Creating the
Community

An investigation of 't Karregat and the basis and limits of
user involvement in the Dutch multifunctional experiment

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Research question

How and to what degree was public participation implemented in 't Karregat and how does it relate to theory on participation of the time and today? How can the percieved failure of the experiment be understood in terms of user involvement, intentions and redevelopment endeavours?

Abstract

This paper aims to analyse the participatory processes involved in the creation and running of community centre 't Karregat in Eindhoven using tools and theoretical models on participatory design from the time of the centre's creation as well as off today. The goal is to understand the limits and shortcomings of the user involvement processes implemented to evaluate and discuss the reasons for why the experiment in participation, community and multifunctionality carried out by architect Frank van Klingeren together with Eindhoven Municipality and Amro/Westland-Utrecht received extensive criticism and was ultimately viewed as a failure. This paper finds that the participation efforts were extensive and that a lot of effort was taken to ensure the successful implementation of ideas, needs and wills of the neighbourhood inhabitants to make the multifunctional centre theirs. Shortcomings can be understood as a combination of the nature of the experiment, the key stakeholders and their role, the extent of participation and the expectations contra the implementation. It is evident that there was a certain degree of dissonance between expectations on the participation processes and the results where key stakeholders asserted inertia in the further development of the centre. The participation was also demanding on all interest groups, causing long discussions as hundreds of participants were expressing their views on how the centre should be redeveloped. These factors ultimately dragged out the process, leaving the centre in a prolonged state of disarray where certain aspects stayed in an undesirable state.

The paper aims at closing the gap in the evaluation of participatory processes and investigations into real life case studies to better understand the limits and basis of user involvement in design processes. This is done through looking at archival material and first hand accounts of the intentions and actions of key stakeholders given at the time of the experiment together with second hand sources giving a theoretical background through which an evaluation can be made.

Introduction

Van Klingeren started his career as an engineer, something which evidently had an impact on his approach to architecture. His designs often followed a structuralist thinking, where technical themes and ideas of architecture as framework were the driving factors rather than ideas on form, light and space (Bergen & Vollaard, 2003). In several of his realised projects he tried to connect people and functions in an effort to "declot" the social spheres of communities, an idea most evident in his community centre designs. An example of this is the community centre in Eindhoven, 't Karregat. This building was perhaps one of the most ambitious design schemes that van Klingeren attempted, as it didn't only involve public and cultural functions, but also two schools, in one large open plan (Bergen & Vollaard, 2001). As an ambitious approach on collectivism and community it got extensive attention worldwide. However, almost directly after its completion there was already discussions held on the problematic design and remodelling endeavours, and the open plan and participatory methodology would criticised many times over the coming decade (Bergen & Vollaard, 2001). Today the building has been transformed and repurposed with a greater degree of separation, though still in the form of a community centre (Dieder en Dirrix, 2019).

> *"First of all, he declares that he did not want to create a monument, but only wanted to accommodate a process. A process that must also be able to be adjusted." ("Wijkcentrum 't Karregat door Frank van Klingeren", 1973)*

As stated, the design of 't Karregat was driven by ideas of multifunctionality and collectivism, but also to a great degree the idea of public participation. Van Klingeren's designs had a liminal character where the buildings were "unfinished when finished". 't Karregat offered a system that could later be developed and reconfigured by its users according to its needs (Bergen & Vollaard, 2001). Compared to other structuralist thinkers of the time, van Klingeren clearly valued flexibility, as his designs showed an awareness to shifts in society and the programmatical needs of the building. As a result, the building was reduced almost to nothing but a roof (Bergen & Vollaard, 2001). Despite all the endeavours to ensure flexibility though the building became problematic and became a discussion piece over the following decades. Why did this experiment in flexibility, multifunctionality and participation not succeed? In what capacity was the users and the public actually able to participate in the design and reconfiguration of the building, and how come the problems of the building couldn't be overcome within the scheme initially conceived? Was the participatory process itself flawed? This paper will try to investigate these questions and compare the approach implemented by van Klingeren in 't Karregat to ideas on public participation in the Netherlands of the time and today to try to uncover the basis and limits of participation by the inhabitants in 't Karregat.

Keywords: *Van Klingeren, 't Karregat, User Involvement, Public Participation, Structuralism, Eindhoven, Community Center, Architecture*

Chapter 1 - A History of Participation

1.1 Van Klingeren & Structuralism

Frank van Klingeren (1919-1999) started out his career as a structural engineer within concrete and steel, working amongst other places at *Nederlandsche Dok Maatschappij* (NDM), *Stork* and later *Kraaier shipyard* where he worked as the in-house engineer and architect. In the 1940s, Van Klingeren started his own office *Studio voor Bouwtechniek* through which he pursued his own engineering commissions on the side of his employment. However, over the years his practice slowly transformed from a construction office that took on some architectural projects to an architectural office that also took on construction work, and the name would change to *Architecten Ingenieursbureau* (Bergen & Vollaard, 2003).

It is not a far reach to assume that his later works as an architect were influenced by his experience in construction and boatmaking. Many of his schemes seems to bear resemblance to ship construction practices, such as functional open floorplans where transitional spaces are kept to a minimum, elements and spaces that provide secondary functions, fixed furniture and perhaps most importantly constructions that provide maximum flexibility and favours de-materialisation, using as little material as possible (Bergen & Vollaard, 2003). This can be seen in for example Diemeroord work institute which is characterised by a visual mix of a barn with a thatched roof, a boat-like construction of glulam wood trusses, and a modernist glass curtain wall. When it came to Van Klingeren's designs they didn't express a signature style so much as reoccurring aspects. His designs often involved a structural scheme with an emphasis on publicness and interactions, integration and synergy of functions and view of architecture as framework rather than complete works, emphasizing the "unexpected" and user adjustment. Van Klingeren was a visionary architect and committed to address social issues through his designs.

Other than his interest in structure and construction, his design where for sure influenced by and part of trends of the time and the rise of structuralism, something he admits to himself in an interview from 1973 talking about the multifunctional centre 't Karregat stating: "(…) it's kind of a child of its times" (Bouwkunde Delft, 1974). During the 1960s and 1970s, Structuralism was establishing itself through architects such as Aldo van Eyck and Herman Heltzberger, transforming the way in which the discipline was approached. Structuralism wasn't a strictly architectural movement, but gained footing in many fields during the 1960s, such as art, sociology, and anthropology. Originating in the field of linguistics, it was quickly adopted to a range of other disciplines and became highly fashionable (Söderqvist, 2011). Structuralist architects often focused on grand modular schemes with a high degree of geometrical repetition where structure and geometry formed the basis for the architectural design. Structuralism opposed some of the values of previous modernist movements, searching for a humbler and more socially invested architecture that focused on human interactions rather than the drama of light and form. The philosophy can be captured in an often-cited statement by Hertzberger: "In Structuralism, one differentiates between a structure with a long lifecycle and infills with shorter life cycles." (Hertzberger et al., 2005). In short, structuralist architects aimed at creating frameworks for life, where the content (the interior) could change over time.

Image 1: Photograph from the construction of Diemeroord work institute showing the boat like construction. *Source: Het Nieuwe Instituut [photographer unknown]*

Image 2: The barn-like expression of Diemeroord work institute. *Source: Het Nieuwe Instituut [photographer unknown]*
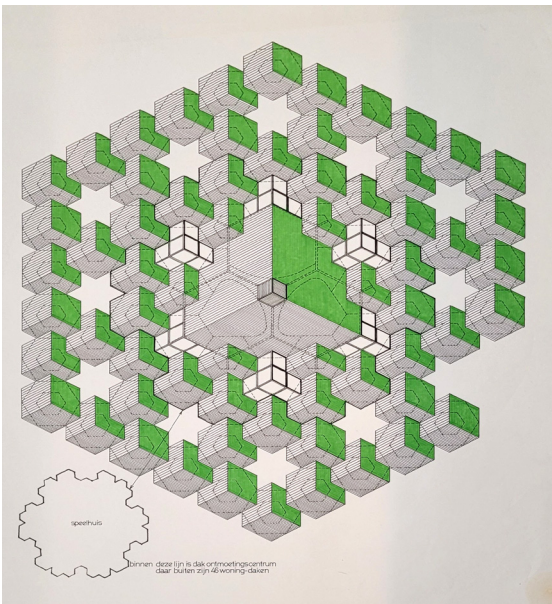

Image 3: The roof plan for Het Speelhuis designed by structuralist architect Piet Blom. *Source: Het Nieuwe Instituut*
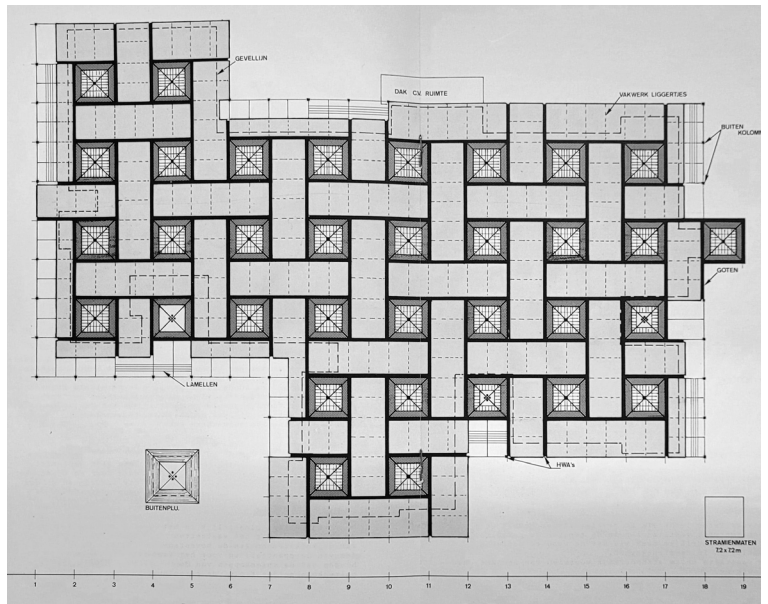

