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Pharma AD-ventures: A feminist analysis of the pharmacological imaginary of Alzheimer's disease

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Abstract:

Alzheimer's disease (AD) may be situated within a cultural landscape produced, in part, by demographics and the marketing strategies of an aggressive biopharmaceutical industry. The simultaneously corporeal and visual domain of advertisements for anti-AD drugs generates dynamic images of gender and embodiment, and it also lends itself to feminist interventions engaging with the images and ideas circulating around aging, medicine, and the body. In this article, we investigate advertisements targeting medical practitioners treating patients with AD. Working within a methodological framework we identify as 'feminist visual studies of technoscience', we want to propel the discussion in the direction of a broader corpus of medical media. Through this limited exercise, we hope to make a scholarly contribution to the feminist community by critiquing some of the images emerging within popular/scientific media with regard to Alzheimer's, a disease collectively imagined within an aging Western population.

## PharmAD-ventures: A feminist analysis of the pharmacological imaginary of Alzheimer's disease

In this article, we will investigate the visual dimensions of the commercial biomedical culture of Alzheimer's disease (AD).<sup>1</sup> The latter is a fatal and incurable disease, and it is diagnosed in more women than men. It has also become an urgent pharmacological concern amidst a Western population contoured by an aging baby-boomer generation (Field and Brackin, 2002). We have gathered our objects of study, a series of advertisements for anti-AD pharmaceutical products, from within various mainstream medical journals spanning the years 1998-2004, including *Neurology*, *The Journal of the American Geriatrics Society*, and *The Journal of Neurology, Neurosurgery, and Psychiatry*. The aforementioned are peer-reviewed and highly influential medical research journals that disseminate cutting-edge research to a world-wide community of clinical practitioners caring for older adults, or working within the wider field of

neurological medicine. All three journals, which were accessed in a library in a county hospital in the San Francisco Bay Area, as well as within two European university hospital libraries, one in the Netherlands and one in Sweden, aim to positively reinforce the standards by which neurological medicine is practiced.

The widespread visibility of both age-related dementia, and the promise of the ‘miracle’ cure for such among networks of scientists and medical practitioners alike interfacing with Alzheimer’s, is evident in the reappearance of the advertisements within multiple issues of the above journals. The global reach of such AD-discourse is unmistakable, as is its recent cultural urgency. Paralleling an increase in the diagnosis of AD over the last decade, as well as a rising prescription rate for anti-AD drugs, fascination surrounding the disease has also been translated into the wider layers of popular culture in the form of dozens of internationally acclaimed movies.<sup>2</sup> Further, AD-discourse clearly intersects with other medical discourses on aging women’s bodies, such as the ongoing clinical research with estrogen replacement therapy as a means of alleviating the symptoms of aging and dementia in women (Henderson, 1997; Callaf i Alsina, 1997). Various feminist scholars have critiqued how such medical initiatives continue a Western tradition of conceiving aging women as being especially vulnerable to depression, irritability, and general mental and physical decay, as well as to an age-related trajectory of “defeminization” that implicitly should be managed, if not prevented, by the powers of contemporary science (Leysen, 1996; Klinge, 1997). As is suggested in our subject material, Alzheimer’s disease also has unique purchase within both medical and popular culture as an illness that profoundly impacts the sufferer’s personal relationships, including those involving care-takers, friends and family. In light of the issues above, and provided the higher diagnosis rate of the disease in elderly women than men, the feminized statistics of unpaid caregiving (Armstrong & Armstrong, 2004), and qualitative health care studies of expectations experienced by women (as daughters or wives) to assume the role of primary caregivers of the elderly (Ward-Griffin et al., 2007), we assert: Alzheimer’s disease is a feminist issue.

To begin with, we will explore the discursive intersections between AD, biomedical science, and aging women’s bodies within what masculinity theorist Graham Dawson describes as the ‘cultural imaginary’. In explaining the term, Dawson uses the concept of the ‘imaginary’ to designate ‘those vast networks of interlinking discursive themes, images, motifs, and narrative forms that are publicly available within a culture at any one time, and articulate its psychic and social dimensions’ (Dawson, 1994: 48). Furthermore, it refers to the points of exchange between fantasy imagery and discursive bodies in which cultural communities not only mirror but continually reinvent themselves, and which inflect identity formation (cf. Lykke 2002: 141, n. 3; Åsberg & Johnson, 2009). Accordingly, we will attempt a partial mapping of the co-constructive relations between age-related disease, medicine, and women’s health within a particular body of

‘discursive forms’ and ‘fantasy images’ circulating within commercial biomedical culture. Our critique is aimed at some of the technoscientific images appearing within medical journals, within which scientific communication, pharmaceutical commerce, and visual culture overlap, and also intermingle with cultural and economic flows on a global scale.

