

**¿Y tú quién eres? (2006).****Memory lost: a view of Alzheimer's disease as portrayed in the cinema****María Isabel Sánchez Rubio**

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Received 12 May 2007; modified and resubmitted 3 October 2007; accepted 10 October 2007

**Summary**

The cinema has always been seduced by the loss of memory and its consequences. However, the amnesia portrayed on the big screen is generally more related to head injuries than to degenerative diseases, and the health problems that are of such great importance in today's society, such as Alzheimer's disease and other dementias of degenerative origin, have tended to receive far less attention.

The gradual ageing of the general population as from the middle of the last century has meant that this pathology has now become an almost "normal" part of our lives, with its all too tragic socio-economic and family consequences. Here, an attempt is made to reflect on this, taking advantage of the recent work by Antonio Mercero "*¿Y tú quién eres?*" (*And Who Are You?*), which can be seen to fill a lagoon present in the Spanish cinema as regards these issues.

Outside Spain, two directors have become deeply involved with Alzheimer's disease: Juan José Campanella, with *Son of the Bride/ El hijo de la Novia*, and Richard Eyre, with *Iris*. Here we compare the work of Mercero with these latter two films from 2001 in the hope that films addressing with the problems of old age will arouse interest in developed countries.

**Keywords:** Ageing, Dementia, Alzheimer's disease, Memory, Neurodegeneration, Loss of personality, Dependence.

**Alzheimer's disease**

The first patient investigated was Augusta D, in 1901, at the Frankfurt Hospital (Figure 1). The pathology revealed a correspondence between her striking course of mental deterioration (over 5 years, beginning with delusional jealousy, she developed a rapid and progressive memory loss, hallucinations, paranoia, temporal and spatial disorientation, behavioural disturbances and a severe loss of language), and her brain lesions<sup>1</sup>.

This case, presented by Alois Alzheimer (Figure 2) in 1906, was the first documentation of the deterioration of the cerebral cortex to provide a description of senile plaques, neurofibrillary bundles and arteriosclerotic cerebral changes<sup>2</sup>.

From the end of the twentieth to the beginning of the present century, the first-world population

has been enjoying an apparent state of well-being. The important developments in the field of health that emerged in the last century have allowed life expectancy to double over the past 100 years, increasing from only 35 in 1900 to nearly 80 in 2000<sup>3</sup>. This increase has the advantages that we can be with our loved ones longer, but this has been accompanied by a spectacular increase in the prevalence of pathologies typical of the elderly. One of the most dramatic of these is Alzheimer's disease<sup>2</sup>.

**¿Y tú quién eres? (And Who Are You?) and Alzheimer's disease****Technical details****Title:** *¿Y tú quién eres?***Country:** Spain**Year:** 2007**Director:** Antonio Mercero

**Screenwriter:** Antonio Mercero

**Cast:** Manuel Alexandre, José Luís López Vázquez, Cristina Brondo, Álvaro De Luna, Monti Castiñeira, Amparo Moreno, Ángeles Macua, Alejandro Zafra and Luís Ángel Priego.

**Color:** Color

**Runtime:** 90 minutes

**Genre:** Drama.

**Production Companies:** Buena Vista International Spain S.A., Irusoin S.A. and Mono Films.

**Synopsis:** The Rivero family goes on summer vacation. Luis moves with his wife and two children to San Sebastián, his only daughter Ana remaining in Madrid with Ricardo, the grandfather. Ana is studying for a state exam and decides to remain in Madrid to pursue her studies and look after her grandfather, who is assigned by the family to a home during the summer period. At the residence, Ricardo meets Andrés, his room mate and new friend. Together, they recall past times and discuss the events that happened when they were young, and the spectator is regaled with scenes that are both touching and amusing. During the summer period, however, Ricardo falls increasingly under the grip of Alzheimer’s disease.

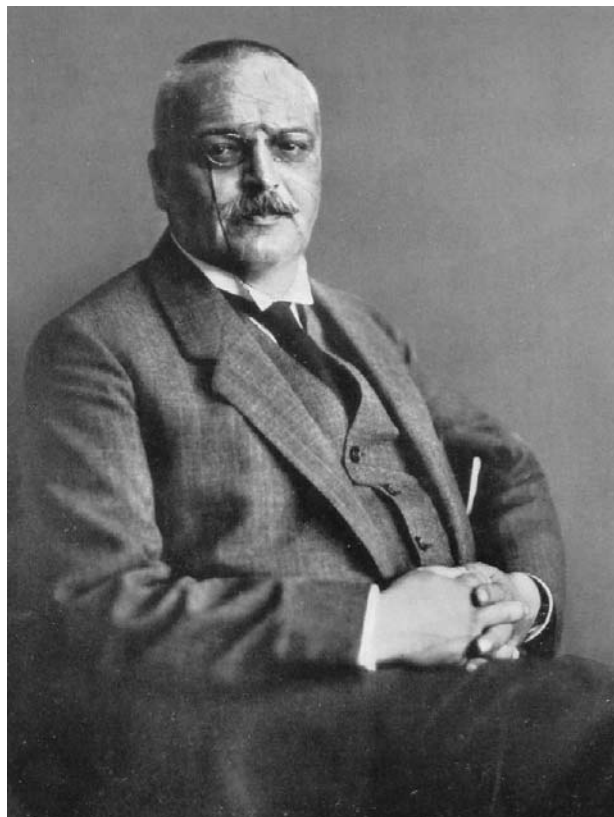


Figure 2: Alois Alzheimer

regards ageing and the debilitating onslaughts Alzheimer’s disease.

The film focuses on the disease to such an extent that after seeing it any spectator should come away with at least a glimpse of the reality and diagnosis of the condition. This is important because it means that since its first showing the film has become a point of social reference.

Globally, life expectancy has doubled in recent years and it has been estimated that worldwide there are some 20 million people with Alzheimer’s disease<sup>4</sup>. Currently, the disease is recognised as a serious medical-psychiatric, neurological, epidemiological-sociological and economic problem, particularly in developed countries. There, dementias can be considered the third most important illnesses in terms of economic and social costs and are only surpassed by cardiovascular and neoplastic diseases<sup>5</sup>.

Accordingly, it is strange that a social-sanitary problem of such magnitude should have been accorded so little attention by film makers, unless –since it mainly affects the elderly- people of age have somehow been marginalised by the cinema. We do know, after all, that owing to its commercial interests the cinema tends to look to the younger generations for spectators.



Augusta D. Fotografía: Dr. Konrad Maurer. Universidad Johann Wolfgang Goethe, Alemania.

Figure 1: Auguste D.

Antonio Mercero premiered his last work, a film about Alzheimer’s disease on 21 September 2007, taking advantage of the fact that this was International Alzheimer’s day, which coincided with the International Cinema Festival held yearly in San Sebastián (Figure 3). To a certain extent, this work fills a gap present in both international and Spanish cinema as



Figure 3: Spanish poster with the characters Ana and Ricardo

Nevertheless, the repercussions of the disease have led some directors to address a pathology that is increasingly making its presence felt in our advanced societies. This is logical since film makers often attempt to reflect the socio-cultural environment in which they live. An example is Mercero, who lived Alzheimer's disease when a colleague and friend became afflicted; it was his friend's demise that spurred Mercero to tackle the issue.

It is not difficult to approach the work of this relevant and sensitive Basque director, despite his broad professional acumen. After studying law, he began his studies of cinematography, gaining a degree in Cinema Direction from the *Escuela Oficial de Cine* (Official School of Cinema) in Madrid in 1962. Since its beginnings, his work has received many plaudits. Thus, in 1965 his short film *Trotin Troteras*, with which he gained his diploma at the Official School of Cinema, was awarded a prize at the Parisian *Biennale d'Art*. His short film *Lección de arte* obtained the *Concha de Oro* and the *Perla del Cantábrico* at the San Sebastián International Film Festival in 1962. This is not the first time that Mercero has been interested in health issues: one only has to recall "*Farmacia de guardia*" (1991), a TV comedy series, and the much acclaimed *The 4th Floor/ Planta 4ª* (2003).

