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**Articles**

**The House-Drawing Test: Using a projective test in assessment to differentiate normal from pathological ageing**

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**Abstract**

This article proposes to show how the use of the drawing of the home can help differentiate two older populations, with or without cognitive impairment as part of research to identify early signs of Alzheimer's disease. The projective test of the house is complementary to the cognitive assessment. Two groups of older adults are compared: an experimental group with 24 people aged 67 with cognitive impairment and a control group with 36 people aged 71.5 years with normal cognitive aging. Analysis of the house drawings revealed significant differences in the realization of the drawings between the control group (CG) and the experimental group (EG). The characteristics of the drawings of elderly people with cognitive impairment show more difficult access to imagination and a feeling of insecurity as of the first memory impairment. This article puts the body at the center of psychoanalytic work and explores the relationship between the psychic and bodily dimensions of elderly subjects using a projective spatiography test. This projective tool allowed us to collect information on the psychic functioning of the elderly.

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**1. Introduction**

Although the clinical psychology of ageing started rather late, around the 70s (Balier, 1976) the current social issue of the ageing of today's population now attracts interest from all psychological fields as practitioners attempt to differentiate normal and pathological aging (Baltes & Graf, 1997; Ferrey & Gouès, 2011). In a pathological aging, dementia may be revealed by symptoms of memory loss but also by a loss of functional autonomy, onset of depression or by behavioral problems; it may also be recognized during a screening examination (Roth et al., 1986). Lack of recognition of dementia in the elderly and delay in its diagnosis raise the question of screening to detect it at an earlier stage. Early detection of dementia is essential to guide front-line health care practitioners in further clinical evaluations and treatments.

There is a paucity of literature assessing the effectiveness of screening tools to predict the development of dementia outside the systematic review made by Lischka, Mendelsohn, Overend and Forbes (2012). This screening is important because follow-up studies have shown that a large proportion of persons meeting criteria for Mild Cognitive Impairment (MCI) will eventually progress to dementia (Clément, Belleville, Bélanger, & Chassé, 2009; Gauthier, 2006). Studies that attempt to identify early signs of the disease are based on cognitive tests. Results confirm that preliminary findings that baseline scores on the Boston Naming Test, Immediate Recall on the Selective Reminding Test, and the Similarities subtest of the Wechsler Adult Intelligence Scale-Revised were significantly and independently associated with later diagnosis of Alzheimer Disease (Jacobs et al., 1995). In this context, the use of the cognitive skills assessment tool is a common practice. Drawing has been used in psychology for less than a hundred years. One of the leading and pioneering authors in the field of graphic analysis is certainly Goodenough who proposed the test of the man in 1926 (Goodenough, 1926). Goodenough establishes a link between the child's graphic design and the intellectual abilities of the child. Figurative drawing may refer to a single object or to an ensemble composition. The character or the man (Goodenough, 1926; Machover, 1949), the house (Barrouillet, Courtier, & Chevrot, 1994; Miljkovitch, 1985; Tychev (de), 1995), the tree (Fernandez, Fromage, & Maurel-Caitucoli, 2010; Koch, 1949; Stora, 1978), the family (Corman, 1961) are design themes that have been studied for a long time. In the United States, Buck (1948) proposed a test that includes these three drawings (The House, Tree, Person test). This test, also known as the HTP test, measures the person's psychological and emotional functioning. The use of graphic methods in psychology clearly shows "a picture worth a thousand words" (Oster & Crone, 2004), this means that the thoughts and feelings of the individual can be expressed more graphically than verbally. Drawing is a projective tool where the individual can represent his inner life. Indeed, drawing is a projective situation revealing individual anxieties, conflicts and defenses (Jourdan-Ionescu et al., 2008.). Jourdan-Ionescu et al. (2008) reviewed the uses of the design in psychology by compiling a census of published publications between 2000 and 2006. A total of 606 articles dealing with the use of the drawing with persons have been listed. According to the studies identified, the graphical tests meet different objectives. The most frequent use is psycho-diagnostic assessment (22.3 %), and in this case, the drawing is used as a tool to differentiate "normal" individuals from individuals with a problem such as dementia or depression. The second most frequent use is developmental evaluation (17.2%). The drawing is also used in neuropsychology (12.9 %). A recent research shows for example that Tree-Drawing Test (TDT) could be a useful tool for orienting cognitive impairment diagnosis and it could be an easy test to be administered by general practitioners and in specialized outpatient clinics: trees drawn by

cognitively impaired patients are different from those drawn by healthy subjects with a progressive impairment in the Tree-Drawing Test (Stanzani Maserati et al., 2015).