Image 4: The roof plan of 't Karregat by Van Klingeren's architectural office showcasing its structuralist characteristics. *Source: Het Nieuwe Instituut*

1.2 Participatory Design

The idea of architecture as a framework also gave rise to new ideas on user involvement in the design of buildings. Contrary to the ideas often associated with modernism where architecture is treated as total works of art with little room for compromise, Structuralism introduced the idea of creating rules and boundaries for how users/inhabitants could modify, alter, and further develop the designs of the master architect. Hertzberger (2005) writes in his book *Lessons for Students*:

> *"The translation of the concepts 'public' and 'private' in terms of differentiated responsibilities thus make it easier for the architect to decide in which areas provisions should be made for users/inhabitants to make their own contributions to the design of the environment and where this is less relevant. (…) you can create a greater sense of responsibility, and consequently also greater involvement in the arrangement and furnishing of an area. Thus user becomes inhabitant."*

The ideas presented by early structuralist architectural thinkers were perhaps part of the start of another movement that has continuously gained footing over the following decades: Participatory Design. During the time of Van Klingeren's career the ideas on purism within architecture and the relationship between architect and user that was established in the early modernist era were challenged. The book *Lived-In Architecture* written by Phillippe Boudon in 1979 clearly illustrates this shifting in ideals and perception. In his writings he describes how inhabitants of Le Corbusier's housing at Pessac in Bordeaux from 1926 had been altered over the coming decades by the inhabitants of the building, filling in spaces between pillars, replacing large and minimalist modernist windows with narrower conventional ones, adding pitches to flat roofs, adding details and decorations etc. It turned out that the building was easily converted to fit the users, and the users seemed more pleased with their own modifications than the original design by the architect. However, by changing the architecture the notion originally presented by Le Corbusier on purism was undermined. The master's image of perfection was moulded by the inhabitants into their own "dirtier" version, free of pretention and conception (Jones et al., 2005). What's interesting about the book is that Boudon takes the alterations by the inhabitants very seriously, comparing the expression of the laymen users to that of the master and investigates the dichotomy. By assigning value to the users' ideas and creation, and their roles as makers in different stages of the building's lifecycle, the process of generating architecture transforms from a passive and incremental one (give and receive) to a cooperative and fluid one (discuss and alter). Looking at architecture as cooperative and fluid process it becomes logical to think of architecture as a framework for future alterations rather than as a complete work of art.
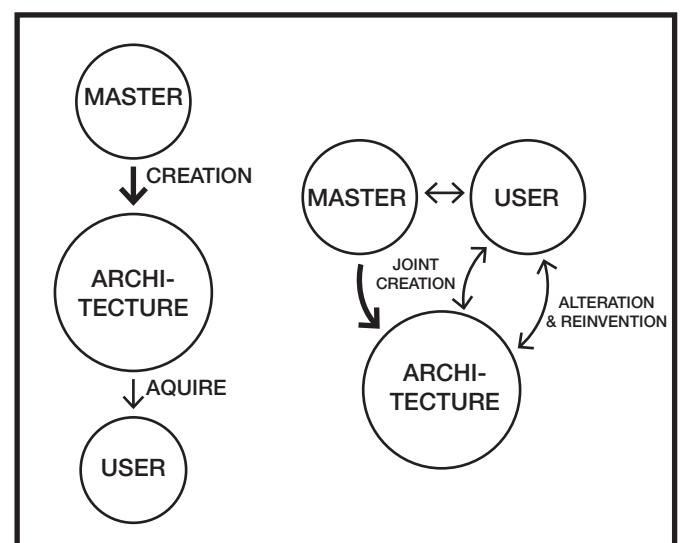

Figure 1: The change of heirarchy and organisation as users participation is integrated into the design process and the notion of architecture. *Source: Own image*

This way of thinking clearly relates to structuralist thought on design, and the dichotomy of structure and infill. Considered the notion of participation design and the assumptions on generative processes that follows, the structuralist endeavour to define borders for each stakeholder (architect and user) becomes key to the success of the task at hand. Assuming a large degree of alteration, striving to focus on framework rather than detail makes sense. However, as the borders of the field of architecture is widened to include the users into the creation process, it instantly gains another level of complexity and becomes an increasingly organisational task. How the users are involved in the process can vary greatly depending on the organisational framework that the architect and client agree upon. This was investigated by Sherry Arnstein in the late 1960s who wrote a highly influential journal article *A Ladder of Citizen Participation.* In this publication she outlines different hierarchies of user participation, where three categories emerge: Non-participation, tokenism, and citizen power (Caixeta et al., 2019).

1.3   Arnstein's Ladder of Participation

Non-participation involves the subcategories of *Manipulation* and *Therapy*. These are generally not regarded as participation processes as the information flows is one directional. In *Manipulation* the users are involved, but only in a capacity where their support for what is done can be engineered. *Therapy* works similarly, trying to educate the users how they should or can act and why processes are constructed the way they are, trying to make the users understand why the ideas put forward are the right ones. A step up from *Non-participation* is *Tokenism* where the lowest form is *Informing*. This form of participation is where the users are informed clearly what their rights, responsibilities and options are and how they can act within the scheme but lacks as a

A LADDER OF CITIZEN PARTICIPATION

1	**Citizen Control** Level of control at which a program or institution can be self-governing.	CITIZEN POWER
2	**Deligated Power** Citizens make decisions on program or plans.	
3	**Partnership** Distribution of power between citizens and power holders through negotiations.	
4	**Placation** The have-nots can have their say, but the final decision on the legitimacy and viability of opinion is still made by the power-holders.	TOKENISM
5	**Consultation** Citizens' opinions are requested and informed, with the methods, to assure that opinions will be effectively considered	
6	**Informing** The have-nots are often informed on their rights, responsibilities and options in advanced stages of planning.	
7	**Therapy** The have-nots are subjected to group therapies by administrators, under the illusion of participating in planning.	NON-PARTICIPATION
8	**Manipulation** "Distortion of participation" by organizing people on advisory boards or committees to approve plans that they did not participate in, to legitimize the decisions of the power-holders.	

Figure 2: Levels of user involvement according to the 'Ladder of citizen participation'. Adapted from Arnstein (1969). *Source: Caixeta et al., 2019*

participatory process in the sense that there's not much room for feedback or negotiation. Often the will of approval from the stakeholders in power positions turn meetings into one-way communication, providing superficial answers and where the users are intimidated by futility. *Consultation* is a form of participation where the users are involved directly in a reactionary capacity. This can commonly be attitude surveys, public hearings and neighbourhood meetings. In this form of participation users are often reduced to abstractions and statistics based on the framework presented by the stakeholders and there is no reassurance that concerns and ideas are actually considered or implemented. Participation as *Placation* involves users in a limited capacity, but in a largely tokenistic way. A few hand-picked individuals get to be directly involved with stakeholders but have no real power over any decisions and can easily be marginalised or undermined. Users are involved mainly to demonstrate that they are involved. *Citizen power* processes are, contrary to the earlier categories, processes where the users have real power and say in the process and final product. In *Partnership* the stakeholders allow the users to negotiate better deals, veto decisions and put forward requests that are at least partially fulfilled. *Delegated power* processes give more control to the users, where they can take full control of certain processes and decisions, with full power and accountability. *Citizen control* is the ultimate form of user participation according to Arnstein, where users assume control of the whole process and control all decisions (Arnstein, 1969).

1.4   The Evolution of Models

The impact of Arnstein's early model for participatory processes cannot be neglected. It is clearly one of the most influential models for user involvement and numerous other models have been developed with Arnstein's approach to the subject as the starting point (Caixeta et al., 2019). In 1986 Fredrik Wulz published a paper titled *The concept of Participation*, where he discusses and analyses the levels of user involvement within architecture specifically. Though he doesn't credit Arnstein specifically in the paper he refers to "planning policy" in the USA in the 1960s, which makes it fair to assume that he partly refers to Arnstein who was one of the leading theorists on participation within this timeframe and context. Furthermore, the model bears strong resemblance to the one by Arnstein, ranking the levels of participation in a ladder format. Though rather than focusing on the categories of t*okenism, non-participation,* and *citizen power*, Wulz categorises participation as *passive vs active* and illustrates this dichotomy as a gradient through his own ladder. The categories defined by Wulz are *Representation, questionary, regionalism, dialogue, alternative, co-decision,* and *self-decision*, ranking from *passive* (expert autonomous) to *active* (user autonomous). *Representation*, the most passive from of participation, is a process where the architect considers the needs and wishes of the users. Wulz states that this is not an inherently bad form of participation, due to the architect's ability to put himself in the user's place combined with his professional skills, however that it lacks when the user is anonymous, as is the case in city planning for example or large-scale apartment complexes. *Questionnaire* Wulz defines as a process that treats the user as a list of statistics, where a scientific approach tries to uncover the common traits, needs and wishes of the actual users, not the client. *Regionalism* is a process that combines traits form both *Questionare* and *Representation*. It looks to inventories the local preference and needs, questioning the local population and considering patterns and context of the area. *Dialogue* is a more direct form and

often more informal. Future users express their opinions and desires directly to the architect, but in the end the architect and client has final say. *Alternative* is the first type of participation where the user is granted some real power. The user can make final design decisions within a certain framework that affects themselves personally. In a *Co-decision* process the balance of power is shifted into an equilibrium between architect and user. In this form of participation, the user is part of every step of the process from start to finish, working alongside the architect. Wulz states however that this poses several immediate issues. It presumes primarily that:

- The users are distinct individuals and known.