This new health-oriented motion picture also stars two of the most prolific actors of Spanish Cinema: Manuel Alexandre and José Luis López Vázquez (Figure 4).

Manuel Alexandre was born in Madrid in 1917. He is one of the best secondary actors in Spanish cinema and has appeared in more than 200 films. In 2003, he was awarded an honorific *Goya* prize, and in 2006 he was nominated to the *Goya* awards for the best actor in his role in *Elsa y Fred* (2006), by Marcos Carnevale.

José Luis López Vázquez was also born in Madrid, in 1922. He is an extremely versatile actor who has appeared in about 250 films and in many theatre productions. Mercero directed him in *La cabina* (1972), a television film that was awarded an Emmy in 1973. In 2005, he was also awarded an honorific *Goya*.

In contrast to these veterans, Cristina Brondo offers a more juvenile perspective. She was born in 1977 in Barcelona and plays the role of Ricardo's (Manuel Alexandre's) niece.

The plot of the film is very simple. A Spanish middle-upper class family -the Riveros- who live in an up-market area of Madrid go to San Sebastian on vacation in August. Luis (Alvaro de la Luna), his wife (Angeles Macua) and their two sons (Alejandro Zafra and Luis Angel Priego) go, but Ana (Cristina Brondo) -who is preparing for a state exam- and Ricardo (Luis' father) remain in Madrid, so that Ana, who adores her grandfather, can be with him.

To be "freer", and against the wishes of Ana, the family decide to put Ricardo in a luxury residence. Ricardo is not very keen about the idea of staying in



Figure 4: A moment in the shooting of Mercero's film with Manuel Alexandre and José Luis López Vázquez





Figure 5: The central characters, José Luis López Vázquez and Manuel Alexandre in the residence

Madrid, but finally agrees. At the residence he meets Andrés (José Luis López Vázquez), a solitary and rather eccentric old man whom he shares a room with and who is to become a friend (Figure 5).

The losses of memory, names, appointments... that had earlier begun to beset Ricardo had previously been dealt with unconsciously by Ana. However, at the Residence the first signs of Alzheimer’s begin to appear in her grandfather and Ana sees how all her earlier schemes for the future begin to dwindle. Nevertheless, at the same time she begins to discover the inner world of elderly people and the tenderness they arouse in one. The changes taking place in her grandfather have a strong impact on her and she moves from being a mere spectator of her grandfather’s decline to becoming the central axis of his life. He is so affected by the disease that she decides to assume full responsibility for his care and she gives up her studies for the state exam, which before had been the only thing that seemingly offered her some kind of sense in life.

With this, we become aware of the huge emotional repercussions of the disease on the patient’s family and social environment. Mercero offers us a view of this dementia in which early treatment and diagnosis are of such enormous importance. Although there is no cure, there are some treatments able to improve the symptoms, possibly even stabilizing the condition. The film is in fact quite simple and could even be considered a documentary on Alzheimer’s disease.

**The cinema and memory: Post-trauma dementias**

Memory and its loss have appeared since the beginning of the cinema. In this vein we have *The Great Dictator* (1940) by Charles Chaplin, passing

through the most obsessive Hitchcock with *Spellbound* (1945) or *Vertigo* (1958), up to the more recent *Regarding Henry* (1991) by Mike Nichols, *The Long Kiss Goodnight* (1996) by Renny Harbin or *Memento* (2000) by Christopher Nolan, all based on memory loss due to shock or head trauma (table 1).

In both classic and current cinema, there are few clear references to old age; in particular to dementias deriving from the ageing process. It is true that many films include elderly persons in the cast, but in general they are not in the limelight. Few films have addressed degenerative dementias in depth, although Alzheimer’s disease and its impact on the family environment have been used in some recent movies, many

Table 1: Classification of dementias\*

<p><b>Degenerative origin</b>                  Alzheimer’s disease                  Dementia with diffuse Lewy bodies                  Frontotemporal Dementia                  Pick’s disease                  Dementia associated with Parkinson’s disease                  Huntington’s disease                  Progressive supranuclear paralysis</p> <p><b>Metabolic or nutritional origin</b>                  Hypo- and hyperthyroidism                  Hypo- and hyperparathyroidism                  Hepatic insufficiency                  Renal insufficiency                  Wilson’s disease                  Vitamin B12 deficit                  Folic acid deficit                  Vitamin B1 deficit</p> <p><b>Cerebro-vascular origin</b>                  Multi-infarct dementia                  Binswanger’s disease                  Strategic infarct dementia</p> <p><b>Infectious diseases associated</b>                  AIDS dementia complex                  Creutzfeldt-Jakob disease                  Neurosyphilis                  Lyme disease                  Whipple’s disease                  Herpes encephalitis</p> <p><b>Toxic origin</b>                  Alcohol                  Drugs                  Metals</p> <p><b>Neoplastic origin</b>                  Primary or metastatic brain tumours                  Limbic encephalitis                  Carcinomatous meningitis</p> <p><b>Others</b>                  Chronic subdural haematoma                  Post-traumatic dementia                  Normotensive hydrocephaly</p>
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\* According to data from 6 and 7

of them premiered in 2006, although not in Spain.

Alzheimer's disease is a particularly destructive condition for the patient's family, who in general suffer from two losses: the disappearance of the actual personality of the loved one they used to know and, with death, the that person: owing to the irreversible nature of the disease, the grief is felt from the very beginning.

The aim of the present article is to analyse the plight of these people in the cinema, based on Mercero's film, after which we shall comment on Alzheimer's disease and its treatment in *Son of the Bride* and *Iris*.

### **The elderly forget; the cinematographic industry too: The cinema and senile dementia**

The first step in viewing a film from a critical perspective is to have an in-depth knowledge of the topic being addressed. In this case, the plot revolves around a dementia. The dementias form a group of common diseases that are severe, prolonged and painful, and which have a profound impact both on the patients themselves and on their social and family surroundings.

Dementia is an acquired syndrome (a set of signs and symptoms) of organic nature that should be understood as a progressive decline in cognitive functions, among them memory. The syndrome eventually leads to complete incapacitation of the patient<sup>8</sup>.

In medical terms, the syndrome should fulfil the following characteristics: there must be a normal level of awareness; it must be acquired and must persist over time; it must affect different functions and must be of sufficient intensity to have repercussions on the personal, job-related, or social functioning of the individual affected<sup>8</sup>.

As mentioned, degenerative dementias have only been gradually, although steadily, incorporated into the cinema. In classic films with sound, there have been timid representations of elderly persons with dementias as secondary characters, although without much relevance to the actual films themselves. An example is the case of Gerald O'Hara (Thomas Mitchel), the ageing father of Scarlett (Vivien Leigh) in *Gone with the Wind* (1939) by Victor Fleming. This situation persists in today's cinema, as may be seen in *My Girl* (1991) by Howard Zieff, where Vada's grandmother (Anna Chlumsky) suffers from an undetermined dementia.

An advance in this sense has been the portrayal of elderly people as the main characters, such as in *Driving Miss Daisy* (1989), by Bruce Beresford, where the disease begins to ravage the life of Daisy Werthan (Jessica Tandy). Here, however, Alzheimer's disease is not the main leitmotiv of the plot and is not even relevant to the story.