Thus, the projective test of the house, when used during the neuropsychological assessment of an elderly person, provides an assessment of the psychological resources: emotional, creative. Are they always present and exploitable when the subject encounters difficulties related to an alteration of his cognitive abilities? The test of the house is complementary to the cognitive assessment and essential. Indeed, drawing is at the same time a graphic language, a creation and a mediation (Becker-Weidman, 2017; Fernandez, Cheese, & Maurel-Caitucoli, 2010). In addition, the psychological assessment also meets a medical request. The family is also awaiting this assessment with regard to the disorders of their loved one. It is therefore up to the psychologist, in conjunction with doctors and neurologists, to consider these requests, which must not be reduced to the subject's deficits, complaints and symptoms. We adhere to the theoretical model developed by Debray (2000) according to which the cognitive apparatus is included in the psychic apparatus: to operate correctly, the cognitive machinery depends on the number and quality of representations, the symbolization work and the presence of affects. The perceptual and cognitive behaviors revealed by the graphic design of the drawing are no longer isolated from the whole psyche: they first define the boundaries between inside and outside and allow or not the constitution of a psychological shell, in reference to Anzieu's work (1985).

Graphic activity, mainly drawing, appears as a privileged tool to approach the question of the image of the body and its representation (Vinay, 2007). Yet little research reports on the use of drawing in adults. The drawing of the house can be considered as a projective test or as a test of cognitive development. It is a projection of the psychic functioning of a subject conceived as an evolving cognitive-emotional whole. The drawing of the house shows the possibility of representing the relationship inside/outside, the relationship of the subject to himself/herself and to others.

The house is also a sensitive theme, invested emotionally, which lives in our consciousness and our unconscious. It is family intimacy, security, refuge. But the drawing of the house is also the place of the geometry and its evolution makes it possible to follow the first attempts of drawing in perspective. Most authors evoke a strong triangulation between home, body and psyche. Berestein was the first to raise the interest of housing as "real or fantasized family skin" (Berestein, 1984). Then Eiguier (1984) introduced the concept of "interior habitat" as the consolidated skin of the family body, recalling the concept of body image. Authors were then interested in the implementation of mediation through the concept of the house, Benghozi (1996) worked around the concept of "spatiogram" and Jaitin (2003) on the drawing of the "plan

of the house": the house is considered as a representation of the lived and inhabited space. Cuynet, starting from the hypothesis that the house is an unconscious representation of the family body, develops a family projective tool 'the test of the drawing of the dream house' (Cuynet, 2016, 2017).

From this perspective, "children draw the house as a person and express through it the construction of their own self" (Davido, 1998, p.43). The drawings reflect desires and fears. The relationship between the body and the house has been repeatedly underscored. Indeed, individuals need spaces where they can inscribe their bodies, subjectivity, history and citizenship. Inhabiting means placing oneself within a given space, and it cannot be reduced to the idea of simply being housed. The investment of this living space as an anchor securing one's identity reveals that the house is of special interest for the elderly subject: "tell me where you live and I'll tell you who are" (Le Run, 2006, p.28). Several authors (Bachelard, 1957; Eiguer, 1984) have highlighted the relationship between external habitats (housing) and our internal habitat with the idea that, to live in a house, one not only needs psychic skills but must also take possession of oneself: "The only individuals who truly live are those who have learnt to live within themselves" (Bachelard, 1957, p.19). One can draw a parallel between the relationship a person shares with his/her habitat and the relationship he/she shares with his/her body. Cuynet (2017) posits that individuals' actual habitats can act as envelopes ensuring functions as containers and protective shields. These habitats take up the role of individuals' bodies as well as the role played by mothers or their substitutes who provide a basis of security to their children by offering them a containing space.

The drawing of the dream house is not simply a projective tool of one's body image; it also offers a safe space excessively invested emotionally, making it possible to avoid focusing on cognitive disorders. The expression of fears is a constructive and creative experience where the person expresses the extent of his creativity. Suggesting to an elderly person to draw a dream house offers her an extremely rich psychic space, in a quest for representations, from drawing (image and graphics) to word (story). It is also a means of communication particularly used by the elderly person who is always talking about this familiar object.