### **Mapping the Cultural Imaginary of Alzheimer’s Disease**

More precisely, our arguments fall under the analytical domains of feminist studies, visual studies, and science and technology studies as cultural studies (Haraway, 1992: 296). Especially useful to us are methods of feminist engagement with ‘figurations’ (Braidotti, 1994; Bryld & Lykke, 2000) and global icons (Franklin, Lury & Stacey, 2000), which have been critically theorized as assemblages of condensed enactments, entities, effects and embodiments. We view Alzheimer’s as such an ‘imploded knot’ of material-semiotics (Haraway, 1997) recognizable across heterogeneous sites of knowledge production within the areas of pharmaceuticals, clinical practice and the ‘broader public’. In this paper, we limit our analysis to the visual appeal and subject positioning capacities of AD as it appears in commercial documents (Åsberg, 2005). In addition, as a critique of social and political mechanisms of difference and exclusion operating within everyday life, our argument aims to re-evaluate the cultural positions of those to whom Trinh, T. Minh-ha refers as ‘In/appropriated Others’ within AD-discourse, including those differentiated by markers of sex, age, and ethnicity (cf. Trinh, 1986-87 in Haraway, 1991: 2-3).

Within the framework of what we call ‘feminist visual studies of technoscience’ - understood as a hermeneutical tradition that traces the multisemiotic approaches of cultural and visual studies, feminist theory and science and technology studies- we propel the discussion into the domain of medical media cultures (Åsberg, 2005). We view the latter as contested space in which the visual languages of popular culture and biomedicine coalesce with one another. From our perspective, such a realm is an appropriate site for critical intervention into some of the images, ideas and stories circulating around Alzheimer's disease, aging, medicine, and embodied subjectivity. By investigating the selected advertisements from the medical journals, we hope to contribute a critique of some of the cultural phenomena that have risen, in present-day society, both around technoscientific practices as they are played out in the interstices of popular and scientific media, and more pointedly around AD as a disease articulated within the collective imaginaries of an aging Western population. The cultural imaginary of Alzheimer’s disease, we argue, does not merely shape popular conceptions, but enables scientific knowledge claims to be made and seriously received.

Our argument consists of critical readings of the images and textual composition of the documents, which we selected on the basis of their engagement with Alzheimer’s disease on a visual register into which the

sign systems of medical research, clinical practice, and pharmaceutical commerce are folded. Initially, we have focused on the commercial contents of the journals because in our view, medical literature, in conjunction with the pharmaceutical industry, actively defines and heightens the profile some of today's most pressing biomedical issues. The images are also intriguing because they are located at the intersections of academic research, medical practice and popular culture. This we mean both in the abstract sense and quite literally, as we have encountered them in hospital and university libraries accessible to academics, clinicians, medical student interns, and members of the 'broader public'-like us. More specifically, we will discuss how the brain, which is imagined in the ads, becomes a locus for fantasies within collective consciousness in regard to categories of people marked by, for example, age, gender, race and sexuality. Our approach, which attends to the signifying differences of social power relations, is radically distinct from mainstream medical discourses, the latter of which tend to configure Alzheimer's as a democratic affliction, a disease that affects all men and women equally. These kinds of appeals to the 'neutrality' of scientific and medical discourse have attracted much feminist criticism undergirded by the contention that power-saturated understandings of gender and other intersecting social categories are inextricable from scientific language; arguably, they also play out in the results of clinical practice (Bleier, 1984; Jordanova, 1989; Haraway, 1991; Keller, 1992; Oudshoorn, 1994; Klinge, 1997; Meinert, 2001; Smelik & Lykke, 2008).