At the beginning of the twenty-first century, some scriptwriters have further explored this socio-health problem. In this vein, we have the Italian-British production *Facing Windows/ La finestra di fronte* (2003), by Fernan Ozpetek, and *The Notebook* (2004), by Nick Cassavetes, both featuring characters affected by this pathology.

What must be emphasised is the scant attention that has been paid to the differentiating characteristics of the disease and the globalisation of the different dementias, hindering its diagnosis and its understanding from the spectators' point of view.

Since in general the cinema does not differentiate and is prone to including any dementia arising in the elderly as Alzheimer's disease, we shall only address this particular pathology and certain films that deal with it in specific terms.

### **A new disease, a new challenge for society: The cinema and Alzheimer's disease**

Before the premiere of *¿Y tú quién eres?* precise and very specific attention was given to Alzheimer's disease in *Son of the Bride*, by Juan José Campanella, and *Iris*, by Richard Eyre, both from 2001 and both recounting a love story set within a drama. Accordingly, in order to be able to analyse Alzheimer's disease in the cinema, these films must also be looked at.

#### ***Son of the Bride***

##### **Technical Details**

**Title:** *Son of the Bride*

**Original title:** *El hijo de la novia*

**Country:** Argentina

**Year:** 2001

**Director:** Juan José Campanella

**Music:** Ángek Illarramendi

**Screenwriter:** Juan José camanella and Fernando Castets

**Cast:** Ricardo Darín, Héctor Alterio, Norma

Aleandro, Natalia Verbeke, Eduardo Blanco, Gimena Nóbile, Claudia Fontán, David Masajnik, Atilio Pozzobon and Salo Pasik.

**Color:** Color

**Runtime:** 123 minutes

**Genre:** Comedy, Drama.

**Production Companies:** JEMPSA, Patagonik Film Group, Pol-Ka Producciones and Tornasol Films S.A.

**Synopsis:** Rafael believes that things can get better for him. He works in his restaurant 24/7, he is divorced, and he sees his daughter very infrequently. He has no friends and avoids committing to his girlfriend. Also, for many years he has not visited his mother, who is interned in a geriatric hospital because she has Alzheimer's disease. A series of unexpected events lead Rafael to reappraise his life, among them his father's intention to fulfil an old hope of his mother's: to marry her in church.

*Son of the Bride* (Figure 6) is a drama-comedy of a genre bordering on the philosophical that aims to arouse in the spectator a reflection about life and what we seek of it.



Figure 6. Cover of the American DVD with the characters Nino, Norma and Rafael

The film shows us a mature man, Rafael Belvedere (Ricardo Darín), living a crisis. He seems to be successful, because in an Argentina continually fraught with problems the Italian restaurant that Rafael has inherited from his parents seems to be running smoothly. However, this is not reflection on his own life; initially he seems to be unworried by his problems since these are somehow always eclipsed by minor domestic crises: Rafael is unable to really connect with his surroundings or with his family because he never has the time.

Divorced, he is unable to enjoy watching his daughter Vicky (Gimena Nóbile) grow up; he has no friends, with the exception of one from his childhood who suddenly appears out of the blue, and he prefers not to get overly involved with his girlfriend Natalia (Natalia Verbeke). Moreover, he hasn't visited his mother Norma (Norma Alejandro) for more than a year; she has Alzheimer's disease and is confined to a home for the elderly (Figure 7).



Figure 7: Norma ill with Alzheimer's disease together with her son

He hits rock bottom when he has a myocardial infarction; he sees his poorly mother and his ageing father (Héctor Alterio), old and running out of time.... In this context, however, he receives help from his parents, who behind all the chaos do live a brilliant love story quite different from his own situation. After more than 40 years of marriage, his father—who is still deeply in love with his mother—has to cope not with only his wife's misfortune but also with his own solitude. Nevertheless, he does this with aplomb. To show his love for Norma, he decides that the time has come to marry her in a church (Figure 8), a prize he had always refused to grant her because of his communist convictions. Nino's sadness, his impotence, can be seen as from the very first scenes when





Figure 8: Wedding of Nino and Norma accompanied by their son

he fails to recognise the woman he visits each day at the home for the elderly. Nevertheless, as regards Alzheimer's disease, the argument goes no further than this. However, behind Norma's illness, commented below, we see a man's hard reflections about life and what we all seek of it.

Towards the end of the plot Rafael too becomes infused by his father's dream to give his mother what she had always wanted (a church wedding) but what her illness will no longer allow her to have. The film thus allows us to enter the life of the family, originally disunited, at a time when it is threatened by a severe illness.

It is not easy to follow Norma's mental deterioration because the plot develops in such a short time that we are unable to fully appreciate the course of the disease. Despite this, we are offered a haunting view of many of the sociological aspects surrounding Alzheimer's disease and how this affects patients' most immediate environments.

**Iris**

**Technical details**

- Title:** *Iris*
- Country:** UK and USA
- Year:** 2001
- Director:** Richard Eyre
- Music:** James Horner
- Screenwriter:** Richard Eyre and Charles Wood based on the books *Iris: A Memoir* and *Elegy for Iris*, by John Bayley.
- Cast:** Judi Dench, Jim Broadbent, Kate Winslet, Hugh Bonneville, Penelope Wilton, Eleanor Bron, Angela Morant, Siobhan Hayes, Juliet Aubrey, Joan Bakewell and Nancy Carroll.
- Color:** Color
- Runtime:** 91 minutes

**Genre:** Biography, Drama

**Production Companies:** British Broadcasting Corporation (BBC), Intermedia Films, Mirage Enterprises and Miramax Films.

**Synopsis:** During the 40 years of the passionate romance between Iris Murdoch and John Bayley, the true nature of the concept of matrimony has reached its maximum significance. Together, they spent their lives fusing their personalities, professional activities and aspirations. Theirs was one of the literary romances of the twentieth century, but was also testimony that love will triumph over the some of the bitterest and most unexpected events that life can deal us.

*Iris* (Figure 9) is a true story about love. This "biopic" is based on two books *Iris: A Memoir* and *Elegy for Iris*, by the writer John Bayley (played by Jim Broadbent in the latter years, and by Hugh Bonneville as the young character), who was the life-long admirer, confidant, partner, lover, and husband of Iris Murdock (played by Judi Dench in the latter years and by Kate Winslet as the young character), a well known Irish author (Figure 10).

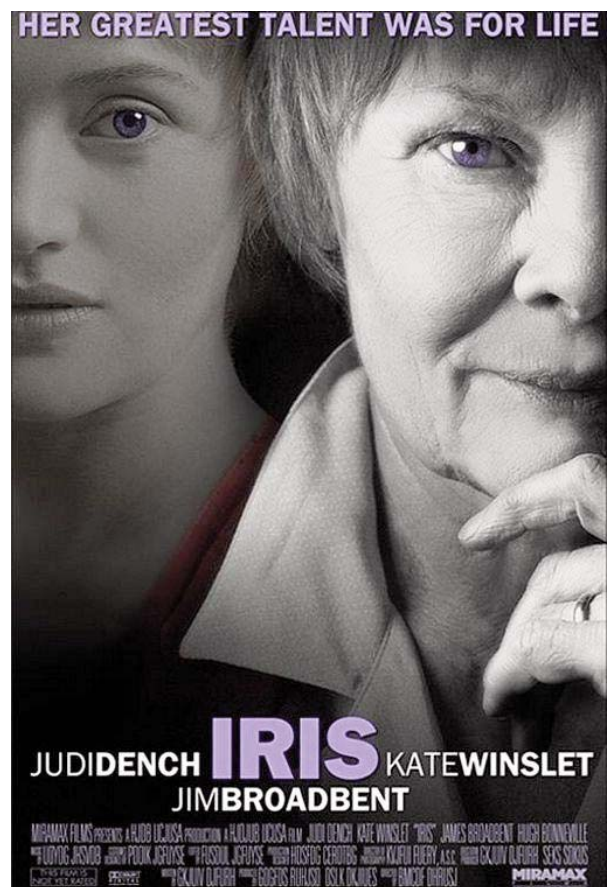


Figure 9: American poster (design by BLT & Associates) with Iris as a younger and older woman



Figure 10: Iris and John in their youth

Often described as “the cleverest woman in England”, Iris Murdoch was a beacon figure to her generation in Great Britain. From her days as a student at Oxford, where she captivated all with her open, almost unrestrained, attitude to her activities as a philosopher and novelist, Iris was always way ahead of her times.