By using the drawing of house, it possible to understand the psychic movements at work among patients with or without cognitive disorders, based on their relationship with their bodies and their bodily experiences (Carignani, 2012). We will try to answer to this question: "Is Alzheimer disease an exaggerated aging process?" (Ohnishi, Matsuda, Tabira, Asada, & Uno, 2001, p.1680). It can be difficult to differentiate mild disorders from the senescence of malignant disorders that reveal pathologies.

This difficulty is due in part to the fact that the development of these disorders is not always distinct. The literature shows that cognitive disorders at the beginning of Alzheimer's disease are similar to a change in the sense of containment (Peruchon, 2001, 2014). The projective test of the dream house makes it possible to identify these cognitive disorders, impairments of thought processes, self-images and representations of relationships. Nevertheless, interpretation is not based solely on drawing, since, as with any drawing used in a psychological assessment, the voice of the elderly subject is also taken into consideration. Thus, the association between these two methods, interviews and projective tests, is necessary to access all clinical data. The house-drawing test is by definition projective: it only reflects the subject's relationship with himself and with others. It is never the objective reality. The house-drawing test only takes on its full value when combined with other diagnostic procedures (observations, interviews, scales or questionnaires, tests).

## 2. Materials and Methods

Asking elderly people to draw a house means putting them in a favorable situation that does not require any skill (admittedly, apraxia could interfere with the House Drawing task. Nonetheless, we assume that it is not problematic as praxic disorders are assessed in the neuropsychological battery administered by the psychologists). The cognitive assessment was conducted with the RAPID neuropsychological battery (Ferreira et al., 2010). This battery includes nine different tests that allows assessing anterograde episodic memory, executive functions, visuoconstructive abilities, semantic memory and processing speed. Speech was also assessed with a picture-naming task (DO 80) (Metz-Lutz et al., 1991) and category matching complete it. Psychiatric status was evaluated with the Montgomery Asberg Depression Rating Scale (MADRS) (Nguyen, 2014) and the Neuropsychiatric Inventory (NPI) (Cummings et al., 1990). In top of that, nutritional status, hearing and visual difficulties, were assessed.

The experimental group brought together 24 people and achieved parity as 12 men and 12 women took part in the study. The average age was 67 years; the youngest participant was aged 48 and the oldest was 81. All participants suffered from cognitive disorders detected following complaints, and they had been directed to consult the regional Center of Memory, Resources and Research (CMRR) for a neuropsychological assessment (MMSE  $\leq$  21) (Folstein, Folstein, McHugh, & Fanjiang, 2000). A group of controls, matched for age and education, was selected among people of senior's club. We met 36 members aged between 59 and 89 years (6 men and 30 women) with a mean age of 71.5 years. These participants had neither cognitive complaints nor cognitive disorders with MMSE  $\geq$  24.

The House-Drawing Test is a projective psychological examination often used for assessing personality in the developmental age. It's a projective tool currently being validated in our unit (using 400 protocols) and has already been the subject of several publications (Cuynet, 2017; Cuynet et al., 2016). Based on the proven fact that how an individual organizes his/her living space (construction and layout of the house, interior design, landscaping...) and the relationship he/she shares with this space reflect the unconscious image of his/her body, the dream house test (Cuynet, 2017) is a projective test that seeks to reveal the unconscious structure of a subject's representation of his/her body. The representation of a person's habitat is thus a projective representation of his/her internal habitat.

To evaluate House-Drawing differences between different types of cognitive deterioration, we studied this tool in a group of old people without cognitive impairment and control with a group of mild cognitive impairment (MCI) patients.

All patients and controls were requested to draw a house on an A4-sized white paper sheet with a pencil. Participants received the following instructions: "I would like you to draw me a picture of your ideal dream house. Use your imagination as you wish to draw an indoor and outdoor plan. You can take all the time you need". Our study is based on interviews and drawings. The awareness of not being good at drawing can lead some adults to a slight inhibition that will be overcome by encouraging words. It is very rare for an elderly person to refuse to draw. This is also true in other projective proofs that use drawing with a very old audience (Cheese, 2011).

