur 'dezentralen Euthanasie.' Die niederösterreichischen Heil- und Pflegeanstalten Gugging, Mauer-Öhling und Ybbs. Jahrbuch des Dokumentationsarchivs des österreichischen Widerstandes; 2016. p. 219–66.
136. List E. 'Warum nicht in Kischniew?' Zu einem autobiographischen Tondokument Igor Carusos. Z Psychoanal Theor Prax. 2008;23:117–41.
137. Eberle A. Zentralwanderhof Herzogsägmühle 1936-1945. Zwangsfürsorge für 'Nichtseßhafte' und 'Asoziale' in Bayern. 1999. Zeitschrift für Sozialgeschichte des 20. und 21. Jahrhunderts. 1994;9:46–60.
138. Czech H. 'Man muss den Kopf abtreiben, damit nicht die Glieder wieder nachwachsen.' Anmerkungen zur Entnazifizierung der Medizin in Österreich. In: Dreidemy L, Hufschmied R, Meisinger A, Wenninger F, Pfister E, Prager K, Wirth M, Molden B, Röhrlich E, editors. Bananen, Cola, Zeitgeschichte. Oliver Rathkolb und das lange 20. Jahrhundert, Band 1. Vienna, Cologne, Weimar: Böhlau; 2015. p. 357–71.
139. Topp S. Geschichte als Argument in der Nachkriegsmedizin. Formen der Vergegenwärtigung der nationalsozialistischen Euthanasie zwischen Politisierung und Historiographie. Göttingen: V&R unipress; 2013.
140. Asperger H. Heilpädagogik. Einführung in die Psychopathologie des Kindes für Ärzte, Lehrer, Psychologen, Richter und Fürsorgerinnen. 4th ed. Vienna, New York: Springer; 1965.
141. Czipke G. 'Die SchreibmaschinentäterInnen.' Die Wiener Jugendfürsorge in den Jahren 1945 bis 1970 und ihr Beitrag zur Durchsetzung einer gegen Mädchen, Frauen, 'uneheliche' Mütter und deren Kinder gerichteten Geschlechterordnung (MA thesis). Vienna; 2013.
142. Baumann S. Opfer von Menschenversuchen als Sonderfall. In: Hockerts H-G, Moisel C, Winstel T, editors. Grenzen der Wiedergutmachung. Die Entschädigung für NS-Verfolgte in West- und Osteuropa 1945–2000. Göttingen: Wallstein; 2006. p. 147–86.
143. Asperger H, Goll H. Über einen Fall von Hemichorea bei einem eineiigen Zwillingspaar. Gleichzeitig ein Beitrag zum Problem der Individualität bei erbgleichen Zwillingen. Der Erbarzt. 1939;6:24–8.
144. Ronen GM, Meaney B, Dan B, Zimprich F, Stögmann W, Neugebauer W. From eugenic euthanasia to habilitation of 'disabled' children: Andreas Rett's contribution. J Child Neurol. 2009;24:115–27.
145. Harper PS. Naming of syndromes and unethical activities: the case of Hallervorden and Spatz. Lancet. 1996;348:1224–5.



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**Works Cited**

**Physical Books:**

Donovan, John and Caren Zucker. *In a Different Key: The Story of Autism*, New York. Penguin Random House LLC, 2016.

Feinstein, Adam. *A History of Autism: Conversations with the Pioneers*, Chichester, West Sussex. Wiley-Blackwell, 2010.

Sandoval-Strausz, A. K. *Hotel: an American History,* Yale University Press, 2007.

Silberman, Steve. *NeuroTribes*. New York. Penguin Random House LLC, 2015.

Turkel, Stanley. *Great American Hoteliers: Pioneers of the Hotel Industry,* Bloomington, Indiana. AuthorHouse, 2009.

Williamson, Jefferson. *The American Hotel: An Anecdotal History*, New York. Alfred Knopf. Inc, 1930.

Wise, Sonny Jane. *We're All Neurodiverse,* London. Jessica Kingsley Publishers, an imprint of John Murray Press. 2024.

**Electronic Books:**

Denby, Elaine. *Grand Hotels: Reality and Illusion*. Reaktion Books, 2002.