Feminists have, for almost four decennia, critiqued the complicity of scientific and rationalist discourse in the production and reiteration of 'the body' as the effeminate half of different permutations of mind/body dualism. Moreover, they have called critical attention to the inscription of the female body as a wild, undisciplined avatar of 'nature', an icon of irrationality and exotic sensuality (Davis 1997). In short, feminist concerns have ranged from critiquing biological determinism, which is encapsulated within the notion that 'anatomy is destiny', as Freud famously claimed with regard to the female psyche, to problematizing scientism as the authority of science in society and the gendering of expertise. Furthermore, feminist scholars have interrogated the dynamics of disembodiment, as well as the objectification of bodies, which are at play in the conceptualization of bodies as solid, inert entities, disassociated from the free-floating scientific mind (Åsberg, 2008). Lately, feminist material-semiotic approaches to the body and globalized technoscience have redirected earlier criticisms of 'biological determinism' into readings of 'fetishism' (Haraway, 1997; Franklin, Lury & Stacey, 2000; Barad, 2003). As a term, fetishism describes the attribution of excessive value to a singular, naturalized entity, such as the gene, the uterus, the brain, or the neuron. The entity is consequently celebrated as a disembodied and self-referential thing-in-itself (cf. Haraway 1997: 134, 142). Here, we will provide an example of the compartmentalizing effects of biological fetishism, and at the same time a limited, lay introduction to the biochemistry behind the pharmaceutical products advertised. Neurotransmitters within the brain play a central role in Alzheimer's research, and in medical

taxonomy, every neurotransmitter is linked to a specific faculty. ‘Serotonin’, for instance, is associated with mood, ‘dopamine’ with movement, and ‘acetylcholine’ with learning, intelligence and general cognition. Accordingly, the drugs available for mild to moderate AD aim to mitigate deficiency in acetylcholine levels. Such pharmaceutical products are called ‘cholinesterase inhibitors’, and they are marketed by multinational pharmaceutical companies under brand names such as Aricept™, Exelon™ and Reminyl™. Even so, rigidly conceived correspondences between acetylcholine and ‘cognition’, serotonin and ‘emotion’ and dopamine and ‘movement’ break down in lived reality; moreover, a patient with AD can be depressed, depressed people can have trouble thinking and remembering, and schizophrenic patients may have trouble moving, to the point of becoming catatonic (as neurologist Henry Wagner points out in an interview with Joseph Dumit, 2004: 181). Thusly, a reductive understanding of the capacities of neurotransmitters appears too simplistic to account for the complexity of the embodied brain in lived, social and historical context. Biological fetishism, expressed through ‘acetylcholine-fetishism’ within pharmacological discourse, conveys thus an investment in such a singularized substance, and it also sustains a denial of the physiological complexity and (inter)personal activities that converge with public discourse, we would argue, to constitute ‘Alzheimer’s disease’. The problem with biological fetishism is therefore its obfuscation of so much of the ongoing human and non-human action that it takes to sustain the material-semiotics of technoscience (Haraway, 1997). Moreover, biomedical fetishism works to define bodily markers such as ‘sex’, ‘reproductive capacities’, and the ‘bodily phases of aging’ as ‘natural referents for the formation of identities, subjectivities, and desires’ (Lykke, 2002: 138). Such a mechanism also naturalizes and legitimizes psychic and social inequalities among different categories of people.

This paper works both critically to throw such power differentials into sharp relief, and creatively to highlight the subject positions produced in our material at this particular domain of medical imagination. More narrowly, the following questions guide our analysis: First, how, through textual and visual mechanisms, and fantasy images, is the brain gendered and demarcated as an organic site of pathology within Alzheimer’s disease discourse? Next, how do such signifying devices operate together to construct biomedical science as a monolithic agent in the understanding, prevention, and cure of AD, particularly in women? Still further, how do such narratives conversely articulate underlying currents of unease and uncertainty with regard to the place of biomedicine within ‘the psychic and social dimensions’ of contemporary culture? Finally, how, within the ads, are notions of normalcy and ‘humanity’ produced in relation to biotechnology, as well as to gendered, ethnic, sexual, and class-identified subjectivities? By addressing such questions in our analysis, we aim to convey a partial description of the locations and significance of AD within the cultural imaginary.