- That these individuals are interested and motivated to participate.

- That these individuals have the necessary time for participation.

- That there's budget and time reserved for longer planning as a result.

To meet these demands can be tough and might in many cases make this form of participation unattainable or undesirable. *Self-decision* means that the architect's role is reduced to an executive force. The users are seen as creative entities that make the decisions on what is done and how it's done, while the architect ensures that these choices can be implemented and work within the framework established by the state. Wulz claims that this is the most democratic form of architecture possible, and that it mostly exists within so-called "self-build" projects, as it poses even more organisational issues than *Co-Decision* (Wulz, 1986).

Though these models have certain differences, they both follow a "ladder" concept for how to look at and analyse participation. However, the

WULZ LADDER OF USER INVOLVEMENT

Self-Decision
Users make decisions and the architect ensures the requirements of society are respected.

Co-Decision
Users and architect have balanced decision-making power. The users are involved from the beginning of the project.

Alternative
Users choose one among several alternatives within a fixed frame. The architect presents concrete solutions to be understandable by laymen.

Dialogue
Users provide information and can comment on initial design proposals. However, final decisions are made only by the architect.

Regionalism
Focuses on the symbolic and architectural qualities of a specific area, combining representation and questionnaire.

Questionnaire
Presupposes statistically treated systematic studies on the users' characteristics and common requirements.

Representation
The architect considers the users' needs and wishes. The most passive form of involvement.
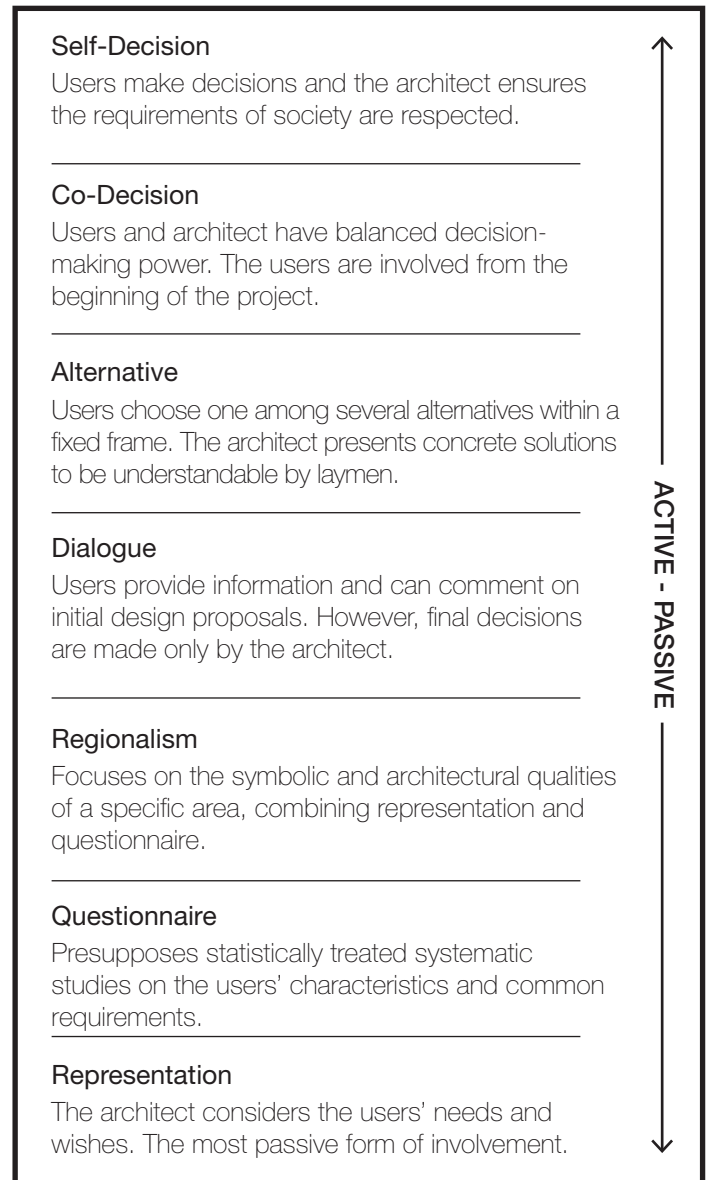
ACTIVE - PASSIVE

Figure 3: Wulz readaptation of Arnstein's "Ladder of participation" (1986). *Source: Wulz, F., 1986.*

ladder model as seen by Arnstein have also historically been challenged by participation design thinkers (Caixeta et al., 2019). In 1998, Scott Davidson proposed a new readaptation of Arnstein's ladder, this time in form of a wheel. He writes in an article in the British journal *Planning* about the value of public participation and refers to how it started developing as an established concept in the late 1960s with the publication of Arnstein's ladder model and continues to talk about the shortcomings of the contemporary participation processes. According to him the main issue with the ladder model is that it impacts our way of relating to public participation and how we define the aim for what's desirable. A ladder model, he claims, always deems greater degrees of participation as desirable even though it might not be the appropriate choice for the given project. Instead of a ladder he claims that a wheel model serves the purpose better (Davidson, 1998).

> *"In addition, by using the wheel as a model for consultation rather than a ladder (as promoted by Arnstein and, more recently, the Convention of Scottish Local Authorities), problems of aiming for inappropriate levels of community empowerment can be overcome. This is because the wheel promotes the appropriate level of community involvement to achieve clear objectives, without suggesting that the aim is always to climb to the top of the ladder"* (Davidson, 1998).

What's interesting about Davidson's model is that it doesn't make a value judgement on participation but provides a clear scope of the different ways and degrees to which users and citizens can be involved. He divides user involvement into four main categories: *Information, Consultation, Empowerment,* and *Participation*, with three subcategories each. *Information* is relatable to *Non-participation* and is a one way communication stream where users don't participate in decision making. *Consultation*

is relatable to *Tokenism* in Arnstein's model as well as *Questionare* and *Dialogue* in the one by Wulz. It involves the users, but only in an input and feedback manner. *Participation* is relatable to the lower forms of *Citizen power* in Arnstein's model and *Alternative* (and to some extent *Co-decision*) in Wulz'. It grants the users real power in decision making, but not full control. *Empowerment* gives the users a higher degree of control, either in smaller areas or in substantial amounts, and can be related to the higher levels of *Citizen control* as well as *Co-decision* and *Self-decision* (Davidson, 1998).

KAULIO'S MODEL (1998)

Design for
Users are passive and designers control the whole process (users only provide information)
Design with
As in "design for" designers obtain information on users and users are consulted on proposed design solutions.
Design by
The design process is shared between designers and users, who actively participate as designers.

Figure 4: Kaulio's model for user participation. *Source: Kaulio, 1998*

HO & LEE'S MODEL (2012)

Design for
Users are passive and designers control the whole process (users only provide information)
Design with
The design process is shared between designers and users, who actively participate as designers.
Design by
Users can become designers and collaborators, as designers empower them to control the process.