Giousmpasoglou, Charalampos, and Evangelia Marinakou. *The Contemporary Hotel Industry: A People Management Perspective.* Palgrave Advances in Managing and Marketing Tourism, Hospitality, and Events. Palgrave Macmillan, Cham. 2024. https://doi.org/10.1007/978-3-031-52803-3_2

Golt, Joshua, and Rajesh K. Kana. *The Neuroscience of Autism*. Academic Press. 2022.

https://doi.org/10.1016/B978-0-12-816393-1.00002-6. https://www.sciencedirect.com/science/article/pii/B9780128163931000026?ref=pdf_download&fr=RR-2&rr=8c4917a838361044

James, Kevin J. *Histories, Meanings and Representations of the Modern Hotel*. Channel View Publications, 2018.

Manoharan, Ashokkumar., Juan M. Madera, and Manisha Singal. *The Routledge Handbook of Diversity, Equity, and Inclusion Management in the Hospitality Industry.* Taylor & Francis, 2023.

**Book Chapters:**

Boys, Jos. "Chapter Three – Disability Studies, Neurodivergence, and Architecture," in *Developments in Neuroethics and Bioethics,* edited by Anthony Clarke, Jos Boys, and John Gardner. 39-67. Academic Press, 2022.

Hilton, Barron. "Foreword." In *Be My Guest,* written by Conrad Hilton. New York. Fireside, 1994.

Sánchez, Pilar Arnaiz, Francisco Segado Vazquez, and Laureano Albaladejo Serrano. "Chapter 19 - Autism and the Built Environment" in *Autism Spectrum Disorders – From Genes to Environment*, edited by Timothy Ivor Williams, 2011.

**Articles:**

Bates, Charlotte. "Hotel Histories: Modern Tourists, Modern Nomads and the Culture of Hotel-Consciousness." *Literature & History* 12, no. 2 (2003): 62-75. https://doi.org/10.7227/LH.12.2.5

Clouse, Joslin R., Jeanneane Wood-Nartker, and Franklyn A. Rice. “Designing Beyond the American With Disabilities Act (ADA): Creating an Autism-Friendly Vocational Center.” *Health Environments Research and Design Journal* 13, no. 3 (2020): 215-229. https://doi.org/10.1177/1937586719888502

Costa, George, Eleni Glinia, Mario Goudas, and Panagiotis Antoniou. “Recreational Services in Resort Hotels: Customer Satisfaction Aspects.” *Journal of Sport & Tourism* 9, no. 02 (2004): 117-126. https://doi.org/10.1080/14775080410001732541

Czech, Herwig. “Hans Asperger, National Socialism, and “race hygiene” in Nazi-era Vienna.” *Molecular Autism* 9, 29 (2018). https://doi.org/10.1186/s13229-018-0208-6

Desai, Gayatri., and Parag Narkhede. “Formulation of Guidelines for Environmentally Considerate Execution of Beach Resort Design Project; Case of Maharashtra Coastline.” *Rabindra Bharati University Journal of Economics* 18, no. 16 (2024). ISSN: 0975-802X.

Dinakaran, Janani M.D., Jayendra Arya MBBS MD, Niharika Prasad, and Sakshi Jain MBBS, MD. "Parental Understanding of and Support for Neurodivergent Conditions." *Journal of Cardiovascular Disease Research* 14, no. 07 (2023). https://www.jcdronline.org/admin/Uploads/Files/64d3b40b7052e8.46595822.pdf.

El-Barmelgy, Hesham M., and Abdelkhalek A. Ibrahim. “Eco-Efficient Resort Planning and Design.” *Journal of Urban Research* 13, no. 1 (2014): 113-130. https://doi.org/10.21608/JUR.2014.92879

Evans, Bonnie. “How Autism Became Autism: The Radical Transformation of a Central Concept of Child Development in Britain.” *Hist Human Sci* 26, no. 3 (2013): 3-31. https://doi.org/10.1177/0952695113484320

Fazil, Fauzunnasirah., Er Ah Choy, Habibah Ahmad, Susheel Joginder Singh, Noordeyana

Tambi, and Hamzah Jusoh. “Experiences of Family Vacation with Children Diagnosed with Autism Spectrum Disorder (ASD): Leisture or Work.” *Akademika* 92, no. 1 (2022): 101-112. https://doi.org/10.17576/akad-2022-9201-08.