### Configuring Alzheimer's Disease

To begin with, we want to examine the visual and textual construction of psychopharmacology and female brain-imagery within a 2001 advertisement for Reminyl (Figure 1). Marketed for the treatment of mild to moderate dementia of the Alzheimers type, Reminyl (a.k.a. 'galantamine hydrobromide') is a drug that has produced mixed results in clinical trials in both Europe and the US.<sup>3</sup> The image consists of a side profile of an elegant looking, aging Caucasian woman with greying hair (see below). She appears to be thoughtfully gazing off into the distance, with the hint of a smile on her face. The top half of her head is covered by a broad, landscape-style shot photograph of a heterosexual couple gazing out over the ocean at sunset, and the ad promises '[a]ll around success with new Reminyl'. Her cranium is also outlined by a line of clinical -sounding terminology associated with AD, including the words 'general function', 'cognition', 'ADL's' (Activities of Daily Living), and 'behavior'. Consequently, although it is visually absent, her brain becomes a site of intense interest. Arguably, the advertisement's demarcation of the top half of the woman's head with the above described terminology in a sense fetishizes the woman's brain as an autonomous origin of disease. While medical literature on Alzheimer's acknowledges the multi-factorial etiology of the disease involving, for example, genes, head trauma, and environmental exposures to heavy metals, the brain as a neurological site remains its epicenter within the image. As a biological fetish, the aging female brain is rendered iconic and self-referential as the apparent source of AD-related pathology. On the one hand, the brain is simultaneously framed as the autonomous origin of the pathologies of old age, and assigned the powers to generate its own semiotic system, which supposedly corresponds one-to-one with the 'behavior, cognition, ADL and general function' of a person. A self-contained organ, its apparent qualities are translated into a seemingly transparent 'map' of its functions, organized by 'metaphors of communications and integrated systems which collapse the images of the brain as a territory, and the brain as a machine' (cf. Beaulieu, 2000: 41). The drug, on the other hand, is made into the generator of "successful aging", a politico-cultural ideal held in high regard today, and the motor of beneficial enhancement of the afflicted brain.

GENERAL FUNCTION, COGNITION, ADLS, BEHAVIOR

# ALL AROUND SUCCESS

Now all the benefits of REMINYL can help patients with mild to moderate **Alzheimer's disease (AD)**.<sup>1,4</sup>

The most frequent adverse events that occurred with REMINYL were nausea, vomiting, diarrhea, anorexia, and weight loss.

Available in 4-mg, 8-mg, and 12-mg tablets.

[www.reminyl.com](http://www.reminyl.com)

Please see brief summary of prescribing information on adjacent page.

References: 1. Tariot PN et al. *Neurology*. 2000;54:2269-2276. 2. Raskind MA et al. *Neurology*. 2000;54:2261-2268. 3. Wilcock GK et al. *BMJ*. 2000;321:1-7. 4. Data on file, Janssen.

**NEW** ALL AROUND BENEFITS IN AD  
**Reminyl**<sup>®</sup>  
 galantamine HBr Tablets

JANSSEN  PHARMACEUTICALS, L.P. ORTHOMcNEIL

© Janssen 2001 Printed in U.S.A. 01-RM-039-2 April, 2001

Figure 1. All around success with new Reminyl.