Figure 5: Ho & Lee's model for user participation. *Source: Ho & Lee, 2012*
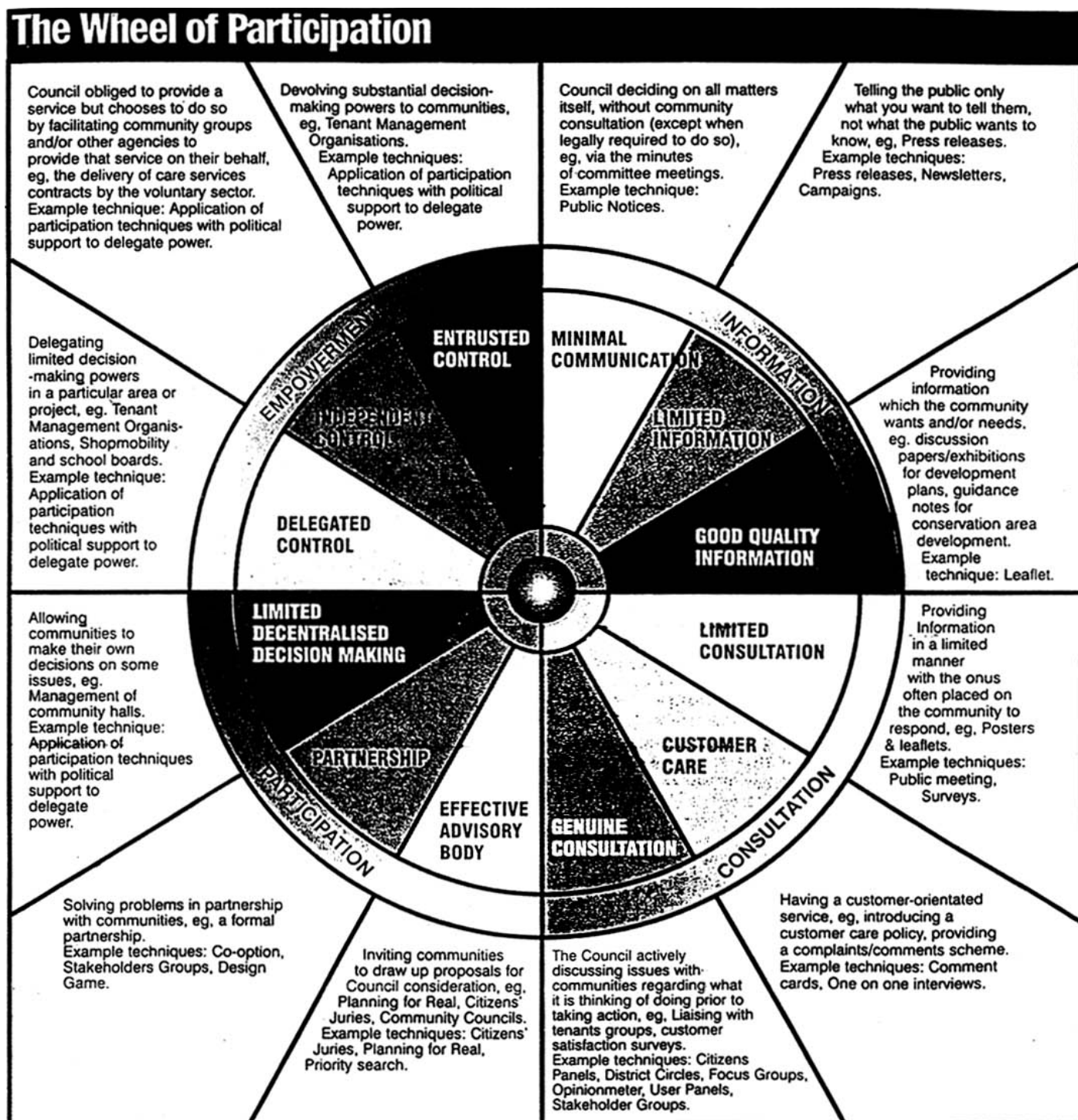
The Wheel of Participation

Council obliged to provide a service but chooses to do so by facilitating community groups and/or other agencies to provide that service on their behalf, eg. the delivery of care services contracts by the voluntary sector. Example technique: Application of participation techniques with political support to delegate power.

Devolving substantial decision-making powers to communities, eg. Tenant Management Organisations.
Example techniques: Application of participation techniques with political support to delegate power.

Council deciding on all matters itself, without community consultation (except when legally required to do so), eg. via the minutes of committee meetings. Example technique: Public Notices.

Telling the public only what you want to tell them, not what the public wants to know, eg. Press releases. Example techniques: Press releases, Newsletters, Campaigns.

Delegating limited decision-making powers in a particular area or project, eg. Tenant Management Organisations, Shopmobility and school boards. Example technique: Application of participation techniques with political support to delegate power.

Providing information which the community wants and/or needs, eg. discussion papers/exhibitions for development plans, guidance notes for conservation area development. Example technique: Leaflet.

Allowing communities to make their own decisions on some issues, eg. Management of community halls. Example technique: Application of participation techniques with political support to delegate power.

Providing Information in a limited manner with the onus often placed on the community to respond, eg. Posters & leaflets. Example techniques: Public meeting, Surveys.

Solving problems in partnership with communities, eg. a formal partnership. Example techniques: Co-option, Stakeholders Groups, Design Game.

Inviting communities to draw up proposals for Council consideration, eg. Planning for Real, Citizens' Juries, Community Councils. Example techniques: Citizens' Juries, Planning for Real, Priority search.

The Council actively discussing issues with communities regarding what it is thinking of doing prior to taking action, eg. Liaising with tenants groups, customer satisfaction surveys. Example techniques: Citizens Panels, District Circles, Focus Groups, Opinionmeter, User Panels, Stakeholder Groups.

Having a customer-orientated service, eg. introducing a customer care policy, providing a complaints/comments scheme. Example techniques: Comment cards, One on one interviews.

EMPOWERMENT — INDEPENDENT CONTROL — ENTRUSTED CONTROL — DELEGATED CONTROL — LIMITED DECENTRALISED DECISION MAKING — PARTNERSHIP — EFFECTIVE ADVISORY BODY — PARTICIPATION

INFORMATION — MINIMAL COMMUNICATION — LIMITED INFORMATION — GOOD QUALITY INFORMATION — LIMITED CONSULTATION — CUSTOMER CARE — GENUINE CONSULTATION — CONSULTATION

Figure 6: The Wheel of Participation by Davidson, as first published in Planning . *Source: Planning, 1998*

Another method for redevelopment of Arnstein's model is a categorisation of involvement in three levels, *Design for, "Design with,* and *Design by* the users. Matti Kaulio devised such a model in 1998 which was specifically directed towards design practices within product development. The three categories define a simpler and more minimalist approach to participations (Kaulio, 1998). He defines *Design for* as processes where the user is completely passive, *Design with* where users are consulted, and *Design by* where the design process is shared between user and designer (Kaulio, 1998). The model of Kaulio was later redeveloped by Denny Ho and Yanky Lee in 2012 in a paper discussing the quality of participation processes within design practice. They use the same categories as Kaulio but redefines the extent to which the user is involved in each category. Though *Design for* is defined the same, the definition for *Design by* by Kaulio becomes the definition for *Design with* of Ho and Lee and instead the definition of *Design by* becomes process where users are in control (Ho & Lee, 2012).

All models can clearly be seen to relate to each other and can serve to understand specific cases of participation. In the following parts of this paper, they will serve as a framework to discuss and understand the architecture of Van Klingeren, specifically in the case of 't Karregat and the participation processes and organisational endeavours implemented within the bounds of its creation.

Chapter 2 - The Experiment

2.1   A Socially Committed Architect

Van Klingeren became one of the more influential 20th century architects in the Netherlands and is generally regarded as one of the more socially committed and visionary architects of his time. His design didn't so much express a signature architectural style but rather often attempted to address social issues and provide spatial schemes as solutions with ideas on cohabitation and congregation. Certain aspects reoccur in his work, such as the emphasis on publicness and interactions, integration and synergy of functions and a strive towards a view of architecture as a framework rather than complete works, often emphasising the "unexpected" and user adjustment and participation. These schemes would become increasingly radical over Van Klingeren's career. Compared to contemporary architects of the time Van Klingeren's work focused to a larger degree on the idea of bringing people and communities together, but simultaneously also on "hindering" the creation of certain communities. The segregation in mid-century Dutch society and the isolation of smaller groups bothered Van Klingeren. They had their own sport clubs, communities, churches and political parties where separation and distancing were apparent. Allegedly, Van Klingeren would have been especially irritated with an assignment he received to create a new clubhouse in which he was requested to design separate spaces for the individual groups who were going to use the space. These groups could according to the client brief apparently not use the same spaces or be in the same room. It is apparent that this segregation was a large driving force behind Van Klingeren's architectural ethos and career focus. Especially in 't Karregat, the scheme was radical and focused on openness and interaction. The building was reduced to its most flexible and minimalist state, in essence consisting merely of a roof. Would it not be for the Dutch weather conditions Van Klingeren could surely have considered to even leave out the walls. The focus was on a shared space, a place under "one roof" where all the inhabitants of the area could see each other, meet and make connections (Bergen & Vollaard, 2003). Van Klingeren is claimed to have often talked about "hinder en ontklontering" which can be translated as "nuisance and declotting". Nuisance would according to Van Klingeren encourage and stimulate interaction, as when people get so close that inconvenience is possible a sort of understanding arises naturally. This closeness can cause both friendships and hostility, or something in between, but fundamentally joins people together as they must understand and know each other to come to agreements on how to use space together. A "clot" as Van Klingeren defines it is a sphere with its own established order. Elderly homes where the old sit in small rooms and cafeteria halls, student housing were only the young live and congregate, psychiatric wards where sick people are locked in to be forgotten. These social divisions where something Van Klingeren wanted to break up, or "declott" (Bergen & Vollaard, 2001).

2.2   A New Community

The design and realisation of 't Karregat was closely linked to the growth of the residential district in which it was placed, Herzenbroeken. At the far east border of the city of Eindhoven, this area was intended as an alternative to the large-scale residential complexes that were criticised as monotonous and dull, that had been built in the reconstruction era following WWII. Herzenbroeken was intended to be innovative and experimental, especially in the aspects of social interaction and user involvement. The new residents of the area were intended to be given extensive participation possibilities in their own

district with the ambition to enable them to look after their own common interests. In the early seventies Herzenbroeken was disconnected from the amenities in Eindhoven which caused the council to include development of amenities together with the residential development. During this process the idea to collect different amenities, commercial functions as well as social and cultural in one multifunctional building came to light. The hope of the council was that collecting these functions would kick-start an active neighbourhood life in the newly developed area (Bergen & Vollaard, 2001). The project was commissioned by two clients: the city of Eindhoven and the Foundation Project Development Office Amro/Westland-Utrecht who each owned part of the site. They were ambitious in their idea and willing to take risks and experiment. The municipality wanted to involve the tenants of the neighbourhood in the planning process of this new community centre and formed a foundation called "The Community Centre Herzenbroeken Foundation", which took a strong position. It was argued that a procedure had to be started in the neighbourhood through which the tenants could be engaged to plan, run and use the community centre as they wanted, before it was built. The foundation and municipality were ambitious in trying to ensure conditions for participation. Firstly, they wanted the tenants to be involved in the planning stage. Secondly, they wanted an intermediary information centre to work as a small community centre until the community centre was finalized. The centre would not be ready until 75% of the neighbourhood was already inhabited, they believed there was need for a place for the community from day one. Thirdly, a number of tenants were offered to join a reception committee who would contact all new tenants, inform, discuss and act as a partner organisation through every step of the process (Weijer, 1975).