Ferguson, Philip M., and Emily Nusbaum. “Disability Studies: What Is It and What Difference Does It Make?” *Research & Practice for Persons with Severe Disabilities* 37, no. 2 (2012): 70-80. https://doi.org/10.1177/154079691203700202

Flaherty, Dennis K. “The Vaccine-Autism Connection: A Public Health Crisis Caused by Unethical Medical Practices and Fraudulent Science.” *Annals of Pharmacotherapy* 45, no. 10 (2011). https://doi.org/10.1345/aph.1Q318.

Freund, Daniela, Monica C. Chiscano, Gilda Hernandez-Maskivker, Mireia Guix, Ana Inesta, and Montserrat Castello. "Enhancing the Hospitality Customer Experience of Families with Children on the Autism Spectrum Disorder." *International Journal of Tourism Research* 21, no. 5 (2019): 606-614. https://doi.org/10.1002/jtr.2284.

Gernsbacher, Morton Ann, Michelle Dawson, and H. Hill Goldsmith. “Three Reasons Not to Believe in an Autism Epidemic.” *Current Directions in Psychological Science 14,* no. 2 (2005). https://doi.org/10.1111/j.0963-7214.2005.00334.x

Habbak, Aya Lofty Zakarya., and Laila Khodeir. “Multi-Sensory Interactive Interior Design for Enhancing Skills in Children with Autism.” *Ain Shams Engineering Journal* 14, no. 8 (2023): 102039. https://doi.org/10.1016/j.asej.2022.102039.

Hamed, Hend M. “Tourism and Autism: An Initiative Study for how Travel Companies can Plan Tourism Trips for Autistic People.” *American Journal of Tourism Management* 2, no. 1 (2013): 1-14. https://doi.org/10.5923/j.tourism.20130201.01.

Hedblom, Marcus., Bengt Gunnarsson, Behzad Iravani, Igor Knez, Martin Schaefer, Pontus

Thorsson, and Johan N. Lundström. "Reduction of Physiological Stress by Urban Green Space in a Multisensory Virtual Experiment." *Scientific Reports* 9, no. 10113 (2019). https://doi.org/10.1038/s41598-019-46099-7.

Ivanova, Maya G., and Stanislav H. Ivanaov. "Conceptual Framework of Hotel Chains." *International Journal of Hospitality and Tourism Administration 16*, no. 2 (2015). https://doi.org/10.2139/ssrn.2091276

Jablensky, Assen. "The Diagnostic Concept of Schizophrenia: its History, Evolution, and Future Prospects." *Dialogues in Clinical Neuroscience* 12, no. 3 (2010): 271-287. https://doi.org/10.31887/DCNS.2010.12.3/ajablensky

Kersten, Michelle L., Kristy Coxon, Hoe Lee, and Nathan J. Wilson. "Traversing the Community is Uncertain, Socially Complex and Exhausting: Autistic Youth Describe Experiences of Travelling to Participate in Their Communities." *Journal of Transport & Health* 18, (2020). https://doi.org/10.1016/j.jth.2020.100922

Koncul, Nico. "Wellness: A New Mode of Tourism." *Economic Research-Ekonomska Istraživanja 25*, no. 2 (2012): 525-534. https://doi.org/10.1080/1331677X.2012.11517521

Legault, Mylene, Jean-Nicolas Bourdon, and Pierre Poirier. "From Neurodiversity to Neurodivergence: The Role of Epistemic and Cognitive Marginalization." *Synthese* 199, (2021): 112843-12868. https://doi.org/10.1007/s11229-021-03356-5

Leiper, Nell. "The Framework of Tourism: Towards a Definition of Tourism, Tourist, and the Tourist Industry." *Annals of Tourism Research* 6, no. 4 (1979): 390-407. https://doi.org/10.1016/0160-7383(79)90003-3

Linton, Simi. "What is Disability Studies?" *PMLA/Publications of the Modern Language*

*Association of America* 120, no. 2 (2005): 518-522. https://doi.org/10.1632/S0030812900167823

Liu, Chyong-Ru, Yao-Chin Wang, Tonny Menglun Kuo, Cheng-Hsuing Tsui, and Hsuan Chen. "Healing Experiences at Resort Hotels (HERH): Conceptualization and Scale Development." *International Journal of Hospitality Management* 120, (2024): 103749. https://doi.org/10.1016/j.ijhm.2024.103749

Matson, Johnny L., and Alison M. Kozlowski. "The Increasing Prevalence of Autism Spectrum Disorders." *Research in Autism Spectrum Disorders* 5, no. 1 (2011). https://doi.org/10.1016/j.rasd.2010.06.004.