### 3. Results

When a drawing analysis is carried out, several graphic indices are taken into account in order to identify personality traits or the emotions felt during the execution of the drawing. This part groups together some of the elements to consider when analysing a drawing.

We have chosen to present the most discriminating and revealing indicators of psychic erosion, namely 1) the relationship to space, 2) access to the imaginary and 3) the issue of inner/outer boundaries.

Of the 24 people in the experimental group, four declined to draw and one wrote "dream house." We therefore analysed 19 drawings in total, of which three represented interior house plans and 16 represented exterior house plans. The control group produced 32 drawings including 7 interior house plans, 23 exterior house plans and two atypical drawings (four people declined to draw).

### 3.1 The relationship to space

First, none of our participants, including the CMRR patients, uses the top-right section, suggesting that there is no flight from reality (*Table 1*).

**Table 1.** Position and length of the house drawn

Population studied	Position on the sheet				Size of the house	
	Centre %	Top %	Top left %	Bottom %	$\geq 6\text{cm}$ %	$\leq 6\text{cm}$ %
CG	31	56	9	13	61	39
EG	32	63	47	5	44	56

Second, the proportion of houses occupying the upper part of the sheet is similar in both groups. However, almost half of the drawings from the CMRR patients – as opposed to one tenth of those from the control group participants – are located on the top-left section of the sheet, suggesting that adults with deficient cognitive functions clung to the past and the memories.

Most of the houses drawn by “healthy” subjects are over six centimetres high while those drawn by subjects with cognitive disorders are shorter (*table 1*). The smallness of houses suggests narcissistic depreciation or depressive moods. Lesniewska (2004) evaluates the average length of drawings by patients suffering from Alzheimer’s to be about three centimetres. Consequently, the almost equivalent length of the houses observed in our experimental group could be attributed to early cognitive impairment.

### 3.2 Access to the imaginary

Drawings from the control group primarily appear in the upper half of the sheet, signifying access to the imaginary and to idealism. However, positioning the house in the middle of this section also reflects a balance between desire and reality. Positioning the house in the top-left section of the sheet could reveal the first signs of the cognitive disorders. Data from the control group point in this direction as this positioning is rarely observed in this group.

We also analysed the “imagination” criterion based on subjects’ discourse. We sought to understand whether the subjects draw an imaginary house (ideal or dream house) or a real house. Subjects who merely follow instructions and simply draw a house different from the house in which they actually live or lived in previously, but which is not in way imaginary, draw houses we can refer to as “neutral.”

In general, we are struck by the simplicity of most of the houses drawn (*Table 2*). All imaginary or real drawings from both patients with cognitive disorders and members of senior citizens' clubs are as closely as possible to the reality. Only three houses seem unusual. The first is shaped like a lorry, the second look like a nest housing the designer's family and friends, and the third has only the outlines of a chimney. Our findings are consistent with the results of Lesniewska (2004) who found no original houses in either the group with Alzheimer's subjects or in the control group featuring elderly subjects. Similarly, despite permissive instructions allowing free representation and arousing the imaginary, the houses drawn by all subjects in our study are relatively ordinary, although there are more imaginary houses in the control group.

**Table 2.** Type of house drawn

	Imaginary house	Real house	Neutral house
	%	%	%
GC	63	28	9
EG	58	26	16

Elderly people without cognitive disorders have a greater capacity for imagination compared to individuals with cognitive complaints.

The number of drawings representing past or present homes was similar in both groups, although there were slightly more drawings of subjects' current houses (*Table 2*). It is, however, interesting to note that members of the control group modify their current houses, notably by adding an ideal dimension. They faithfully represent the houses in which they live or lived but have fantasies about seeing the family reunited. This reorganisation suggests a certain nostalgia but also implies that these subjects have the capacity for imagination through their furtive recollection of a positive memory. These types of drawings reveal a tenacious desire to cling to a past missed and idealised, possibly suggesting depressive tendencies. Put differently, improving the houses they live in fed an imaginary even though this is based on fragments of reality. Besides, the real houses in which they lived are seen as ideal. We must point out that most of these houses are conceptualised and designed by the participants themselves. Considering the actual house as ideal could suggest a fixation on the present due to the inability (or lack of desire) to project oneself into the future, and/or reflects efficient functioning. The number of drawings of real houses among "healthy" subjects is similar to the number of houses drawn by participants with cognitive disorders. While these subjects changed their houses due to their ability to access the imaginary, subjects with cognitive disorders stuck to strict reality. Indeed, people with cognitive defects have less imagination compared to "healthy" people.