The plot takes place between two periods –the youth and the old age of the central characters. By means of startling flashbacks the director takes us to one and another moment in the lives of these writers. And this is how we become aware of the radical and irremediable change in Iris brought about by Alzheimer’s disease, a progressive decline in higher cognitive functions, among them memory.

The portrayal of the earlier days shown in the film is excellent. Iris is a writer who lives for and through words, and who has a forceful but open personality. She believes she has an outstanding memory and the power of her mind is the main tool of her trade. The plot does not actually focus on the disease but on the characters, both of which suffer its consequences and are condemned to a living death. How awful for someone for whom words are the bread on the table and the passion of life!

This is undoubtedly an even greater tragedy than in the case of *Son of the Bride*, since Iris perceives her limitations as from the very start of her illness and this is why she becomes frustrated and angry and refuses to recognise the situation. The same happens with her husband, who far from assuming his limitations denies them until the disease is definitively installed. He must have detected the limitations before his wife did.

In the film there seems to be a *before* and an *after* as regards the moment when Iris has to give a speech, and it is then that she starts to muse on the reality of her situation (she forgets her speech), although it is not until she visits the doctor that her suspicions are confirmed.

We see, then, another love story in which the “healthy” partner becomes the carer of the weaker one (Figure 11). Thus, John returns to Iris the firmness that she herself had transmitted to him at the start of their relationship. John, who since childhood had been somewhat of a “grey” figure, pales before Iris’ sparks of geniality. He loves her but essentially his feeling is one of immense respect, since in her he sees everything that he will never be or have. But then, -life’s paradoxes- Alzheimer’s disease rears its head. At that moment everything changes; Iris becomes a victim of her own environment and John becomes the guardian of his beloved.

The film offers extraordinary insight into the evolution of the disease. It describes the illness from the very first moments up to its final tragic outcome: death. We are also shown a very natural depiction of the changes that occur in a patient’s immediate family, in this case in a single person: John.



Figure 11: John with a sick Iris

### Comparative study of the three films

There is a clear contrast between the scripts of these last two films. In *Son of the Bride* the sick person is a secondary character and her disease is set within the story of the son, while in *Iris* the patient herself is the central character. Despite this, both women are prominent in the plots of the films.

Together, both productions help us to better understand Alzheimer’s disease and the repercussions that it has on patients’ immediate families and on society, although neither offers much as regards the diagnostic details of the clinical picture.

Unlike these films, what clearly stands out in Mercero’s work is the sheer simplicity of the story. The script writer divorces himself from romantic aspects and from the earlier or current history of the



secondary characters. In this film, Alzheimer's disease is not simply an illness suffered by one of the characters but is the focal point of the whole film. The plot follows a line similar to that of a medical manual: diagnosis, prognosis, therapeutic possibilities, importance of principal carer(s) and help from the Association of Alzheimer's Patients. In this sense, Mercero leaves nothing to be completed.

In all three films, Alzheimer's disease evolves in the same way and the descriptions of the possible surroundings of the characters complement one another. Two of the patients, Norma and Iris, have living spouses and, moreover, Norma has a son who can take on the father's care-load. John, however, is alone in having to cope with his partner. In the case of *¿Y tú quién eres?*, we see a third possibility: that of a sick old widower - with a married son with grown-up children, with their own orderly lives- becoming a load for the family.

Owing to their focus on the disease, all these films underscore the difficulties involved in people overcoming their initial grief when a loved one develops the illness and accepting the new situation of seeing someone gradually lose his/her personality, eventually becoming unable to recall even the most immediate events: *And who are you?*, asks Ricardo of Ana in the last scene.

In this context it is of interest to analyse how people confront the tragedy and react according to their own sensitivity and personalities. In the films we see how the families must first cope with the heavy blow dealt them when they receive the diagnosis; they

know they will have to face up to an uncertain future as regards the evolution and the duration of the illness. Here we see their worry and their fear of things to come. The loneliness of long-distance carers is seen as a pinnacle of feelings, real or insubstantial, that lead them to become yet further victims of the disease.

There is no answer but to face up to the disease and the tragic loss of a loved one in the unknown future.

**Are the cases of Iris and Norma casual?: Epidemiology**

The incidence of Alzheimer's disease increases with age (Table 2). It is exceptional before 50, 90% of cases usually appearing after the sixth decade of life. It affects about 5% of people older than 65 and this figure increases to 30% in the population older than 85. In Spain there are some 400,000 people older than 60 with the disease<sup>2</sup>.

The disease is more common in women than in men and this may be due to the fact that among the elderly more women than men survive<sup>4</sup> or perhaps to the decline in oestrogen levels in post-menopausal women<sup>2</sup>.

In *Son of the Bride* and *Iris* we see this: both patients are women and are older than 65. Mercero's film, however, is a sharp reminder us that men are not exempt.

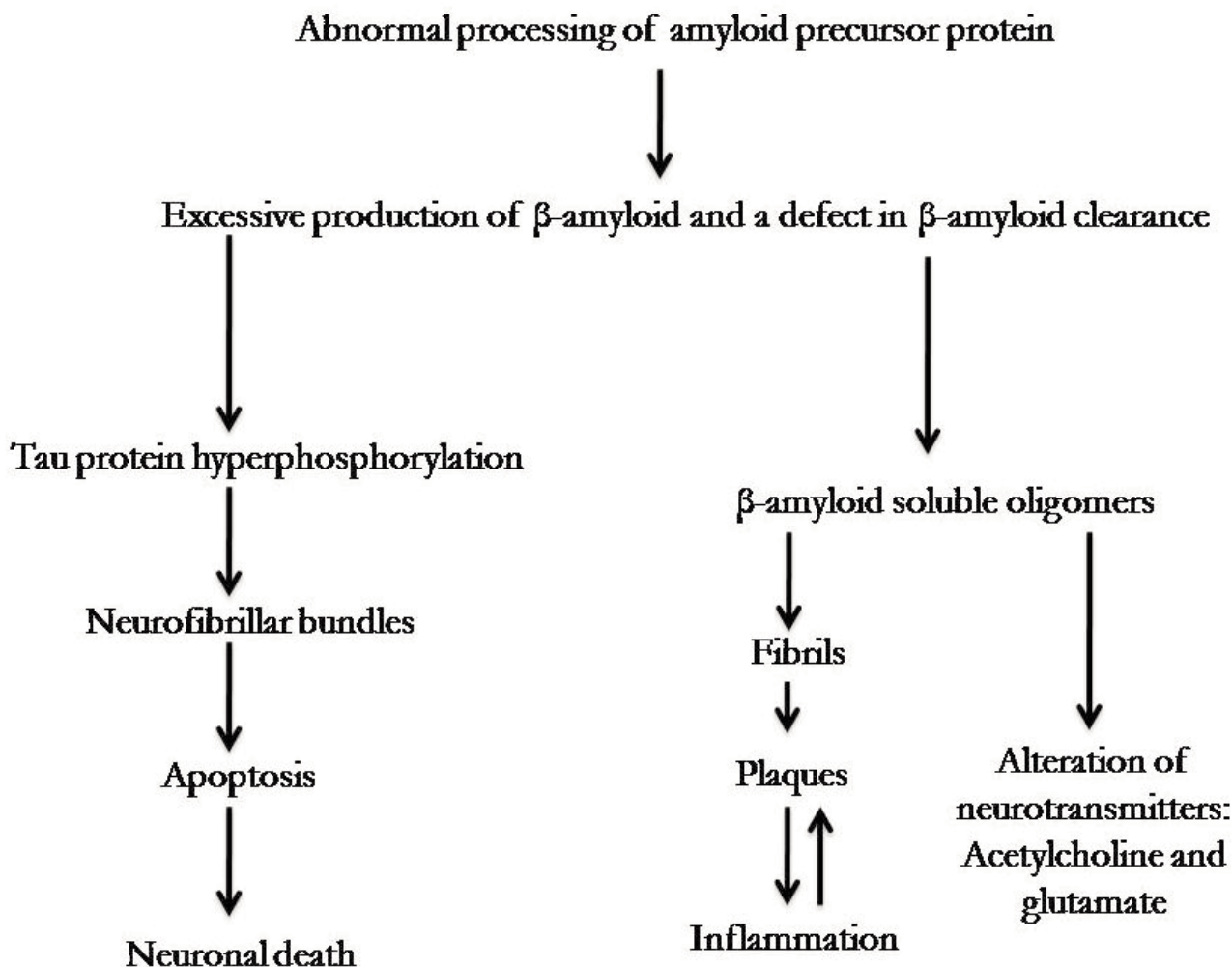
In Alzheimer patients there is a frequent background of head injuries, families with a history of