Mittmann, Gloria, Beate Schrank, and Verena Steiner-Hofbauer. "TV Series in Mainstream Media Depicting Autism and Self-Diagnosis of Autism in a General Population of Young Adults." *Journal of Autism and Developmental Disorders*, (2023). https://doi.org/10.1007/s10803-023-06150-z.

Mostafa, Magda. "Architecture for Autism: Autism ASPECTSS™ in School Design." *International Journal of Architectural Research* 8, no. 1 (2014): 143-158. https://doi.org/10.26687/archnet-ijar.v8i1.314

Mostafa, Magda. "Architecture for Autism: Built Environment Performance in Accordance to the Autism ASPECTSS™ Design Index." *Design Principles & Practices: An International Journal* 8, no. 1 (2015): 55-71. https://doi.org/10.18848/1833-1874/CGP/v08/38300

Naidoo, Dhevaksha, Adrian Schembri, and Marc Cohen. "The Health Impact of Residential Retreats: A Systematic Review." *BMC Complementary and Alternative Medicine* 18, no. 8 (2018). https://doi.org/10.1186/s12906-017-20178-4.

Papatheodorou, Andreas. "Exploring the Evolution of Tourism Resorts." *Annals of Tourism*

*Research 31,* no. 1 (2004): 219-237. https://doi.org/10.1016/j.annals.2003.10.004

Parisi, Antonio. "Autism, 75 Years of History: From Psychoanalysis to Neurobiology". *AIMS Molecular Science* 6, no. 1 (2019): 20-26. https://doi.org/10.3934/molsci.2019.1.20.

Ratcliffe, Eleanor., Birgitta Gatersleben, and Paul T. Sowden. "Bird Sounds and Their Contributions to Perceived Attention Restoration and Stress Recovery." *Journal of Environmental Psychology* 36, (2013): 221-228. https://doi.org/10.1016/j.jenvp.2013.08.004.

Sedgley, Diane, Annette Pritchard, Nigel Morgan, and Paul Hanna. "Tourism and Autism: Journeys of mixed emotions." *Annals of Tourism Research* 66, (2017): 14-25. https://dx.doi.org/10.1016/j.annals.2017.05.009

Shi, Jing. "Travel as a Mode of Responding to Autism Spectrum Disorder: One Family's Journey." *Journal of Autism and Developmental Disorders* 53, (2023): 1706-1709. https://doi.org/10.1007/s10803-022-05468-4

Strand, Curt R. "Lessons of a Lifetime: The Development of Hilton International." *Cornell Hotel and Restaurant Administration Quarterly* 37, no. 3 (1996): 9-96. https://doi.org/10.1177/001088049603700323

Suppo, Jennifer L. "The History of Behavioral Treatments in Autism: From the Punitive to the Positive." *Journal of the American Academy of Special Education Professionals*, Spr-Sum (2017). https://eric.ed.gov/?id=EJ1164503

Tissot, Laurent. "Histoire de l'entreprise hôtelière en Europe occidentale: acteurs, strategies et gestion. Indtroduction." *Mondes du Tourisme 22,* (2022). https://doi.org/10.4000/tourisme.5370

Wakefiled, A J., S H Murch, A Anthony, J Linnell, D M. Casson, M Malik, M Berelowitz, A P.

Dhillon, M A. Thompson, P Harvey, A Valentine, S E Davies, and J A Walker-Smith. "Ileal-lymphoid-nodular Hyperplasia, Non-specific Colitis, and Pervasive Developmental Disorder in Children." *The Lancet 351*, (1998). https://doi.org/10.1016/S0140-6736(97)11096-0.

Wasilah, Wasilah., Andi Hildayanti, and Hamzah Hamzah. "Green Building with Nature Concept on Lakeside Resort Design." *Environmental Science and Sustainable Development* 4, no. 1 (2019).