The metaphorization of the brain as a ‘machine’ seems particularly relevant in an advertisement for medication marketed to ease the effects of Alzheimer’s disease, as the affliction is understood to be caused by the accumulation of senile plaques and neurofibrillary tangles within the cerebral cortex. Plaques, which are composed of protein aggregations and floating cellular material surrounding neurons, as well as tangles, which are twisted fibers that become clustered within the striation of nerve cells, are believed to be related to the degeneration and death of neurons within the brain (cf. Burns & Levy, 1992). The consequences of such include the erosion of a subject’s memory and language skills, as well as attention span and capacity for abstract thought, spatial organization and planning. Within the ad however, the imagined neuronal networks, synapses, and figurative ‘pathways’ of the brain have been cleared of such harmful substances. The internal wiring of the ‘machinic’ brain has been restored to health and efficiency, order and normalcy, which becomes visible in the couple’s outward heterosexual stability and contentment. In other words, the rejuvenated and purified brain of the AD-affected subject on Reminyl not only functions like clockwork, but its interior ‘mechanics’ become legible as well, as they are translated into the clinical language of ‘general function’, ‘cognition’, ‘ADL’s’, and ‘behavior’. In effect, the image elides the complex and contingent physiological processes of cellular degeneration and protein aggregation characteristic of clinical descriptions of Alzheimer’s disease; the diseased brain has here been obscured. In its place we find a panoramic, happy memory of a life of middle class, heterosexual stability, and what is virtually heroicized amidst the dreamy scenery is the drug itself, as the agent that recuperates the woman’s clear-mindedness. Along another vein, the superimposition of the image of the beach, ocean, and sunset over the top half of the woman’s head arguably produces what Kim Sawchuk describes as a ‘biotouristic’ fantasy, which casts the female brain as a natural, geographical terrain that can be visually explored, as well as domesticated by the powers of pharmacology. According to Sawchuk, such a reverie renders ‘the interior of the body as a space for travel’, and is ‘contingent upon the representation of the body as a frontier with glorious vistas that can be visited – perhaps not by a real body, but at least by the human eye’ (Sawchuk, 2000: 10). The biotouristic spectator, as she implies, is liberated to roam indefinitely, enjoying the ‘wonders’ of the female brain without getting close enough to feel threatened by any unpleasantries and dangers perhaps lurking within the landscape. For instance, it is possible to view and interpret the beachfront as a border zone in which the ocean, as a metaphor for the engulfing symptoms of Alzheimer’s disease, is associated with qualities of absent-mindedness or confusion; such a reading would draw upon popular likenings of mental disorientation to ‘being adrift’ or ‘being at sea’.<sup>4</sup> Even so, the tranquil overtones of the advertisement suggest that there is nothing to fear, as the ocean is kept calm and serene. In Sawchuk’s critical terms then, the ad invites the spectator’s eye to effortlessly travel through dense bodily matter, witnessing the imagined workings of the drug in producing a radiant, peaceful ‘brainscape’. Such a late modern cultural fantasy, enriched by

developments in medical imaging technologies, makes a cultural Ur-text out of the science fiction film *Fantastic Voyage* (Fleisher, 1966). In the film, a team of researchers literally shrinks, enabling them to travel and explore the interior of a human body, even battling a disease from within. In our case, the female brain is put on display as a landscape to be reclaimed, a frontier to be as much ‘restored’ as explored. The Reminyl ad thus opens a phantasmagoric window onto the female brain, converting mind into anatomy and anatomy into landscape.

More broadly, popular imagination is alive with the advancement and spread of medical imaging technologies that interpellate us as biotourists. Some examples of the heightened profile of such technologies include the online Visible Human Project, Günther van Hagen’s exhibitions of plastinated corpses touring European museums, and the realistic-looking, digitalized shots of internal corporeal damage on popular television shows such as ‘Crime Scene Investigation’ (CSI). Most directly pertinent to our study is the Alzheimer’s Association’s official website, which aims to provide practical, accessible information to the ‘lay public’ about the disorder. The site even invites its visitors to take an interactive tour called “Inside the brain”, in which parts of the brain are isolated and described in pedagogical fashion.<sup>5</sup> Here, one may visit, among other pages, “the neuron forest” and learn about how Alzheimer’s negatively impacts the neuronal substance of the brain. Within the site then, the brain arguably becomes a bodyscape- or in our terms, a brainscape- which is ‘spatialized’ and given definable geographic contours. Taking Sawchuk’s implicit criticism of colonial practices of looking- which she reads as being transferred to other exoticized domains- a step further, it appears that what operates in the image is not so much a project of aggressive exploration, but rather one of habitat preservation. The image of the AD-affected brain seems to be marked by a certain conservationist ecology, characterized by an investment in notions of balance, harmony, temperance and self-discipline. After all, it is implied that the drug itself is instrumental in producing such qualities, which are vital to a healthy mental life in old age. The desired effects of the drug are rendered visible through the Mona Lisa smile of the woman and the depicted couple’s apparent tranquility; in other words, any and all disease-related pathologies and perhaps tempestuous behavioral, cognitive, bodily, or sexual abnormalities have ostensibly been quelled by the calming powers of anti-dementia medicine.