Table 2 : Incidence of dementias and Alzheimer's disease

Age (years)	Dementia (cases/1000 person-year)	Alzheimer's (cases/1000 person-year)
55-59	0.03	-
60-64	0.11	0,06
65-69	0.33	0,19
70-74	0.84	0,51
75-79	1.82	1,17
80-84	3.36	2,31
85-89	5.33	3,86
90-94	7.29	5,49
>/=95	8.68	6,68

\* According to data from 9

Diagram 1: Alzheimer's Disease Pathogenesis



dementia, families with children with Down's syndrome, etc.<sup>10</sup>.

It should be noted, too, that the disease is not always diagnosed promptly, further hindering correct analysis of the data.

**What becomes disconnected in the brains of Iris, Norma and Ricardo? Aetiology**

The disease debuts in them much earlier than either they themselves or their immediate circle of family and acquaintances realise (Diagram 1). Alzheimer's disease is one of the commonest forms of dementia and is present in about 60% of patients with these pathologies. The disease features a series of progressive and specific changes in the neurons of the cerebral cortex and of certain subcortical structures that prevent correct brain functioning and that finally lead to death. The process spreads gradually, affecting

a growing number of neurons. Above all, the neurons of the cerebral cortex -responsible, among other higher functions for thought, memory and language (Figure 12)- are affected.

The initial symptoms are not overly evident, and the families of John, Iris and Ricardo confuse them with those merely typical of old age: disorientation, absentmindedness...<sup>2</sup>.

There are some psychometric tests, which may allow the detection of signs of deterioration in language, attention or concentration<sup>2</sup>, and current studies are exploring the use of biological markers to detect the disease as from the very early stages.

In *Son of the Bride* none of this is seen, and little is seen in *Iris* either, but in *¿Y tú quién eres?* Mercero did see fit to include some of these tests in the diagnosis of Ricardo's disease.

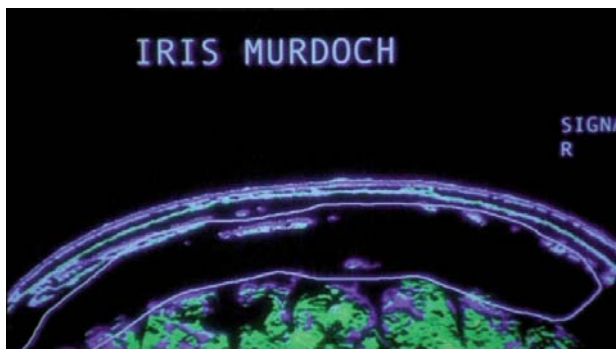


Figure 12: Iris' brain scan

**John realises that something is up: Symptoms and diagnosis**

The treatment of the symptoms of the disease and its diagnosis as seen in the films are heterogeneous and, as mentioned above, the films are based on the different developmental stages of the disease. Thus, whereas in *Son of the Bride* Norma's diagnosis had been made some time before, in *¿Y tú quién eres?* and *Iris* we actually witness the diagnoses being made.

Our first sight of Norma is when she is already a patient, and we are not offer any insight into

the outcome; we only see the repercussions of the illness. In contrast, we first see Iris as a healthy elderly lady with a profound wish to carry on working and contributing her input to the literary world. Indeed, we see her totally immersed in the drafting of her most recent book. Ironically, when it is published she will no longer be able to read it. In *Iris*, then, since the film covers the story over several years we are better able to see the devastating effects of the disease from start to finish, although little attention is given over to details.

Mercero's film offers a slightly more exhaustive view of all the symptoms that should alert us to the presence of Alzheimer's disease, with a clear didactic purpose in mind. He does this using not only the character of Ricardo but also other secondary characters, such as Andrés and other inmates of the residence.

The disease appears like a wolf in search of prey. This is what initially leads Iris and John, and Ricardo's family to pay little attention to it or to treat it as "something that happens to old people". Small episodes of forgetfulness, the keys, words,... are

Table 3: Signs and symptoms of Alzheimer's disease seen in the film *¿Y tú quién eres?*

Loss of vocabulary at the start of the film, without social repercussions	Difficulty in performing simple tasks such as getting dressed
Changes in the logical order of events	Minimisation of symptoms by patient or family
Changes in judgement: <i>Andrés</i> even manages to get undressed in the dining room	Difficulty in remembering the rules or the name of a simple game: <i>Ludo</i>
Return to childhood; with games placed during this stage or recalling people	Difficulty in reading, writing, and simple maths operations
Changes in the order of things or words	Not remembering grandchildren's names, in the case of <i>Andrés</i>
Failure to recall dates, or whether it is night or day	Inability to remember own address
Difficulty in handling money: trying to buy a pearl necklace with 10€	Spatial and temporal disorientation; when accompanying Ana to the restaurant
Urinary or faecal incontinence, in the case of <i>Andrés</i>	Nervousness about answering simple questions
Inability to distinguish between a grocer's or a jeweller's	Disorientation; becoming lost for a whole day
Inability to recall recent data; What is Ana studying?	Failure to recognise danger: when on a swing
Recall of childhood situations, such as songs or experiences and inability to recall what is recent	Failure to recognise even principal carer, in the last scene