**Table 3.** Drawings with or without chimneys

	With chimneys		Without chimneys		With smoke	
	%		%		%	
CG	57		43		77	
EG	31		69		25	

The chimneys (*table 3*), which is activity symbol and family life, appear almost twice as frequently in the drawings of the control group. While their distribution in this group differ, the chimneys are commonly accompanied by smoke. By contrast, the rare chimneys drawn by the experimental group are often free from smoke. Drawings by subjects with cognitive disorders show some inhibition, a lack of imagination that may be the result of depressive tendencies, memory loss or operative psychic functioning.

### 3.3 Inner/outer boundaries

#### 3.3.1 Imperviousness

**Table 4.** Inner/outer boundaries of the house

	Hermetic			Horizontal line		Environment	
	Total	Partially	Fragmented	yes	no	yes	no
CG	47	40	13	61	39	91	9
EG	26	42	32	31	69	37,5	62,5

If all the corners of the house meet and all drawn lines are strictly regular, reflecting some degree of closure, we note the quality of the house as totally hermetic, in which leaking is impossible. By contrast, when there are gaps, the notion of partial imperviousness suggest an attempt at continuity. At first glance, the house look “solidly built” but there are gaps either in the irregularity of the lines forming the wall or roof, or in the angles that fail to meet. A fragmented house has no baseline. It is completely open and floats above a horizontal line where elements are scattered. It has no containing function.

Most of the houses drawn by the subjects in the experimental group present partial (42%) or fragmented (32%) imperviousness. In contrast, most houses drawn by elderly subjects without cognitive disorders are impermeable (47%), followed closely by partially impermeable houses, but fragmented houses are rare (13%). This shows that, unlike “healthy” subjects, subjects with cognitive disorders neglect the imperviousness of their houses.

The drawings by subjects with cognitive disorders are thus flawed with regard to the contours of the house, confirming the hypothesis of greater distortions of psychic envelopes and corporal limits of subjects with cognitive disorders – even in the early stages of the disorder – compared to men and women in the control group.

### **3.3.2 Horizontality (Table 4)**

The drawing of a regular baseline shows this variable. If this line was too faint or was fragmented, then the house was not firmly stabilised on the ground and we thus described the foundation as insufficient. If external elements are drawn in continuity with the baseline, a horizontal line is a more concrete criterion that determines the anchoring of the house on a line symbolising the ground, as though the elements form an imaginary horizontal line. The house deemed free of horizontality has no environment and gives the impression of floating, especially when positioned on the upper section of the sheet.

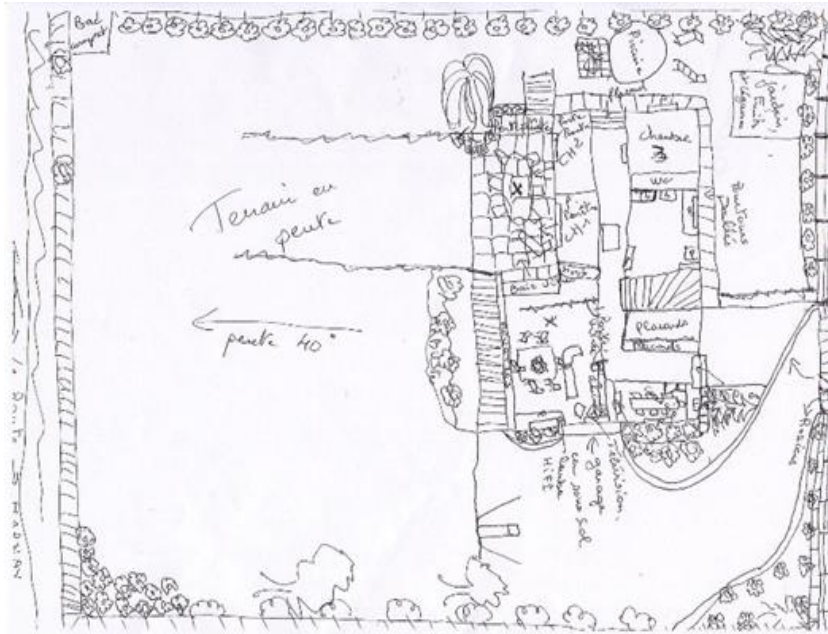
A solid baseline is more frequent in the drawings by “healthy” subjects and slightly less frequent in the drawings by subjects with cognitive impairments. However, the analysis of the drawings shows a difference with regard to the presence or absence of a horizontal line: this line is essentially observed in the drawings by subjects without cognitive disorders (61%) and moderately observed in subjects in the experimental group (31%). Horizontality is a good indicator of the ability of stable body-egos to act as scaffolding in the control group, but also reveals ego-arousing in the experimental group.