Zhao, Zhiyue., Da Shi, Xiaoxiao Qi, Yawen Shan, and Xiyi Liu. "Family Travel Among People with Autism: Challenges and Support Needs." *International Journal of Contemporary Hospitality Management* 35, no. 11 (2023). https://doi.org/10.1108/IJCHM-10-2022-1229

**Treaties:**

UN (United Nations) General Assembly. 2006. *Resolution adopted by the General Assembly on 12 December 2006 – Convention on the Rights of Persons with Disabilities.* Sixty-first session. A/RES/61/106. Available at https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-persons-disabilities

**Conference Publications:**

Cena, Federica., Noemi Mauro, Liliana Ardissono, Fabio Ferrero, Serena Ferrigno, Amon Rapp, Claudio Mattutino, and Roberto Keller. "CARES: an Inclusive Personalized Touristic System for Autism." in *UMAP '23 Adjunct: Adjunct Proceedings of the 31st ACM Conference on User Modeling, Adaptation and Personalization, June 26-29, 2023,*

*Limassol, Cyprus*. ACM, New York, NY, USA, 363-366. https://doi.org/10.1145/3563359.3596665.

**Theses:**

Ostela, Reetta. "Accessible Tourism Experiences of Families with Autistic Children." Thesis, University of Eastern Finland, 2023.

Owren, Thomas. “Autreat and Autscape: Informing and Challenging the Neurotypical Will and Ability to Include.” Thesis, Bergen University College Norway, 2013.

**Podcasts:**

Gross, Terry, Dave Davies, and Steve Silberman. “’NeuroTribes’ Examines The History—And Myths—Of The Autism Spectrum.” September 9, 2016, in *Fresh Air*, WHYY and NPR, podcast, 36:41, https://www.npr.org/2016/09/09/493148713/neurotribes-examines-the-history-and-myths-of-the-autism-spectrum.

**Websites:**

“. Hyatt.” Hyatt Corporation. https://www.hyatt.com/info/nic.

“A Hotel Brand for Every Type of Journey.” Marriott International, Inc. https://www.marriott.com/marriott-brands/explore-our-brands.mi

“About Autism.” Autistic Self Advocacy Network, ASAN. https://autisticadvocacy.org/about-asan/about-autism/.

“About Us.” Jin Jiang International Holdings Co., Ltd. https://www.jinjiang.com/hq/en/

“Autism and Developmental Disabilities Monitoring (ADDM) Network.” CDC. May 16, 2024.

https://www.cdc.gov/autism/addm-network/?CDC_AAref_Val=https://www.cdc.gov/ncbddd/autism/addm.html.

“Autism Spectrum Disorder.” National Institute of Mental Health, NIH. February 2024. https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd.

Baumer, Nicole MD, MEd, and Julia Frueh MD. "What Is Neurodiversity?" Harvard Health Publishing. Harvard Medical School, November 23, 2021. https://www.health.harvard.edu/blog/what-is-neurodiversity-202111232645.

“Brands.” Accor. https://group.accor.com/en/brands.

“Brands.” IHG. https://www.ihg.com/content/us/en/about/brands.

“Careers” Best Western Hotels International. https://jobs.bestwestern.com/.

“Contact Us.” ICP, China Lodging Group. https://ir.hworld.com/investor-resources/contact-us.

“Corporate Contacts.” Choice Hotels International, Inc. https://www.choicehotels.com/about/offices/corporate-contacts.

Donovan, John and Caren Zucker. “The Doctor and the Nazis.” Tablet, January 19, 2016. https://www.tabletmag.com/sections/community/articles/the-doctor-and-the-nazis

"Experience over Nine Decades of the Oscars from 1927 to 2024: The 61st Academy Awards | 1989." Oscars. Academy of Motion Picture Arts and Sciences, 2024. https://www.oscars.org/oscars/ceremonies/1989.

“Explore Hilton’s Brands and Ways to Stay.” Hilton. https://www.hilton.com/en/brands/.

“FAQs.” Hilton. https://ir.hilton.com/investor-resources/faqs.

“Four Seasons Legal Entities.” Four Seasons Hotels Limited. https://www.fourseasons.com/privacy/four-seasons-legal-entities/.

“Hotel Brands.” H World International. https://int.hworld.com/brands.

"Investor Relations." ICP, China Lodging Group. https://ir.hworld.com/.

"Key Findings: Estimated Number of Adults Living with Autism Spectrum Disorder in the United States, 2017." U.S. Centers for Disease Control and Prevention. https://www.cdc.gov/autism/publications/adults-living-with-autism-spectrum-disorder.html?CDC_AAref_Val=https://www.cdc.gov/ncbddd/autism/features/adults-living-with-autism-spectrum-disorder.html.

"Legal Notice." Accor. https://group.accor.com/en/legal-information.