Table 4: Diagnosis of dementias\*

<p><b>Anamnesis</b></p> <p>In a patient with the suspicion of a syndrome of dementia as well as the usual data checked in any clinical case, emphasis should be placed on the following:</p> <ul style="list-style-type: none"> <li>Family history of dementia</li> <li>Family history of Down's syndrome</li> <li>History of head trauma</li> <li>Educational level of patient</li> <li>Aphasia</li> <li>Apraxia</li> <li>Agnosia</li> <li>Disturbances of executive functions</li> <li>Phobias</li> <li>Compulsions</li> <li>Obsessions</li> <li>Delirium or delirious ideas</li> <li>Alterations of perception</li> <li>Mood alterations</li> <li>Behavioural alterations</li> </ul>	<p><b>Physical exploration</b></p> <p>A complete physical exploration should be performed:</p> <ul style="list-style-type: none"> <li>States of consciousness</li> <li>Hydration and nutritional status</li> <li>Pupils</li> <li>Cranial pairs</li> <li>Presence or absence of goitre</li> <li>Adenopathies</li> <li>Neck murmurs and primitive reflexes</li> </ul> <p><b>Routine complementary tests</b></p> <p><b>Blood &amp; Urine Analysis</b></p> <ul style="list-style-type: none"> <li>Blood biochemical profile</li> <li>Complete haemogram</li> <li>Basic urine analysis</li> </ul> <p><b>Lumbar puncture</b></p> <p><b>Imaging tests and records of electrical activity</b></p> <ul style="list-style-type: none"> <li>Cranial Computed Tomography</li> <li>Cranial Magnetic Resonance imaging</li> <li>Chest X-ray</li> <li>Electrocardiogram</li> <li>Electroencephalogram</li> </ul>
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\* According to data from 10

merely attributed to absentmindedness or are simply anecdotic for both families until, in the case of Iris for example, the person forgets something really important (in her case, her whole speech, which she is incapable of improvising) (table 3)

In the diagnosis of Alzheimer's disease, as in other illnesses, it is mandatory to perform an interview, a physical examination and request complementary tests<sup>10</sup>. With the data thus obtained it is possible to reach a diagnosis using different criteria<sup>11,12</sup> (tables 4, 5).

The Basque director invites us to witness the type of questions asked by physicians faced with a suspected case of the disease. Thus, we accompany Ricardo to a consultation as if we were really there and we see a test being applied. There is a battery of short, simple tests useful for the diagnosis of dementias, and specifically Alzheimer's disease. The best known are the MMSE (Mini Mental State Examination) by Folstein et al., which is the one most used worldwide;

the MIS (Memory Impairment Screen) by Buschke; The Seven Minute Screen Neurocognitive Battery (enhanced cued recall, Benton's temporal orientation, verbal fluency and clock drawing), the three-word memory test and the semantic verbal fluency test.

It would be logical to speculate that what Mercero is aiming at in *¿Y tú quién eres?* is to offer a simplification of the case in order not to distract the spectator from the true causes and circumstances of the illness. Thus, in this first medical consultation the doctor fails to ask about other concomitant diseases in the central character, and this is also the case of the other people in the residence. It is as though only Alzheimer's disease exists in the film.

In the film we may assume that the physician had previously been privy to Ricardo's medical history, after which a battery of simple questions is given after his personal hygiene status has been checked. The physician follows a typical order in the diagnosis. He first engages in questions about orientation

Table 5: Differential diagnosis of Alzheimer's disease\*

<p><b>Enfermedad de Alzheimer: criterios del DSM-IV</b></p> <p>A.- Multiple cognitive deficit, manifested by:</p> <p>    A.1.- Deterioration of short- and long-term memory</p> <p>    A.2.- At least one of the following signs: aphasia, apraxia, agnosia and alteration of executive functions</p> <p>B.- These deficits imply a reduction in life quality with respect to the patient's previous level and cause a significant deterioration in employment-related and/or social relations</p> <p>C.- The start is gradual and the cognitive deterioration is continuous</p> <p>D.- The deficits (A.1 and A.2) are not due to:</p> <p>    D.1.- Another CNS disturbance</p> <p>    D.2.- Systemic disease</p> <p>    D.3.- Action of toxic agents</p> <p>E.- The deficit does not appear exclusively during the course of a delirium (acute confusion syndrome)</p> <p>F.- The deficits cannot be explained in terms of other psychiatric disturbances such as depression or schizophrenia</p> <p><b>Alzheimer's disease: criteria of the NINCDS-ADRDA **</b></p> <p><b>Criteria for possible Alzheimer's disease:</b></p> <p>Dementia with variations at onset, during presentation or during the clinical course that are unusual in AD but for which there is no alternative explanation</p> <p>In the presence of a secondary systemic or cerebral disturbance able to produce dementia, but not considered to be the cause of the patient's dementia</p> <p>When there is a gradual and progressive deficit in cognitive functions</p> <p><b>Criteria for probable Alzheimer's disease:</b></p> <p>Cognitive deficit demonstrated by clinical examination and documented with validated tests and scales</p> <p>Deficit in two or more cognitive areas (memory, judgment)</p> <p>Progressive worsening of memory and other cognitive functions</p> <p>Absence of disturbances of consciousness (delirium)</p> <p>Onset between 40 and 90 years</p> <p>No evidence of other cerebral or systemic diseases</p> <p><b>The following support a diagnosis of probable Alzheimer's disease:</b></p> <p>Signs of progressive cerebral atrophy in serial cerebral computed tomography</p> <p>Presence of aphasia, apraxia, agnosia</p> <p>Alteration of behavioural patterns and incapacity to perform daily tasks</p> <p>Family history of AD</p> <p>Complementary tests: examination of normal CSF</p> <p>Non-specific EEG slowings or normality of the EEG</p> <p><b>Criteria of definitive Alzheimer's disease:</b></p> <p>Criteria of probable Alzheimer's disease accompanied by histopathologic confirmation</p>
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\* According to data from 11 and 12

\*\* National Institute of Neurologic, Communicative Disorders and Stroke - Alzheimer's Disease and Related Disorders Association

–Ricardo’s name, where he lives, what day it is- and then moves on to addressing the patient’s capacity for reasoning, attention and calculation (counting numbers and performing simple mathematical calculations), memory (the three-word memory test). He asks

Ricardo to memorise three unrelated words. Initially, Ricardo is able to recall them, but completely changes the order, which the physician uses to check whether aphasia is present. The doctor then changes tack to assess short-term memory and asks Ricardo to recite

the words he should have learned previously but which he has now forgotten, pointing to an alteration in short-term memory. Finally, the doctor applies questions to observe the patient's constructive and executive praxis: copy an item, which Ricardo does not manage to do (constructive apraxia), and the widely used Clock Test: drawing a clock with all the numbers and the hands indicating a specific time (constructive praxis), thus gaining information about executive components (constructive praxis tests with exec-

utive components). Although Ana seems to be present coincidentally, it should be noted that in this kind of interview the presence of a family member may be of great use.

Mercero must have introduced this simple "screening" as an education campaign so that viewers could be enabled to make a rapid diagnosis based on the suspicion of symptoms in people around them.

Table 6: Stages of Alzheimer's disease\*

<p><b>Initial phase (3-4 years)</b></p> <ul style="list-style-type: none"> <li>Loss of memory of recent events</li> <li>Progressive loss of ability to perform small tasks</li> <li>Loss of spatial and temporal orientation</li> <li>Changes in personality and judgement capacity</li> <li>Memory, difficulties in remembering. Patients forget things: where they left something, dates of birthdays...</li> <li>Patients preserve capacity to make symbolic gestures; greetings, applause...</li> <li>"Gnosia" (faculty of perceiving and recognizing) may appear; i.e., patients confuse the use of objects</li> <li>The person affected becomes more introverted and insecure</li> </ul> <p style="text-align: center;"><i>The most outstanding aspect in this first stage is the memory loss</i></p> <p><b>Intermediate phases (2-3 years)</b></p> <ul style="list-style-type: none"> <li>Difficulty in making small decisions, such as choice of clothes etc.</li> <li>Inability to recognise people close to the family</li> <li>Lack of interest in personal hygiene</li> <li>Eating difficulties</li> <li>Belligerence: nothing is right</li> <li>Loss of social and sexual interest</li> <li>Anxiety and insomnia</li> <li>The patients' vocabulary worsens, s/he only repeats basic words: mother, father...</li> <li>Almost complete loss of temporal and spatial orientation</li> <li>Increase in degree of "Gnosis", inability to appreciate the danger of fire, stairs, traffic...</li> <li>Frequent mood changes; the person turns in on him/herself. Loss of self-criticism and language. Obscene and antisocial behaviour may develop</li> </ul> <p style="text-align: center;"><i>This is the hardest stage. The patient begins to show strong gaps in memory and this is the hardest part</i></p> <p><b>Advanced (1-2 years)</b></p> <ul style="list-style-type: none"> <li>Recent and evocative memory are completely lost</li> <li>Vocabulary is reduced to a few scarce and incoherent words</li> <li>Disorientation is total and routine tasks become impossible</li> <li>There is a strong degree of apathy. Stupor and comatose states may appear</li> </ul> <p style="text-align: center;"><i>In this last stage, the patient only responds to painful and sometimes affective stimuli</i></p>
<p><b>DEATH</b></p>

\* Partial data from 14



When cognitive disturbances are doubtful, tests may play an important role in patient assessment. To perform the diagnosis, physicians and neuropsychologists base themselves on published guidelines and on the cut-off scores that best classify subjects as normal or having cognitive alterations of different degrees.