### **3.3.3 Environment (Table 4)**

The house is rated as accompanied by an environment when one or several elements (trees, swimming pool, road...) are drawn next to it. Logically, a house with no environment is drawn alone on the sheet. This index appears convincing in the analysis. The environment is predominant in the drawings by “healthy” subjects and rare in the drawings by those with cognitive disorders. In the latter case, houses are often solitary. These findings undoubtedly indicate that the protective shield was diminished. However, the scotomisation of the environment is interpreted depending on the appearance of the house. If the house is centred, has open windows and has nothing remarkable about it, as is the case with the control group, the absence of an environment could suggest a lack of affection or the primacy of rational intelligence in reference to operatory thought.

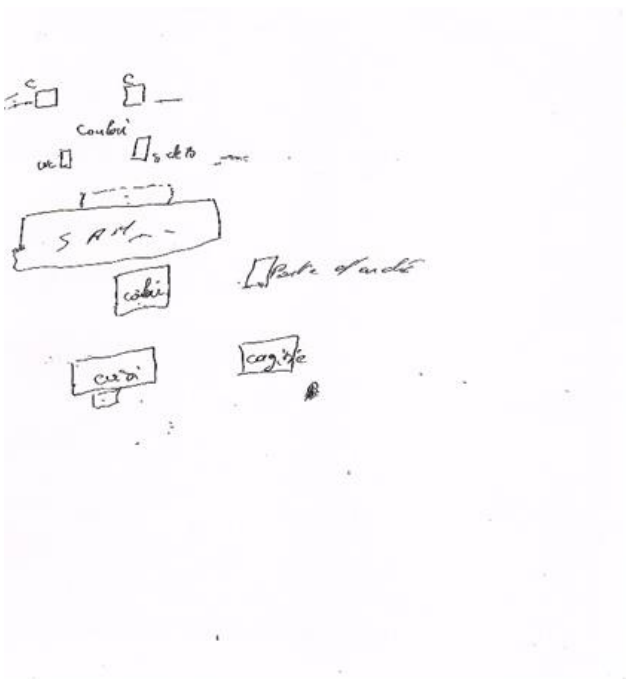
When the absence of an environment is combined with a small house isolated on a blank page and portraying open, closed or absent windows (representing half of the drawings by the experimental group), the drawing suggests flight or withdrawal into oneself, possibly revealing a schizoid attitude (Royer, 1989). More subjects in the control group draw a hedge (four times more than in the experimental group).

**Figure 1.** Example of a house surrounded by a hedge from the control group



Conversely, subjects in the experimental group tend to draw highly fragmented houses.

**Figure 2.** Example of a fragmented house in the experimental group



### 3.3.4 Openings to the exterior

#### Windows

**Table 5.** Windows and doors

	Windows as a percentage				Doors as a percentage		
	Absent	Decorated	With glass panes	Without glass panes	Absent	With a handle	On baseline
CG	4	41	59	41	0	30	78
EG	6	33	40	60	18	50	37,5

The window is decorated if it has shutters and/or curtains and handles. The glass panes are represented by crossed vertical and horizontal lines or by a single vertical or horizontal line. Decorations are identical in the two groups (Table 5). However, there are explicit differences in the inclusion of glass panes. Unlike patients with cognitive impairments, patients without cognitive disorders emphasize glass panes, as though to underscore the boundary between the interior and exterior of the house.