The reception committee defined three tasks for themselves. They firstly wanted to inform about the planning in the neighbourhood, the possibilities and the philosophy of the whole project. Secondly, they wanted to receive information about the expectations, wishes and ideas of the tenants, and understand whether there was willingness from them to take active part in realising these. Thirdly, the committee wanted to give the new tenants a possibility to meet each other. Everyone who wanted to get involved would be invited to a meeting to form a work group, tasked with understanding how the ideas could be realised. In June of 1971 over a hundred people had joined such work groups, all with different tasks (Weijer, 1975). The user involvement effort was thus extensive in the planning process of the centre. In this stage Van Klingeren was approached as the architect of the new community centre as he was already known for his experimental approach which he had implemented in De Meerpaal in 1965, another multifunctional centre which resonated with the ideas of the different stakeholder groups. Here, he was now granted permission to take his experiment further with the client posing similar ideas on community, multifunctionality and participation (Bergen & Vollaard, 2001).

2.3 Realising 't Karregat

One of the earliest proposals of Van Klingeren for 't Karregat was a simple roof construction, with pillars and not much else. He referred to them as "artificial plane trees" and acted as overlapping umbrellas under which the residents could fill in the space. The main criticism of the idea was one of climate. In the end the design became a steel roof umbrella construction with an enclosing façade. In a grid of 14.4 square metres, umbrellas covering 7.2 square metres of floor were placed with an openwork construction creating stability through columns clamped at their base. Running

Image 5: An urban nolley map of Eindhoven showing the location of Herzenbroeken and 't Karregat. *Source: Het Nieuwe Instituut*
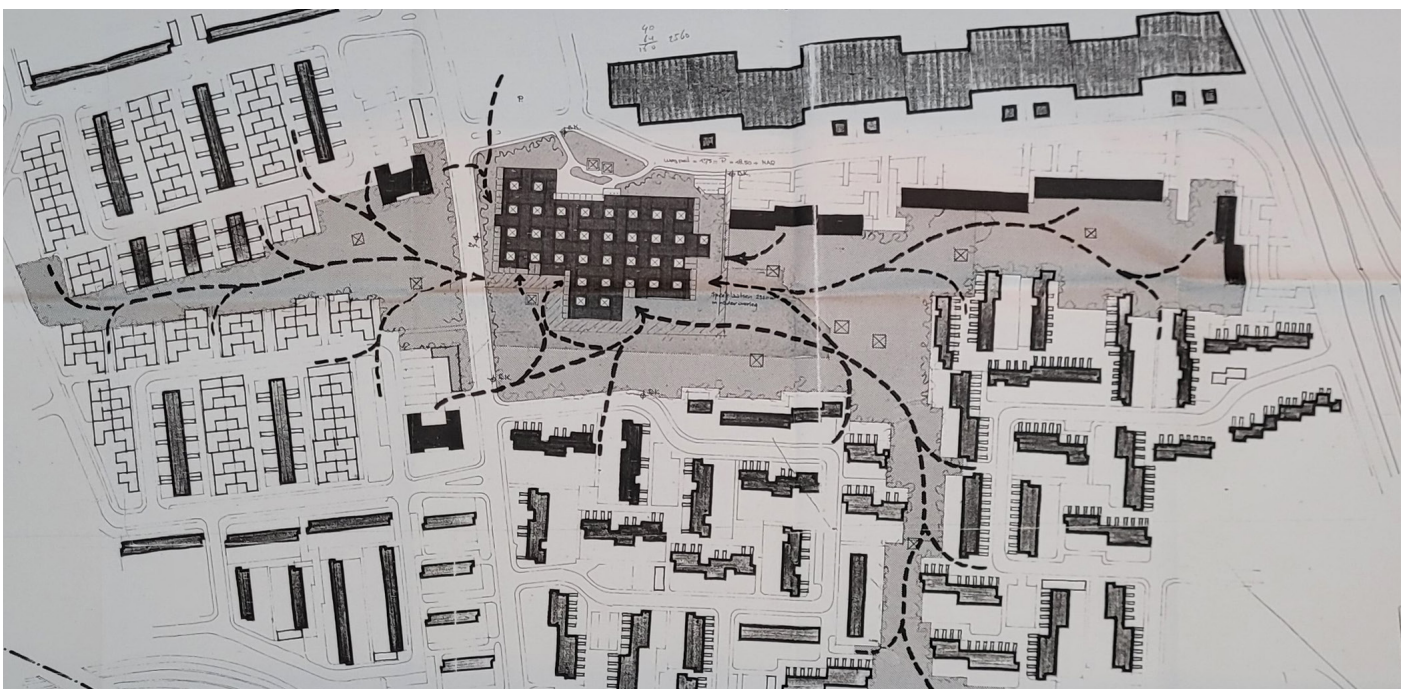

Image 6: A drawing by Van Klingeren's architectural office showing the relation of the surrounding housing to 't Karregat. *Source: Het Nieuwe Instituut*

Image 7: Photograph of 't Karregat showing the structural tree like elements that made up the scheme of the building (1980-1985). *Source: Het Nieuwe Instituut [photographer unknown]*
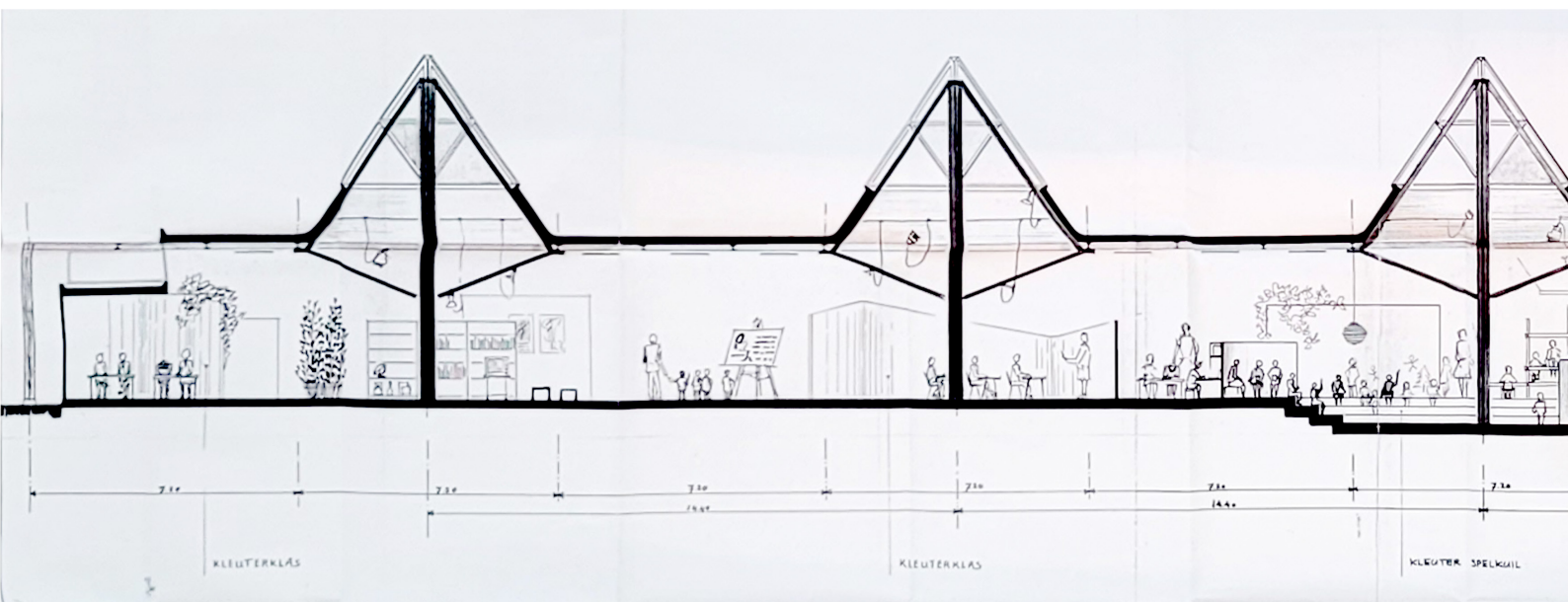
Image 8: Photograph of 't Karregat showing the open structure and informal setting of the centre (1980-1985). *Source: Het Nieuwe Instituut [photographer unknown]*
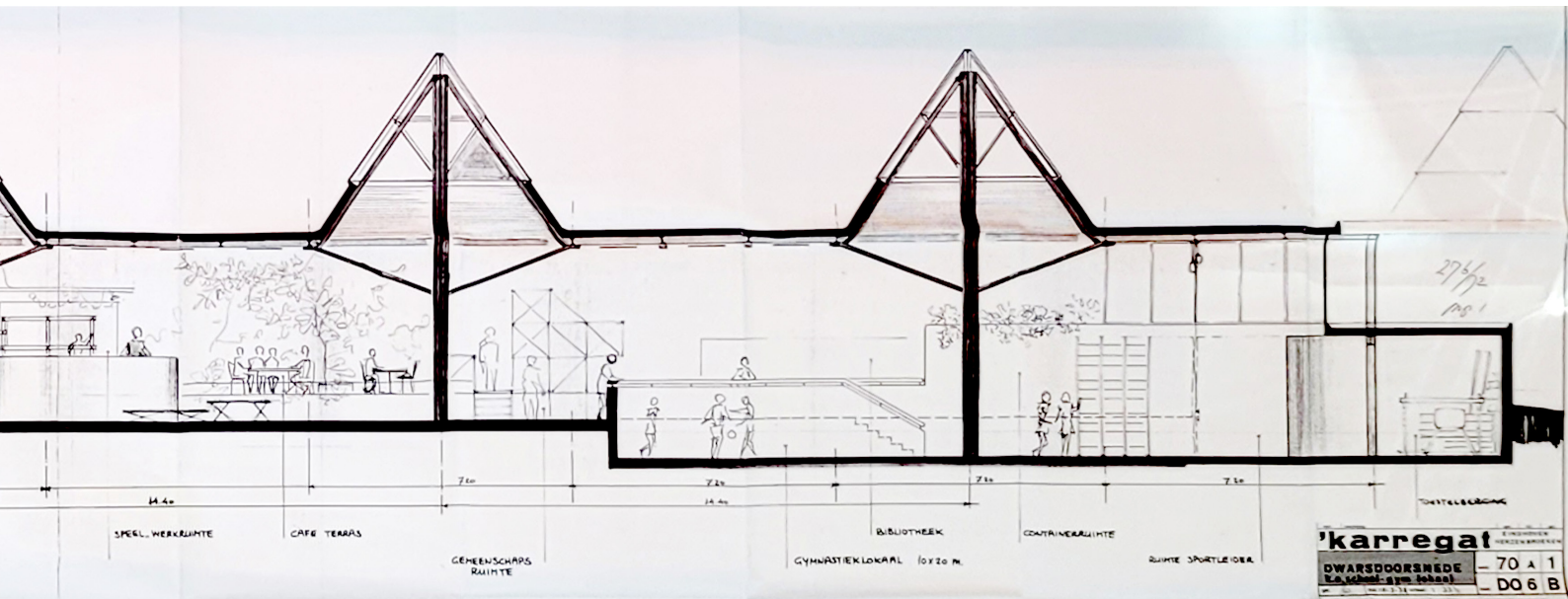
Image 9: A section of 't Karregat made by Van Klingeren's architectural office which showcases the open cahracter and the semaless flow of functiions and organisations *Source: Het Nieuwe Instituut*