As well as serving for classificatory purposes, the tests play an important role in the definition of the clinical picture of patients and may help in the aetiological diagnosis. In this setting, neuropsychological tests allow the profile of the altered and preserved abilities to be established and provide indications about the underlying neurobiological problems<sup>13</sup>.

However, the doctor prudently does not tell Ana that her grandfather has Alzheimer's disease since it is not possible to unequivocally establish a diagnosis without complementary tests (table 5), and he only admits the *possibility* that Ana's grandfather might be suffering from the disease. Neither are any differential tests performed<sup>14</sup> (table 6).

In the case of Ricardo, the doctor starts with tests and the disease is deemed to be present when the old man is no longer able to recall daily events, such as where he lives. It is at this moment when he is given an identity bracelet and when his granddaughter becomes aware of the eventual fatal outcome.

During *Iris*, no excessive emphasis is placed on the time of diagnosis nor on which are tests carried out, although we are privy to how the family doctor deals with the situation. After an interview and a physical exploration, and based on his own suspicions, the doctor sends Iris to a specialist, who carries out complementary tests, such as a brain scan (Figure 13) and an object recognition test, which later provide a definitive diagnosis. These complementary tests are not seen in *¿Y tú quién eres?*

It should be noted that a final diagnosis of Alzheimer's disease can only be made after the death of the patient at autopsy.

### What Does Ana expect of her grandfather? Prognosis, treatment and evolution

The prognosis of the disease is fatal. It is a degenerative process and has no cure. We see this in *Iris*, when the specialist performing the object-recognition tests says that it is unstoppable. Mercero also portrays the disease in the same way when Ana is told about her

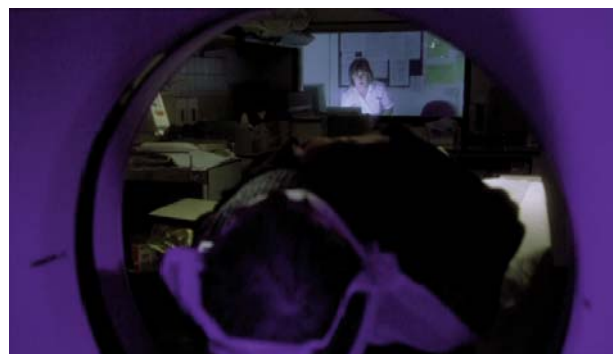


Figure 13: Iris undergoes a brain scan

grandfather's illness. The duration of the disease is highly variable: some patients die in their beds before 4 years have elapsed after the onset of the disease while others may last 15 years. The mean survival rate is 8-10 years<sup>2</sup>.

Although it is true that there is no cure for Alzheimer's disease, as the doctor explains to Ana, by judicious use of different therapies and drugs it is possible to palliate the symptoms and, although very optimistically, speak of a stabilization of the disease. Accordingly, early diagnosis and sensitisation of the population to the disease are very important.

The evolution over time of the disease is different in all three films. Thus, in *Iris*, whose plot lasts several years, we see the development of the illness since its very beginnings (table 6) -loss of memory of recent events, progressive loss of skills to perform small tasks such as routine chores, difficulty in remembering.... - up to the final phases of the illness, where the person only responds to painful stimuli and only occasionally to affective prompts, death being the final outcome<sup>14</sup>. In *Son of the Bride*, we see the disease already present in a person and only witness the passage from the middle to the advanced stage.

In the case of Ricardo, the disease is galloping. We observe his decline during the course of one summer, but the plot remains at the initial phase of the disease and ends when the patients is entering the middle phase, as we see when Ricardo is unable to recognise his own granddaughter.

In any case, if in *Iris* we see the fatal outcome, in *Son of the Bride*, and in *¿Y tú, quién eres?* there is some glimmer of hope.

### The power of the disease: social and economic costs

Alzheimer's disease and the other dementia are of enormous social transcendence because the

patient's surroundings are also affected by the illness and because the costs involved in caring for such patients are very high. Neither should we forget the impact on society at large of knowing the fatal outcome of the condition, people's ignorance of the risk factors, that the preventive window is very small, or the increase in the incidence of the disease.

When a person has Alzheimer's disease, the whole family suffers, especially the spouse and children. They find their time limited because their duty is to look after the daily needs of the patient, which range from hygiene to eating, apart from the necessary vigilance of the person involved, all of which impact the carers psychologically<sup>2</sup>. Both the patient and his/her surroundings lose out in terms of the quality of life. This is seen in the films addressed here, above all in *Iris*, where the husband is the only person responsible for looking after the patient.

Modification of the structure of household life is seen as from the start of the illness, above all in *Son of the Bride* and *Iris*. The patient, who in both films is a woman, is unable to continue running the house, working, or taking on the responsibility for daily household chores and hence little by little the family members take some tasks away from them, such as administering the household budget, cleaning... This is not always easy in the society in which we live, since in previous generations there was no balanced equality in the sharing of household chores, all being the responsibility of the woman. Thus, in John's case, when *Iris* becomes unable to go any further, he begins to break down and the house becomes ever more chaotic. In Mercero's film we do not get to see this aspect, perhaps because the character is a man and the family is middle-class and can afford home help.

In more recent generations, the problem is different, as we see in *Son of the Bride*, which shows a fairly typical family of our times, destroyed by a divorce, in which both man and woman work away from home, and where the children/adults/ elderly members have little time to spend together. Cases of actual abandonment have been reported for such patients.

Mercero goes beyond both these two films, since Ricardo seems to be integrated in a perfect family in which the hustle and bustle of daily life does not seem to be a major problem because there is always money. What is being posited by the director is the problem of a single aspect of that family life: the vaca-

tional period. For his own good, Ricardo's family decide to leave him in a luxury residence for the elderly, *it's not very nice going on holiday with Grandpa, although it would be better for him to see the beach*, as Ana thinks. Thus, the Basque director does not pose any family imbalance when the disease appears. If Ana decides to look after her grandfather and stop studying for her state exam it is not because of a lack of doctors but because of her love for him.

Ana's question -who is to look after the patient- always occurs in Alzheimer's disease and Ana knows this, although her attitude is somewhat utopian. Neither the economic situation of the family nor Ana's stance is very common.

In this sense, things are not always as portrayed in the film. In real life it is precisely during the first stage of the illness when the main carer appears. This person is of crucial importance for the patient, has a hugely complex task and will be subject to extreme physical and mental pressure, as the doctor explains to Ana. This person is often the spouse of the patient, as in the case of *Son of the Bride* and *Iris*, although it is probably better to seek help from external carers when the main role of principal carer cannot be fulfilled by the spouse (John or Nino).