The theme of faith in the capacity of contemporary biomedicine to endow its subjects with agelessness, preserving their bodies and minds against the encroaching effects of Alzheimer’s, appears within an advertisement for Reminyl as well (Figure 2). The advertisement frames a smiling, heterosexual, Caucasian couple within a poster that resembles an advertisement for a feature film, which bears the title, ‘Dignity’. As such, the film promises to be a documentary-style narrative of ‘an everyday Alzheimer’s sufferer and their carer’. Furthermore, according to the advertisement, the film will be making an ‘extended run’ past its previously established closing date. The viewer’s initial reaction to the image, we argue, would likely be

one of puzzlement over the ambiguity of the relationship between ‘the carer’ and the ‘cared-for’, as it is difficult to discern who the ‘demented’ party is between the man and the woman, and conversely, who the ‘rational minded’, supervisorial party is. After all, both appear to be elderly and potentially confused, and the supplemental text vaguely indicates that the film is about ‘an Alzheimer’s sufferer and their carer.’ Such ambiguity is central to the advertisement’s narrative, underscoring the success of the drug in virtually eliminating any conspicuous differences between the ‘normal’, ‘rational’ aging subject and the ‘deviant’, ‘demented’ one. Importantly enough, there is also a theme of gender neutrality in the image that elides sexual difference as a social and discursive apparatus that organizes individual subjects’ experiences of AD. The image obscures, for example, the overwhelming ratio of women to men caring for elderly loved ones suffering from dementia and other age-related health conditions. However, the indeterminacy of the care relationship suggests that, at the very least, both parties are aging subjects whose physical and mental health are deeply fragile. Also, it leaves open the possibility that they are in fact suffering together from symptoms of age-related dementia, and that they are caring for each other with the assistance of the anti-AD medication being marketed in the advertisement. Following such (slightly unrealistic) logic, a person can be at once ‘Alzheimer’s sufferer’ as well as a ‘carer’, which also implies that one who suffers from Alzheimer’s is also at least partially capable of caring for herself independently. The fantasy coalescing within the image of the active, (at least semi-)independent AD sufferer also resonates with the neoliberal values associated with Western conceptions of individuality.

Shire and Janssen-Cilag present

# Dignity

An everyday story of an Alzheimer's sufferer and their carer

Saturday 24th  
Friday

**EXTENDED RUN**  
DUAL ACTION  
**Reminyl**  
Galantamine Hydrobromide

Sponsored by

Slows decline in cognitive function for up to 4 years!

Theatre Box Office  
Open 10am - 8pm daily

**Reminyl** 4mg, 8mg and 12mg Tablets and 4mg/ml Oral Solution Prescribing Information (Please refer to full Summary of Product Characteristics before prescribing)

**Presentations:** Tablets containing 4mg, 8mg and 12mg galantamine (as hydrobromide). Oral solution containing 4mg/ml galantamine (as hydrobromide). **Uses:** Symptomatic treatment of mild to moderately severe Alzheimer's Dementia. **Dosage and administration:** Oral. Adults/Elderly. Ensure adequate fluid intake during treatment. Starting dose: 8mg/day (4mg bid) for 4 weeks. Initial maintenance dose: 16 mg/day (8mg bid) for at least 4 weeks. Maintenance dose: 24 mg/day (12mg bid). Evaluate patients regularly. Consider reducing dose to 16mg/day if patient cannot tolerate higher dose or no increased benefit shown. Moderate hepatic impairment: reduce doses - see SPC. Children not recommended. **Contra-indications:** Hypersensitivity, severe hepatic/severe renal impairment, patients with both significant renal and hepatic dysfunction. **Special Warnings and Precautions:** Cardiovascular conditions, pre-disposition or history of gastrointestinal ulcers, gastro-intestinal obstruction/surgery, convulsions, severe asthma or obstructive pulmonary disease, urinary obstruction, bladder surgery, allergy to E110, galactose intolerance. Oral Solution contains methyl and propyl parahydroxybenzoate which may cause allergic reactions (possibly delayed). **Interactions:** Other cholinergics, beta-blockers and dipron, anaesthetics, CYP2D6 or CYP3A4 inhibitors.