between these umbrellas were wooden beams laying on top of latticed joists, housing all the utilities of the building. In the top of the umbrellas a skylight was implemented which brought down light to the building's interior and enabled for ventilating through a cap at the top. Lights and radiation panels were attached to the joists, freeing the floor of installations. As many of Van Klingeren's earlier works this was an open and flexible design with an emphasis on tectonics and structure, following structuralist principles and ideas in how the framework that made up the design was created. In 't Karregat however, Van Klingeren was extreme in his flexible approach. Drainpipes and outlets were replaced by more flexible tubing solutions and the facades were completely detached and independent from the ceiling and roof construction. Rectangular steel cylinders formed a façade grid that could be filled with almost any material be it glass, plywood, or sandwich elements. Inside, the walls were as simple and temporary as possible consisting of wooden walls and screens and only where absolutely necessary fully enclosed space (Bergen & Vollaard, 2001). Van Klingeren wanted to create a building that was the combination of maximum flexibility and maximum openness, a building that the tenants not only could use and modify according to needs, but one that they should (Weijer, 1975).

However, though the efforts were grand to include the users in the planning process the tenants only played a minor part in the realisation of the centre according to Weijer, one of Van Klingeren's architects involved in 't Karregat, who blames this on the fact that it was decided that the building would be put into use already in August 1973, not allowing for the time for extensive user involvement. He claims in the text that it is impossible to speak of the realised centre as a product of the "flesh and blood of

the tenants" at the moment of finalising. Instead, he claims that this would come with time. After August 1973, the inhabitants were meant to take over and claim their space within 't Karregat. The inhabitants had to learn how to utilize the building and be capable of taking the required responsibility expected to be capable of claiming the space. As Weijer says: "The Karregat obliges the tenants 'to do'" (Weijer, 1975).

Image 10: Photograph of 't Karregat and the mix of school children playing and adults looking at clothes (1980-1985). *Source: Het Nieuwe Instituut [photographer unknown]*

Image 11: One of the schools of the centre with its open barriers to the rest of the centre (1980-1985). *Source: Het Nieuwe Instituut [photographer unknown]*

Chapter 3 - The Experiment

3.1   Launching the Centre

After the community centre opened it initially received a lot of good critique in the media as an interesting and experimental approach that had the potential to revolutionize the Dutch cities after the post war construction period, which was often referred to as having created bleak, maze-like, impersonal habitats. In an article in the Dutch Newspaper *De Telegraaf*, three months after the opening, the author Karei Passier (1973) writes that "The great interest in this project, even from abroad, points to a unique situation for what should be customary in all residential areas". He writes about the possibilities of the community centre and Van Klingeren is portrayed in the light of a revolutionary thinker with ideas on how to transform the cities to be less unequal, to offer more public space and to make people and communities come together. In an article in *NRC Handelsblaad*, just two days prior to Passier's publication, author M. Paumen (1973) writes that 't Karregat is the result of an "optimal participation of the neighbourhood residents". He also quotes the Education councillor Dr A. W. B. van Baars who agrees with the innovative approach and says that education has worked "too much in isolation from society", claiming that in 't Karregat an attempt has been made to bring about real integration (Paumen, 1973). In an article in *De Tijd* a day after Paumen's article the cooperation of the municipality, project developers and the participation groups are praised as a demolition of the opposition between profit-oriented private endeavours and public ones, uniting them instead in a project that links ideas and interests (Langenhoff, 1973). However, just three months after the launch of the building the problems of the project are also quite clear. All three of these articles bring up the problem of noise pollution and especially regarding the two schools of the centre. They note in their own ways how

apparent the noise is and the problems this creates for the children. In *De Tijd* the fact that teachers are overworked and that the children become distracted is noted:

> *"One of the major technical shortcomings of Eindhoven's Karregat appears to be noise pollution and too many distractions for the children of two primary schools and a kindergarten as well as the teaching staff, three of whom have been over-worked in the three months the centre has been in operation"* (Langenhoff, 1973).

Though the noise in the building was an apparent issue almost directly after the launch it doesn't seem to be the only issue raised at this time. The articles also talks about the process of user involvement and ideas on integration and openness raised by Van Klingeren. Mr N. van der Spek of the Community Centre Herzenbroeken Foundation states in the article by Paumen that "This is a neighbourhood with a very specific character. If you don't feel like sacrificing part of your privacy for the common good, you don't belong here" (Paumen, 1973). It's apparent that there was a clear image of what the community centre in Herzenbroeken should be. It should be a symbol for an ideal of doing and thinking together, premiering openness and deterring needs for privacy. At a certain point it becomes exclusive however, as the foundation members define who belongs in the neighbourhood and who doesn't. It can also be argued that it goes directly against Van Klingeren's idea of "Declotting" and bringing different people and communities together. Perhaps the foundation counted on there being a distinct support for this type of project by certain groups who would get drawn to the area. However, it also became clear that the selectiveness was not sustainable in the development of the area. As stated in Paumen's (1973) article: "Initially, when selecting new residents, special attention was paid to their motivation in this direction, but now that

Image 12: The sports hall of the centre which seamlessly blends with a neighbouring cafeteria (1980-1985). *Source: Het Nieuwe Instituut [photographer unknown]*

Image 13: The new sports hall after the last remoddeling with enclosing walls that collide with the umbrella contruction (n.d.). *Phtographer: Base Photography*

the neighbourhood is filling up too slowly, the solidarity criterion is apparently being ignored". This meant that perhaps not everyone moving into the Herzenbroeken area would agree with the ideology behind the creation of this centre. The effectiveness of the participation processes is also called into question. Though the idea was that the building should be further developed according to and by the users, in practice it proved hard. In Langenhoff's (1973) article one of the working groups members express their disapproval of the system: "They are now advertising this area, but there is no participation: we have been sent from pillar to post by the municipality". It is also written about the ideas of the "road safety working group" which were failing to get implemented in the community centre (Langenhoff, 1973).