Mayo Clinic Staff. "Coronavirus disease 2019 (COVID-19)." Mayo Clinic, September 20, 2024. https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963.

"Our Brand Portfolio." Best Western International, Inc. https://www.bestwestern.com/en_US/hotels/discover-best-western/brands.html.

"Our Brands." Choice Hotels International, Inc. https://media.choicehotels.com/our-brands.

"Our Brands." Wyndham Rewards, Inc. https://www.wyndhamhotels.com/en-ap/wyndham-rewards/our-brands.

"Regional Headquarters" InterContinental Hotels Group, Inc. https://www.ihgplc.com/en/contact-us/regional-headquarters.

Silberman, Steve. "Was Dr. Asperger A Nazi? The Question Still Haunts Autism." NPR. National Public Radio, January 20, 2016. https://www.npr.org/sections/health-shots/2016/01/20/463603652/was-dr-asperger-a-nazi-the-question-still-haunts-autism.

UN Tourism. "Glossary of Tourism Terms." UN Tourism, United Nations. https://www.unwto.org/glossary-tourism-terms.

"Vaccines and Autism." Children's Hospital of Philadelphia: Vaccine Education Center.

Children's Hospital of Philadelphia. https://www.chop.edu/vaccine-education-center/vaccine-safety/vaccines-and-other-conditions/autism.

"We Are Marriott International." Marriott International, Inc. https://www.marriott.com/marriott/aboutmarriott.mi.

"Welcome to Hyatt Hotels." Hyatt Corporation. https://www.hyatt.com/brands/hyatt

"Wyndham Hotels & Resorts". Wyndham Hotels & Resorts, Inc. https://corporate.wyndhamhotels.com/.

**Building Documentation**:

"71X." Sorta-Metro. https://www.go-metro.com/wp-content/uploads/2024/02/RT_71X.pdf

"72X." Sorta-Metro. https://www.go-metro.com/wp-content/uploads/2024/05/RT_72x.pdf

Armstrong, Phil. "A Tour of the Peters Cartridge Factory and the Exciting Things to Come." Cincinnati Refined. 2019. https://cincinnatirefined.com/lifestyle/peters-cartridge-factory-cartridge-brewing-bloomfield-schon-warren-county-cincinnati

Armstrong, Phil. "Inside the Industrial Apartments Bringing the Peters Cartridge Factory Back to Life. Cincinnati Refined. 2021. https://cincinnatirefined.com/lifestyle/peters-cartridge-factory-apartments-maineville-bloomfield-schon-loveland-bike-trail-cincinnati

"Cartridge Brewing." Platte Architecture + Design. https://www.plattedesign.com/projects/cartridge-brewing

Gordon, Robert B., "Original Vegetation of Ohio at the Time of the Earliest Land Surveys." 1966. Ohio Biological Survey, The Ohio State University Libraries Collection. https://library.osu.edu/buildingohiost/actual-exhibition-page/gordon-natural-vegetation-of-ohio-map-geo-1/

"Home." Peters Cartridge Factory Apartments. https://www.pcfapts.com/

Local 12, WKRC-TV. "SKYVIEW 12 Peter's Cartridge Factory." March 15, 2019. WKRC, Sinclair, 2:00. https://www.facebook.com/WKRCTV/videos/skyview-12-peters-cartridge-factory/631686570604230/

"Lower River Map." Little Miami Conservancy. 2014. https://www.littlemiami.org/river-maps-new

National Park Service, U.S. Department of the Interior. *Peters Cartridge Company*. 1985. https://npgallery.nps.gov/NRHP/AssetDetail/3602ae81-b16f-4dcd-935a-1ce95891945a

National Weather Service, National Oceanic and Atmospheric Administration. *Accumulated Precipitation – Cincinnati Area, OH (ThreadEx), 2023.* 2025. https://www.weather.gov/wrh/Climate?wfo=iln

National Weather Service, National Oceanic and Atmospheric Administration. *Accumulated Precipitation – Cincinnati Area, OH (ThreadEx), 2024.* 2025. https://www.weather.gov/wrh/Climate?wfo=iln

National Weather Service, National Oceanic and Atmospheric Administration. *Daily Temperature Data – Cincinnati Area, OH (ThreadEx), 2023.* 2025. https://www.weather.gov/wrh/Climate?wfo=iln

National Weather Service, National Oceanic and Atmospheric Administration. *Daily Temperature Data – Cincinnati Area, OH (ThreadEx), 2024.* 2025. https://www.weather.gov/wrh/Climate?wfo=iln

"OTET Brochure – Aug 2023 – 4 pages." Ohio to Erie Trail. 2023.