**Pregnancy and Lactation:** Not recommended. **Undesirable Effects:** Very rare (>1/100): Nausea, vomiting. Common (<1/100, <1/10): diarrhoea, abdominal dyspepsia, anorexia, fatigue, headache, dizziness and somnolence or insomnia (oral), weight decrease, confusion, fall, injury, insomnia, pruritus, urinary tract infection. Rare (<1/10,000, <1/1,000): hypotension, hallucinations, agitation, syncope, convulsions, severe bradycardia, rash. Very rare (<1/10,000): tremor of Parkinsonism, hypotension, air block, gastrointestinal bleeding, dysphagia, sweating, dehydration. **Overdose:** General supportive measures. Atropine 1mg/5ml. **Basic NHS price:** 4mg tablet x 56: £54.60; 8mg tablet x 56: £68.32; 12mg tablet x 56: £82.04; 4mg/ml oral solution x 100ml: £120.00. **Legal category:** POM. **Product numbers:** Tablets: 4mg: PL 08357/0030, 8mg: PL 08357/0041; 12mg: PL 08357/0042. Oral solution: 4mg/ml: PL 08357/0042. **Product Licence holder:** Shire Pharmaceuticals Limited, Hampshire International Business Park, Christchurch, Basingstoke, Hampshire, RG24 8SP, UK. **Date of preparation:** July 2005. ©Shire Pharmaceuticals Limited 2004. **Reference:** 1. Truyen L, Lisenfeld S & Kerschaw P. Poster presented at Annual Conference of Alzheimer's Disease International, Barcelona, Spain, 2004.

Shire JANSSEN-CILAG

(032)001

Figure 2. Dignity. Extended Run. Dual Action Reminyl.

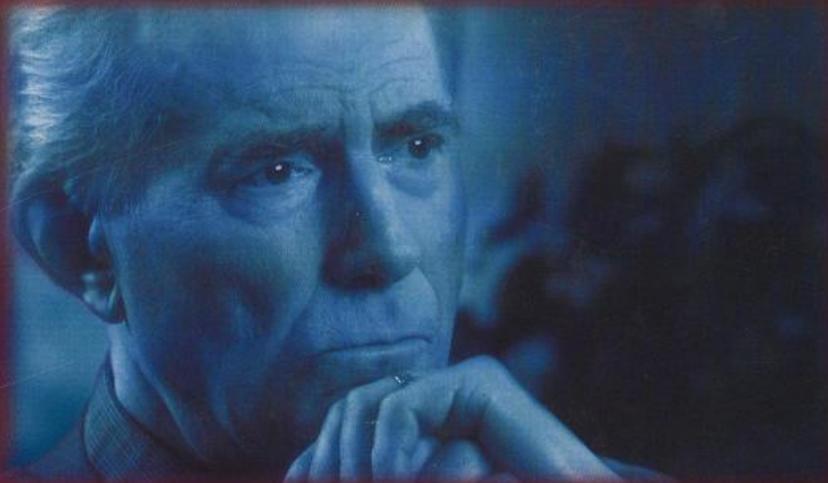
Translated into biomedical discourse, the experience of subjectivity here can be described with what Nikolas Rose and Carlos Novas term 'biological citizenship', a mode of being, relating, identifying, and acting undergirded by the ideal of the self-caring subject (Rose and Novas, 2005). Moreover, such a subject enthusiastically educates herself with regard to her health and general wellbeing; in other words, she is invested in achieving scientific and medical literacy in health-related matters that might affect her, in the interests of pursuing a high-quality, self-sufficient, and personally and socially 'responsible' lifestyle. Within this specific advertisement, the self-caring subjects are individuated as sites of agency and responsibility in relation to Alzheimer's disease; in other words, the image suggests that 'responsible' aging

subjects will take the steps necessary to ensure a transition into old age that is both dignified and not burdensome to those around them, who would be forced to care for them should their symptoms of AD worsen. In this regard, the advertisement also seems to direct the moralizing undertones, part of the discourse on “successful aging”, at those readers who are not yet elderly, urging them into action to keep themselves ‘healthy’ and ‘independent’ as they mature. By taking Reminyl, the advertisement hints, aging subjects help to ease, and even prevent, the ‘burden to the broader community’ projected to worsen as the elderly population grows. According to Ann Robertson, the ‘prevailing belief is that an increasing aging population means increasing demands’, in the face of competing interests, on health care and other finite and diminishing resources of society. This ‘bankruptcy hypothesis of aging’, in which the aging population is blamed for consuming national health care budgets, constitutes what Robertson calls ‘apocalyptic demography’ (Robertson, 1991: 429). The inscription of the ‘individual’ as the critical site of ‘responsibility’ or ‘pathology’, and following Robertson, as the origin of a looming societal crisis, effectively obscures the diffuse networks of actors- including scientific researchers, medical clinicians, pharmaceutical company executives, legislators, paid caregivers, and immediate family members- whose situated investments continually remake collective understandings of Alzheimer’s disease.