#### Doors

20% of the houses drawn by the experimental group have no doors, a shortcoming that is not observed in the control group. Lesniewska (2004) observed the absence of doors in 60% of the drawings by subjects suffering from Alzheimer's. Moreover, in the experimental group, the doors drawn are separated from the baseline, thus calling into question the quality of closure to the external world.

The house's impermeable quality, the door's position and the presence or absence of an environment are the factors that appear to best differentiate our two groups of subjects. Impaired cognitive processes accelerate the natural deterioration of inner/outer boundaries in ageing. These findings are backed up by a higher number of doors with handles in the drawings by subjects in the experimental group. It thus appears that the breakdown of internal/external boundaries is compensated by the presence of a handle which reflects the will to defend oneself. Lesniewska (2004) found a handle in 20% of the drawings by patients with Alzheimer's, confirming the hypothesis of early defence against senescence.

The differentiation between the interior and exterior is diminished by the absence of both an environment and a horizontal line which embody the house's firm foundation, a house that distinguishes itself from the sky surrounding it but does not go through it. An irregular or

completely omitted baseline added to the unstructured nature of the house. Similarly, gaping windows and doors detached from the baseline condemned the insecurity of the house. Conversely, houses drawn by “healthy” participants were generally satisfactorily sealed. With doors located next to the baseline and interconnected lines, the houses revealed an envelope encompassing fictitious inhabitants. Glass panes emphasised the barrier between the interior and exterior of the house. In addition to a horizontal line on which the house was placed, the presence of both natural and environmental elements embodied and suggested an exterior distinct from the house. Here, the house and its accessories acted as an enveloping, reassuring container.

#### **4. Discussion**

This study highlights several aspects that make the early differentiation of the populations observed possible. Individuals in good cognitive health have easier access to the imaginary (drawings of a smoking chimney, elements attached to the house...). The drawings by individuals with cognitive difficulties reveal greater psychological and emotional inhibition. Given that cognitive disorders are – in the early stages of degenerative diseases – often accompanied by depression, which makes it particularly difficult to diagnose between dementia and depression, we might also associate this form of inhibition with this depressive mood, which was undoubtedly more present in our experimental group. Several authors mention the graphical indices associated with depression, an important dimension of psychological distress: a preferential use of the lower zone of the leaf (Corman, 1961), a drawing occupying little space in the leaf (Jourdan-Ionescu & Lachance 2000; Kim-Chi 1989; Machover 1949; Royer 1984). In general, it is possible to draw concordant meanings from the diagrams made by the authors. Indeed, the top part represents the imaginary, spirituality, whereas the bottom zone is associated with materialism and depression. On the other hand, the right would represent the future and the action, and the left zone would reflect affectivity and the past. With respect to the center, this area would constitute the ego projection space (Kim-Chi, 1989; Royer, 1984). We base our analysis on the numerous studies already carried out and listed in several recent works on the use of projective tests with the elderly public (Fernandez, 2005, 2019; Verdon 2013, Verdon & Azoulay, 2019). A projective clinic test appears precious to the undamaged aging subject in that it makes it possible to apprehend problems that go beyond the mere question of cognitive processes, although the complaint is often that of a lesser mobilization of intellectual capacities.

For example, for some elderly people, the memory complaint is part of a blatant anxiety and depression problem, more or less reactive to access to retirement, the deaths of loved ones, the confrontation with the inevitable bodily involution, the prospect of death in the future.

The predominance of houses in the top-left section of the sheet in CMRR patients reinforces the hypothesis of the assumption of attachment to the past. While these elements can be associated with an eroded access to the imaginary, other elements point to the porosity of boundaries between the inner and outer worlds of subjects with cognitive disorders. Admittedly, this porosity is more present in the experimental group, but some evidence suggests that healthy subjects attempt to protect themselves, as though this deterioration of envelopes is an evitable process of psychic ageing. It is not the position of the house on the sheet (top left) that is sufficient to reveal cognitive problems. This position, like the openings, like the holes in the contours, testifies above all to a porosity of boundaries that can illustrate the escape of ideas, words and memory. Indeed, four times more houses had hedges among “healthy” subjects, who were able to place themselves within a context and thus self-scaffold. We could, however, consider this characteristic as the need to control entries and exits and protect against undesired intrusion.