3.2 The Coming Decades

Over the coming years 't Karregat would be written about in numerous articles, mostly criticizing it and stating the huge problems with noise, integrating activities and adapting them to the nature of the multifunctional centre. In an article in *De Volkskrant* from 1977 author Martin Ruyter gives the account for W. Weigel, a remedial educationalist who was working together with Van Klingeren on the project. Weigel had suggestions for the successful implementation of the school activities but ultimately failed to get the two schools to cooperate and got his ideas rejected. In 1977 he ended up becoming a critic of the project and Van Klingeren's approach. Weigel says: "He dropped a building and said: you see what you do with it" referring to Van Klingeren (Ruyter, 1977). The critique is that clear ways in which the users can use, change and take responsibility for their building was not established, or not to the extent needed. He goes on, stating that Van Klingeren's idea in the

project was to construct a provocative building, but that this puts some of the most fundamental needs of people at risk. He claims that there was not enough supervision to ensure the safety of these needs and that at the point where Weigel got involved it was already too late to do anything but crisis management in solving the issues that arose as a result of this. Simultaneously though, he also blames people's fear of change for the shortcomings seen in the building. "Both the school boards and the educational group have been too afraid to engage in any fundamental renewal, to try to formulate an educational concept that fits the requirements of the building" (Ruyter, 1977). The users were perhaps not used to having to take this much responsibility for their building. They already had their ways and were evidently not as interested in innovative experiments as Van Klingeren and the Municipality. It was clear that not everyone wanted experimentation. Though many of the different groups in power over the establishing of the centre was in favour of these processes many important figures showed resistance to experimental methods, such as the minister of education. "We received a message from the Ministry of Education in the middle of last year that the Minister does not want any experiments in the Karregat, not now and not in the future. I have the feeling that it is not in his financial interest" (Ruyter, 1977). This clearly had an effect on the inertia of change and the possibilities for user power.

Part of the problem seems to be that the building was designed with further user adaptation in mind, but that there was resistance to spending additional funds since the completion from several of the parties involved. In another article in *De Volkskrant* from 1981, author Edie Peters writes about the costly project and the shifting of opinions. Over the coming decade large funds

Image 14: One of the schools after the last remoddeling (n.d.). *Phtographer: Base Photography*

Image 15: A Lidl supermarket added after the last remoddeling (n.d.). *Phtographer: Base Photography*

had to be invested to adapt the centre to the needs of the users. In 1981 the renovation costs had reached the same amount as the initial construction cost. This fact alone contributed to the view of the project as a failure in media as well as in the public sector, even though the project was cheaper initially than many other community centres. In the end it was nicknamed "Netherlands most expensive living room" (Peters, 1981).

As stated earlier, the approaches to user involvement in the project seemed to pose some fundamental limitations. The extensive participation endeavours resulted in so many group that any form of change became hard to achieve without long discussions. Peter's wrote about the large organisational task:

> *"In a short time, about twenty working groups with over two hundred people were formed. Participation of parents, operation of the café, the kindergarten, the elderly, service provision - there was a group for everything" (Peters, 1981).*

With 200 people involved in the running and adapting of one building it's easy to see that problems could arise. It seemed to also take a toll on the staff of the different organisations that took practice in the building, especially the schools. Even before the autumn semester of 1973 had started the head of the catholic school left due to overwrought. Three months later his successor left too due to stress. The building demanded a special way of teaching and running the school, and the staff was not equipped to handle this (Peters, 1981). Community worker Nico van der Spek is quoted in Ruyter's article stating that the teachers were supposed to be involved in the process of designing the education but were involved too late (Ruyter, 1977). According to the article by Peters, in 1981 the third successor Piet van den Nieuwenhof opposed the participation

processes instead, to implement some changes he thought necessary for the school. "I started by kicking out anyone who wanted to interfere with the school. Without the interference of parents, neighborhood groups and school guidance, we have started to rebuild education from scratch" (Peters, 1981). The participation proved more of a hindrance than an asset at least to the principal. The other problem with participation was that it required such a large commitment from the users of the building. Peters (1981) writes about this in his article stating that "mothers had to go to a meeting about the playgroup, and this raised the simple question of who would look after the children that evening". It is clear to assume that not everyone could participate, or that all the users would prioritize the centre.

3.3 A Theoretical Analysis

The participation efforts were undoubtedly extensive, and it seems like the idea of the municipality was to enable for as high a degree of user involvement as possible in the creation both of Herzenbroeken and 't Karregat. However how can we understand the outcome of these efforts from a theoretical perspective and the frameworks at our disposal? We can see from the accounts of Weijer how the inhabitants got granted a high degree of power during the planning process. Through several steps, committees were created that enabled for working groups tasked with coming up with real ways of integrating the wishes of the inhabitants. This seems close to the level of *Partnership* in Arnstein early model, the second highest step on her ladder, which describes a process where users can both veto deals and put forward requests that are at least partially fulfilled. It is clear that certain wishes were at least partially fulfilled, however we also know from the accounts of for

example Langenhoff that many of the outcomes from these groups were not implemented, such as the ideas of the "road safety" working group. With this is mind it's also easy to understand the processes as what Arnstein refers to as a *Placation* process, where the users can have their say and wishes but where the final say and legitimisation of the wish is always at the disposal of the powerholder, in this case the municipality and Amro-Utrecht. As a *Placation* process is tokenistic rather than characterised by real user power it works to explain why the process wasn't as successful and smooth as what Weijer and Van Klingeren hoped for. For the users to be able to control their centre they would need the power to implement their ideas in an efficiently, which is not a characteristic of a tokenistic approach. However, it's perhaps unfair to look at the process in 't Karregat as a *Placation* process. The organisation of the many groups and subgroups working towards the goal of user power reaches beyond what could be considered *Placation* as defined by Arnstein, who describes that kind of process as one where users are involved mainly to demonstrate the fact that users were involved.

Looking at Davidson's model the case of 't Karregat can maybe be described through the category of *Effective Advisory Boards* under the category of *Participation*. The fact that the users were hindered and slowed down in several attempts to implement changes and that some report feeling like their concerns weren't heard as described by the account of Langenhoff hint to the users having a more advisory role in the continued development of the centre. An *Effective Advisory Board* process is described by Davidson as a process where communities are invited to draw up proposals for council consideration. The word consideration is key as the processes in the *Empowerment* quadrant

of Davidson's model all describe "power" and "decision-making" when talking about the user involvement. From the account of Weijer it seems that every involved party was aiming for *Entrusted Control*, meaning a process where substantial decision-making powers are given to communities, but in the case of the working groups who were tasked with devising the further adaptations of the centre it can't be considered the case. The fact that we can see first-hand accounts mentioned in articles from the time of key persons involved in the upkeep of the centre singlehandedly creating financial inertia in the project shows that control was not entrusted completely in the working groups.

Looking at 't Karregat through Wulz model it's easy to understand the centre as a *Co-Decision* process. It's clearly higher in the ladder than *Alternative* which limits the users to pick from alternatives presented by the architect. As the users were directly involved in working groups developing their own suggestion it's in no way a question about making choices from a list. As is the description for *Co-Decision*, the users in 't Karregat were involved from the very beginning of the process in some form, and there were evidently great efforts made to ensure participation. However, as Wulz describes *Co-Design* processes can be tricky to achieve as they pose several issues and demands on the organisation, namely (as stated earlier):

- The users are distinct individuals and known.

- That these individuals are interested and motivated to participate.

- That these individuals have the necessary time for participation.

- That there's budget and time reserved for longer planning as a result.

One large issue in 't Karregat as discussed was clearly the lack of financial interest from key persons post completion. It's simultaneously also clear that individuals in working groups were to a certain degree struggling with time for participation. Staff had to be involved in the running of their businesses after hours in long discussions with parents, schools and other businesses, and surely not everyone felt that they could or wanted to spare this time. The large working groups also meant progress was slower, as proposals needed to surpass discussions between many interested parties. One can question whether the inertia that this would cause were taken into account in the expectations of the municipality, Amro-Utrecht and the architects. As Wulz states extensive participation requires both longer planning and larger budget, but in the case of 't Karregat, where participation was not just aimed to be restricted to the planning stages, one can extrapolate that the need for time and funds were even larger. It is hard to find accounts from either involved party of this aspect.

Liesbeth Huybrechts, member of the research group *Social Spaces* researching design methodology and tools that allow for social exchange, writes in her book *Participation is risky* about several of the aspects brought up in the above-mentioned models. In her book she highlights the different aspects of participatory design, discussing the "trade-offs" and "risks" within different constellations of user involvement in design processes. She states that there's a lot to gain from implementing participatory processes in design, but that it always poses a larger degree of uncertainty and risk than conventional design methods.

"Participation is not caused by putting certain specific "recipes" in play. Rather, it is a process that is open-ended and difficult to control, in which makers, participants and their concerns and objects intersect. Both the process and the outcomes of the risky trade-offs can therefor be satisfying, but they are always uncertain." (Huybrechts et al., 2014)

In her book she analyses several case studies and model to arrive at conclusions about the risks and trade-offs of participatory design. Some of these conclusions can be summarized as:

- Participatory processes require users to get out of their comfort zone in order to participate in a constructive way.

- The visions among users and between users and stakeholders can differ considerably and be juxtaposing, which makes it difficult to work constructively and arrive at meaningful results.

- User adaptations can lead to unexpected outcomes, that may go against the initial idea of the architect and may be undesirable and unoptimized.

- User involvement after the handover of a project can lead to exciting adaptations of the original concept but can also end up in unexpected directions going against the original core philosophy of the project.

- Future users who are disconnected from the original creation of the project can be confused and unprepared to engage in the design due to difference in background, professional skills and interest (Huybrechts et al., 2014).