*The outcome of Alzheimer's disease means that the main carer, the person most affected in the family, slowly begins to lose his or her independence and gradually "disappears from sight", dropping friends, hobbies, etc.*<sup>5</sup>. We see this in the character of John in *Iris*. *In sum, the carer eventually burns out, and his or her physical and mental health deteriorates, which in turn affects the patient and the other family members*<sup>5</sup>.

At that time, the need arises to take the elderly person to a day-care centre or a residence. From the beginning of the film, Norma is in one such residence. We are led to understand that she has been there after a decision was made by both her spouse and her son when they realised they were unable to care for her. In contrast, John does not send *Iris* into care until she has entered a very advanced stage of the illness, and then only following the suggestion of an outside supporter: the family doctor. We do not know what eventually happens to Ricardo, but we may assume that he will spend the rest of his days with his family.

*The social transcendence of Alzheimer's disease is clear in the many specific policies drawn up, medical specialisations aimed at its treatment, and the social debate it generates*<sup>5</sup>.

Regarding economic aspects, the costs associated with the disease are mainly indirect. Pharmacological treatments account for about 8% of the total costs, while care of the patient represents more than 77% of the total<sup>3</sup>. These indirect costs are mainly covered by the family. In all the cases analysed here, this does not seem to be a problem since the patients are from well-off backgrounds. However, this type of pathology may reduce a humble family's economy to ruins. The costs are also important for the state. *Currently, dementias are considered to be the most expensive illnesses after cardiovascular disease or cancer. Alzheimer's disease has particularly high costs, both direct and indirect, that affect not only the patient and his or her immediate surroundings but also society in general*<sup>5</sup>.

**Conclusions**

The gradual inversion of the population/age pyramid in rich countries has marked a change in medical practice and in the incidence and prevalence of pathologies related to ageing. Among other chronic illnesses related to this process are the senile dementias.

Regarding dementias, it is estimated that about 3,286,000 persons have some form of such pathologies in the European Union alone, and that 840,000 new cases appear each year<sup>15</sup>. Accordingly, at the present moment dementias can be understood to be the fourth cause of death in the elderly, although they could become the leading cause half-way through this century.

Despite these data and the social context in which such pathologies occur, however, the until now relative indifference of the cinema industry as regards films featuring elderly people with some kind of dementia, such as Alzheimer's disease, has been quite patent.

*¿Y tú quién eres?, Iris and Son of the Bride* are three valuable films for analysing Alzheimer's disease through the cinema. Through the big screen viewers seeing the illness are made to feel attuned to the situation; they are sensitised, although the door is left open for them to detect the illness in their own families or acquaintances. Mercero's film also hints at guidelines for patients and families as regards how to deal with the situation.

**Addendum**

The Canadian film *Away from her* (2006) by the young director Sarah Polley also addresses Alzheimer's

disease and has appeared in many film festivals. It is to be screened commercially in Spain on December 21 2007. Again, the central character is a woman: Fiona (Julie Christie) (Figure 14).

**References**

- 1.- Martínez Lage JM. Rudimentos sobre la enfermedad de Alzheimer. [monograph on the Internet]. Navarra: Universidad de Navarra; 2004 [cited 2007 Apr 13]. Available from: [http://www.medicinainformacion.com/rudimentos\\_indice.htm](http://www.medicinainformacion.com/rudimentos_indice.htm) 2004
- 2.- Peña-Casanova J, editor. Enfermedad de Alzheimer. Del diagnóstico a la terapia: conceptos y hechos. Barcelona: Fundación "La Caixa"; 1999.
- 3.-Dominguez Castro A, López Alemany, JM. La enfermedad de los costes indirectos Revista Española de Economía de la Salud. 2002; June:52-54.
- 4.- Guilló Martínez P. Comprender el Alzheimer. Profesionales. Valencia: Generalitat Valenciana, Conselleria de Sanitat; 2002.
- 5.- Grupo Grünenthal España [homepage on the Internet]. La enfermedad de Alzheimer Repercusión social (familia, coste económico)[cited 2007 Apr 13]. [about 1 p.]. Available from: [http://www.grunenthal.es/cw/es\\_ES/html/cw\\_es\\_es\\_patient.jhtml;jsessionid=4KD2KTFLTTMUFLAQP2BCFEQ?CatId=cw\\_es\\_es\\_patient\\_d\\_01e](http://www.grunenthal.es/cw/es_ES/html/cw_es_es_patient.jhtml;jsessionid=4KD2KTFLTTMUFLAQP2BCFEQ?CatId=cw_es_es_patient_d_01e)
- 6.- Alberca Serrano R, López-Pousa S, editors. Enfermedad de Alzheimer y otras demencias. 3th ed. Madrid: Editorial Médica Panamericana; 2006.
- 7.- Barquero MS, Payno MA. Demencias: concepto y clasificación. In: Martínez Lage JM, Robles Bayon A, editors. Alzheimer 2001: teoría y práctica. Madrid: Aula Médica Ediciones; 2001. p. 1-15.
- 8.- Gil Gregorio P, Martín Sánchez J. Demencia 173-188. In: Sociedad Española de Geriátría y Gerontología, editor. Tratado de Geriátría para residentes;



Figure 14: American poster with Fiona and her husband



Madrid: Sociedad Española de Geriátría y Gerontología; 2006. p. 173-188.

9.- Gao S, Hendrie HC, Hall KS, Hui S. The relationship between age, sex, and the incidence of dementia and Alzheimer disease: a meta-analysis. *Arch Gen Psychiatry* 1998; 55(9): 809-815.

10.- [hipocampo.org](http://www.hipocampo.org) [homepage on the Internet]. Circunvalación del hipocampo. Diagnóstico de las demencias [updated 2007 Sep; cited 2007 Sep 20]. [about 3 p.]. Available from: <http://www.hipocampo.org/diagnostico.asp>

11.- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4ª edición. Washington: American Psychiatric Association; 1994.

12.- McKhann G, Drachman D, Folstein M, Katzman R, Price D, Stadlan EM. Clinical diagnosis of Alzheimer's disease: Report of the NINCDS-ADRDA Work Group under the auspices of Department of Health and Human Services Task Force on Alzheimer's Disease. *Neurology* 1984;

34(7):939-944.

13.- Peña-Casanova J, Gramunt Fombuena N, Gich Fullà J. Test Neuropsicológicos. Fundamentos para una neuropsicología clínica basada en evidencias. Barcelona: Masson; 2004.

14.- [mifarmacia.es](http://www.mifarmacia.es) [homepage on the Internet]. Mifarmacia. Lorenzo Yago MD. La enfermedad de Alzheimer (I) demencias [updated 2007 Mar 24; cited 2007 Apr 13]. [about 2 p.]. Available from: [http://www.mifarmacia.es/producto.asp?Producto=../contenido/articulos/articulos\\_enfermedad\\_alzheimer\\_I](http://www.mifarmacia.es/producto.asp?Producto=../contenido/articulos/articulos_enfermedad_alzheimer_I)

15.- Junta de Castilla y León. Plan de Atención Sanitaria Geriátrica en Castilla y León 2005-2007. [monograph on the Internet]. Valladolid: Junta de Castilla y León. Consejería de Sanidad. Dirección General de Planificación y Ordenación; 2005. [cited 2007 Apr 13]. Available from: [http://www.sanidad.jcyl.es/sanidad/cm/institucion/tkContent?pgseed=1181808719427&cidContent=32495&locale=es\\_ES&textOnly=false](http://www.sanidad.jcyl.es/sanidad/cm/institucion/tkContent?pgseed=1181808719427&cidContent=32495&locale=es_ES&textOnly=false)