In the same way as different skins make up an onion, adding elements around the house and a hedge to delimit the drawing provides an additional protective envelope for the centre of the house. These elements undoubtedly symbolise the barriers put up to guard against all objectal intrusions and narcissistic emptiness. Our clinical experience confirms the same type of defence, notably when elderly subjects wear multiple layers of clothing. Ageing tests the ability to differentiate between what belongs to oneself and what emerges from objects, the ability “*to consent to the encounter without feeling threatened, infringed upon, abandoned*” (Verdon, 2013, p.179). It is perhaps with regard to the porosity of the boundaries between oneself and the external world that the dream house test appears as the most discriminative between healthy subjects who attempt to protect themselves, and subjects with cognitive disorders who struggle to disengage themselves from this porosity.

The distinction between the two groups also enables us to think of subjects’ resources differently, with regard to how they respond to the weakening of the skin-ego’s ability to provide a protective shield, a weakening inherent in ageing. The demented subject is thus confronted – as Péruchon (2014, p.126) has clearly shown – to a primitive and flawed skin-ego that provides an inadequate container, deeply cut off from its symboligenic abilities and beset by particularly destructive intrusive ordeals: “*The body weakens, the skin thins...the skin-ego becomes fragile [...] the container cracks, breaks, gets pierced.*” Put differently, one can observe the disintegration of a skin-

ego whose instability prevents it from performing its most basic functions (notably its function as a container and protective shield as well as its maintenance functions). In the drawings, “healthy” subjects preserve and sustain the skin-ego’s function as a protective shield and overcome the boundaries’ shortcomings by reinforcing the closures. The control group is not homogeneous with respect to age and we observe that the houses’ capacities to act as containers are distorted in drawings by older participants. However, these capacities are less impaired compared to the younger patients in the experimental group. Once again, these elements reinforce the hypothesis that the disintegration of psychic envelopes increases as the subject ages: the older an individual, the less efficiently the skin-ego functions as a container. This disintegration seems normal in ageing, and cognitive impairment plays an active role in this process. In both groups, few subjects draw an interior house plan. Cuyenet (2017) sees houses as a reflection of an individual’s psychic apparatus. He thus argues that while elements in contact with the exterior represent conscious thought, private rooms that are only visible in interior house plans represent unconscious desires. It thus appears that accessing internal psychic life through the building of relationships becomes increasingly difficult as one ages, with a primacy for appearance that confirms the notion that ageing is also a specular image.

## 5. Conclusion

Abraham (1985) explains that "the use of graphic space is closely related to the position that the individual thinks he occupies in the world. As if the sheet of paper presented to him symbolized for him the space of life (...) in which he is situated " (Abraham, 1985, p.34). The representation of a person’s habitat is thus a projective representation of his/her internal habitat. There are numerous examples illustrating the porosity of boundaries among the elderly, beginning with the need to be surrounded by familiar objects: relocating or displacing objects in one’s living space and any intrusion by strangers is perceived as a threat and causes a sense of injury. Elderly subjects tend to stop this disintegration of their security by restricting their living space, progressively reducing it from the entire house to one room (kitchen or living room) or to a seat next to a window, as though in an attempt to become spectators watching the outside world. The main contribution of the house drawing makes it possible to distinguish between the internal and external. The house drawing test is thus an easy-to-use test that makes it possible to detect and then analyse a patient’s more or less pathological relationship with his/her body image. It also makes it possible to study the specificity of the psychic dysfunction of subjects with cognitive impairments. This study also points out individuals’ ability to fantasise, correlated with their relationship to time and their emotional investment. Successfully discriminating the

disintegration of the skin-ego confers an innovative and heuristic character in the management and care of the elderly. This projective test must therefore be taken as a complementary tool that makes it possible to deduce the evolution of disorders, but it is not in itself sufficient to reveal a deficient process such as dementia. Finally, this work has attempted to further develop the contribution of clinical psychology to the theory and practice of geriatric care. When speech is impaired, other strategies have to be developed to make contact with the patient such as the Snoezelen concept (Haggard & Hutchinson, 1991), also defined as multisensory stimulation, combines relaxation and exploration of sensory stimuli, and reduced agitation and apathy, improving activities of daily living in people who have moderate to severe dementia (Bauer et al., 2015). We are talking more and more frequently about the prevention of Alzheimer's disease and art could undoubtedly be an interesting avenue, at least to delay the appearance of disorders (Lesniewska, 2018).

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