Looking at these risks it's easy to draw certain conclusion on the limitations of 't Karregat. There were clearly different visions for the building held by the municipality, organisations, users and staff of the building, exemplified by the attitude of the Ministry of Education. We also see however that there was friction between the different parties post-handover of the project from the architects

to the users. Van Klingeren had disagreements with certain adaptations implemented in the centre:

> *"Look, they actually started out wrong by putting up half-high walls in the building. Noise pollution occurs when you cannot see the source of the noise. If you can see where the noise is coming from, it causes far less trouble"* (Peters, 1981)

This can be seen as a perfect example of unexpected and undesirable outcomes. The walls didn't inhibit noise pollution and actually made the problem worse, at least according to the architect. It also clearly went against the initial vision and philosophy of Van Klingeren. Though he was concerned with "Declotting" and implementing a floorplan highlighting the previously mentioned aspects connected to this philosophy, the users were doing their best to remove these aspects through modifications increasing possibilities for privacy and decreasing noise pollution.

Conclusion

To conclude and answer the question of why the experiment didn't succeed, at least in the view of the public, one can say that it's a complicated story that has to do with the nature of the experiment, the key stakeholders involved, the extent of the participation and the expectation contra the implementation. It is evident from the findings presented that certain key factors and people became actuators of inertia, slowing down the implementations and extent of the working groups suggestions for adaptions. It is also clear that not everyone could agree on how the centre and processes within it should function, and if the centre should adapt to the organisations within it or if the organisations should learn to act within the framework they were given. One can also see that there was a dissonance between the expressed expectations on the success of the implemented processes and the results of the participation, perhaps paradoxically as a result of the great efforts implemented to ensure participation. The large numbers of interests and stakeholders slowed down adaptation processes, causing the centre to be in a state of disarray for long periods of time.

Perhaps the experiment can be understood as a case study for an extensive participation process and what happens when the scope for who is involved in the decision making is widened. 't Karregat highlights the risks and limits of participatory design and what is at stake when implementing such processes. We can see that when participation is implemented in an extensive way it becomes crucial to define successful organisation of stakeholder and interests. The terms and negotiations of the participation needs to be clear and understood by all parties and be transferrable through time so that they can be understood also ten or twenty years later by a different set of users. If not understood or accepted by all parties and interests as can be seen in the

case of 't Karregat inertia and friction is created. It is also clear that the variance in background of the decision makers in an extensive participation process can lead to dissonance between the ideas of the architect and the users that ultimately lead to undesirable or inappropriate results, such as can be seen in the attempts to create divisions in the building with partitioning walls in 't Karregat. One can also understand that extensive participation adds demands to all parties, be it the organisers of the participation or the users participating. Understanding this makes it easy to see the point that Davidson tries to communicate in his model where he flattens out the ladder of participation. Higher degrees of user involvement aren't always desirable and doesn't come without its compromises. Participation design should perhaps be seen as a negotiation of values and goals where an appropriate level of involvement can be chosen based on the specific circumstances of the project.

At the same time, we can also see that certain aspects of 't Karregat really did work and continued to work over the years. Despite the complaints, noise pollution and long conversations about adaptations we could see the Van Klingeren to a certain extent realised his idea of "declotting" the fragmented groups in society, something we can see from the account of Passier. "The population participates in the educational event, for example a visual arithmetic lesson is given in the supermarket or restaurant" (Passier, 1973) This shows ultimately also what we have to gain from participatory design and working together to define our shared architecture and public spaces, and that we should be careful when analysing these processes to not throw out the baby with the bathwater. Done the right way and with realistic expectation participatory design has the potential to not just create democratic buildings, but also the potential to create new communities.

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The document contains original material recently after the construction of 't Karregat. The publication starts off with an extensive original interview with van Klingeren where he talks about the ideas behind the work and the approach and is later followed by drawings material that explain in detail both the design and the construction of the building. It has relevance for this paper as a source of the original intentions of the project and to supply archival material on the original design and construction of the building which can give insights into its ultimate shortcomings.

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The article describes in detail the approach and ideas behind the design of 't Karregat and what went right and what went wrong. It serves as a great source to understand the intentions as well as the critique of the project.

Bergen, M., & Vollaard, P. (2003). *Hinder en ontklontering: Architectuur en maatschappij in het werk van Frank van Klingeren*. NAi.

The book describes Frank van Klingerens work in 't Karregat and De Meerpaal, clarifying his view and the ideas behind his work. It serves as a great basis to understand the foundation of his work, his background as an architect and the societal context through which his work can be understood.

Burie, J. B. (1976). *Bouwproces en participatie van bewoners. Werkgroep Bouwen en Wonen, Sociologisch Instituut.*

The publication discusses how to make the conditions better for participation processes within the building process, from the initial idea to the maintenance of the final building. It is a description of actual processes in the 70s and how and when users and the public can be involved which holds relevance to understand the ideas and conventions of that time in regard to participation.

Caixeta, M., Fabricio, M., & Tzortzopoulos, P. (2019). User involvement in building design – a state-of-the-art review. *Research Gate*. https://doi.org/10.11606/ISSN.2317-2762

The review of current and historical means of working with and evaluating user involvement in building design processes serves as a great framework for evaluating the efforts made during this time, and uncover both the ideals of Van Klingeren but also perhaps as a understanding of the ultimate limitations.

Dieder en Dirrix. (2019). 't Karregat: Renovatie multifunctioneel complex van architect Van Klingeren. Retrieved January 19, 2022, from https://www.diederendirrix.nl/nl/projecten/t-karregat/

Gray, J., Daish, J., Joiner, D., & Kernohan, D. (1992). *User Participation in Building Design and Management: A Generic Approach to Building Evaluation.* Butterworth Architecture.

The book argues for the need to involve the building users in the design process. Why this is needed and how it can be implemented is described, and the author show proof throughout the book of their ideas. They describe it as a tool for design and management professionals to evaluate their designs and be able to meet the expectations of the users. It holds relevance for the paper as a description of participation processes, and how they are argued for, which can be compared to other texts about participation as well as the ideas of van Klingeren.

Hertzberger, H., Ghaït, L., & Rike, I. (2005). *Lessons for Students in Architecture*. Macmillan Publishers.

Works as a reference to certain influential trains of thought and theory that had an impact on both the structuralist ideals of the time, but also ideals on participation and user involvement.

Ho, D. K. L., & Lee, Y. C. (2012). The quality of design participation: Intersubjectivity in design practice. *International Journal of Design*, 6(1), 71-83.

Huybrechts, L., Storni, C., Lee, Y., Schepers, S., & Schoffelen, J. (2014). *Participation Is Risky: Approaches to Joint Creative Processes.* Valiz/Antennae Series.

"Participation Is Risky" describes the process of negotiation that designers undertake when involving other groups in participatory projects, such as public and private entities with varying background in the subject. The book describes the risks, the potential trade-offs, and limits of these processes as the people setting up these projects are often not trained in the process and doesn't have the necessary skills. Furthermore, the book argues that what is called participation is often limited to simple discussions with participants. The book has an historical narrative and critique towards the participation process and can give a good insight into how participation is regarded in modern times and what are perhaps the limitations of it, but simultaneously how it has changed throughout time.

Jones, P. B., Petrescu, D., & Till, J. (2005). *Architecture and Participation* (1st ed.). Routledge.

Kaulio, M. A. (1998). Customer, consumer and user involvement in product development: A framework and a review of selected methods. *Total Quality Management*, 9(1), 141–149. https://doi.org/10.1080/0954412989333

Kleijwegt, H. J. & Research Instituut Gebouwde Omgeving (Amsterdam). (1979). *Participatie speelt participanten parten.* Research Instituut Gebouwde Omgeving.

The publication looks at four different urban renewal projects in Groningen and the ways in which the public can be involved in the decision-making process within the built environment. Different methods are utilized such as written source analysis, interviews, participant analysis and action research. The different methods of analysing the ability of the public to participate makes it interesting to look at as context for van Klingeren's ideas.

Nelissen, N. J. M. (1982). *Urban Renewal Participation Experiments.* Council of European Municipalities, Dutch Section.

The report is a comparative analysis of sixteen public participations experiments in seven different European countries in the 1970s. The publication is interesting for the paper as it gives context to van Klingeren's experiments and works to compare his ideas to other contemporary designers.

Sommer, R. (1972). *Design Awareness.* Rinehart Press.

"Design Awareness" discusses how and when the public/users are involved in the design process of new buildings and what type of methods can be used to evaluate design to improve the process. As it is a book from the same time as 't Karregat and by an influential writer of the time it can give good insights into the discourse of the time, to find similarities to the thoughts of van Klingeren.

Söderqvist, L. (2011). Structuralism in architecture: a definition. *Journal of Aesthetics & Culture*, 3(1), 5414. https://doi.org/10.3402/jac.v3i0.5414

"Structuralism in architecture: a definition" gives a varied and useful understanding of how intentions and theory of structuralist architects can be interpreted. It serves as a great document to understand the context of Van Klingeren and his time as a practicing architect.

Weijer, J. (1975). *The Karregat at Eindhoven (Holland) - The Development of an Idea* (No. 8). Applied Science Publishers Ltd.

Wulz, F. (1986). The concept of participation. *Design Studies*, 7(3), 153–162. https://doi.org/10.1016/0142-694x(86)90052-9

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