"Our History." Cartridge Brewing. Saucy Brew Works Management. https://www.cartridgebrewing.com/our-story/

"Peters Cartridge Factory." Bloomfield/Schon. http://bloomfieldschon.com/peterscartridgefactory/01/

"Peters Cartridge Company, Mainesville: Preservation Merit Award." Ohio History Connection. https://www.ohiohistory.org/preserving-ohio/state-historic-preservation-office/shpo-awards/peters-cartridge-company-mainesville/

"Photos: The Eerie Old Peters Cartridge Company Factory is a Spooky Sight." Cincinnati Refined. October 12, 2017. https://cincinnatirefined.com/travel/photos-peters-cartridge-company-gunpowder-factory-maineville-ohio-along-loveland-bike-trail.

"Trail Map." Miami Valley Trails. https://www.miamivalleytrails.org/trail-map

United States Department of Agriculture. *2023 USDA Plant Hardiness Zone Map Ohio.* Agricultural Research Service, U.S. Department of Agriculture. 2023.

United States Department of Energy - Wind Energy Technologies Office. *Ohio Wind Resource Map at 30 Meters.* AWS Truepower, National Renewable Energy Laboratory. 2012. https://windexchange.energy.gov/maps-data/215

United States Environmental Protection Agency. *Level IV Ecoregions of Indiana and Ohio – poster front side 46" x 36"."* US EPA Ecosystems Research, Region 5. https://dmap-prod-oms-edc.s3.us-east-1.amazonaws.com/ORD/Ecoregions/oh/ohin_front.pdf

United States Environmental Protection Agency. *Explanation of Significant Differences*. US EPA Records Center Region 5, 485629. 2015.

United States Environmental Protection Agency. *Superfund Site: Peters Cartridge Factory Kings Mills, OH.* https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0507087

Warren County GIS Department. *Warren County Rural Zoning*. 2016.

**Precedent Studies:**

"Belvue School Woodland Classrooms." RIBA. https://www.architecture.com/awards-and-competitions-landing-page/awards/riba-regional-awards/riba-london-award-winners/2018/belvue-school-woodland-classrooms.

"Belvue Woodland Classroom." Studio Weave. https://www.studioweave.com/projects/belvue-woodland-classroom.

"BLED // Garden Village Bled." Architizer, Inc. https://architizer.com/projects/garden-village-bled/

"Ex of In House." Architizer, Inc. https://architizer.com/projects/ex-of-in-house/.

"Ex of In House, Hudson Valley." Stephen Holl Architects. https://www.stevenholl.com/project/ex-of-in-house/.

"Garden Village." Garden Village Bled. https://www.gardenvillagebled.com/en/.

"Italy на Виленском." PAUM Design. http://paumdesign.com/projects.

"Italy Restaurant / PAUM Design." Arch Daily. https://www.archdaily.com/934009/italy-restaurant-paum-design?ad_source=search&ad_medium=projects_tab.

"The Lake House – Persona Alam Resort." LUWIST Spatial. https://luwist.com/the-lake-house-pesona-alam-resort/.

"The Lakehouse Restaurant / LUWIST." Arch Daily. https://www.archdaily.com/941024/the-lakehouse-restaurant-luwist?ad_source=search&ad_medium=projects_tab.

"Woodland Classrooms Belvue School / Studio Weave." Arch Daily. https://www.archdaily.com/985734/woodland-classrooms-belvue-school-studio-weave?ad_source=search&ad_medium=projects_tab

**Building Codes:**

"Chapter 3 Use and Occupancy Classification." in *2017 Ohio Building Code with Aug 2018 Updates & Errata 02-08-19.* International Code Council. https://codes.iccsafe.org/content/OHBC2017P5

"Chapter 10 Means of Egress." In *2017 Ohio Building Code with Aug 2018 Updates & Errata 02-08-19.* International Code Council. https://codes.iccsafe.org/content/OHBC2017P5

"Codes Effective in Warren County." Warren County Building & Zoning Department, Warren County, Ohio. https://co.warren.oh.us/bldginsp/BuildingElectrical/BuildingInfo/Codes.aspx.