In addition, the advertisement is similar to the first one we have discussed in its romanticization of the powers of biomedicine to restore AD patients to middle class, heterosexual normalcy. The image at hand, however, is uniquely striking in its reference to the concept of the ‘extended run’, which appears to play off of several visual media such as cinema, video/DVD or television, and their perceived capacities to freeze, restart, replay, and loop time into infinite extensions; the concept of looping temporality neatly coalesces in the advertisement with the power of biotechnology to suspend and otherwise manipulate bodily time (cf. Cartwright and Sturken, 2001: 288). Moreover, the ad attributes to anti-AD medicine the power to hold, for ‘extended’ time, the decay of the body associated with the disease in abeyance.

Furthermore, the ad’s invocation of a certain realism ascribed to the documentary film genre reproduces and legitimizes the ‘objectivity’ of observational science in the image. After all, the ‘film’ in the advertisement purportedly consists of personal testimonies from AD-diagnosed subjects who have successfully used the product, Reminyl, and whose ‘everyday’ lives and drug-induced wellness promise to be on unfiltered display. The theme of the ‘testimony’ also resonates with online commentaries on movie dramas about Alzheimer’s disease, in which realistic depictions of the onset and progress of the disease, including the profound effect it has ‘not only on the sufferer, but on their loved ones’, garner heartfelt responses.<sup>6</sup> Through its references to popular imagery, various media forms, and everyday techniques of seeing and knowing, the advertisement produces a fantasy of biomedicine as an humanitarian agent in the restoration ‘dignity’ - in other words, rationality and normalcy- within AD patients.

More physicians are diagnosing Alzheimer's disease.....



That's why they're prescribing  
**ARICEPT®** (donepezil HCl)

CLINICALLY PROVEN TO ENHANCE COGNITIVE FUNCTION

With over 500,000 patient starts, ARICEPT® is the world's most-prescribed therapy for the treatment of mild to moderate Alzheimer's disease. Remember ARICEPT® for these important benefits:

- Once-daily dosing
- No titration required
- Excellent safety profile
- Well-tolerated therapy\*

ONCE-A-DAY  
**ARICEPT®**  
(donepezil HCl)  
5-MG AND 10-MG TABLETS

Therapy to Remember™

*Please see brief summary of prescribing information on previous page.*

\*The most common adverse events leading to discontinuation in clinical trials with ARICEPT® (donepezil HCl) were nausea, diarrhea, and vomiting. Clinical studies of ARICEPT® have shown no increase, relative to placebo, in the incidence of either peptic ulcer disease or gastrointestinal bleeding. Nevertheless, cholinesterase inhibitors may be expected to increase gastric acid secretion. Therefore, patients (especially those at increased risk for developing ulcers—eg, history of ulcer disease, receiving concurrent nonsteroidal anti-inflammatory drugs) should be monitored closely for gastrointestinal bleeding. In clinical trials, syncopal episodes have been reported in association with the use of ARICEPT® (2% vs 1% for placebo).



Figure 3. More physicians are diagnosing Alzheimer's disease.

The reproduction of Alzheimer's disease, as an embodied phenomenon and an object of biomedical expertise may be traced throughout other advertisements as well. Aricept, a pharmaceutical blockbuster brand sold and promoted by Eisai/Pfizer in more than seventy countries, is assumed to mitigate the loss of cholinergic neurons associated with mild to moderate dementia of Alzheimer's type.

A 1998 advertisement for Aricept begins with the assertion that, more physicians are diagnosing Alzheimer's Disease... (Figure 3) Directly beneath the statement is an image of an elderly man's face and head, and his expression wavers between thoughtful reflection, quizzicality, and confusion. Below the image, the statement completes itself- '...That's why they're prescribing Aricept.' In light of the themes we have examined in the first two advertisements, it is remarkable that the naturalized romantic icon of the white, heterosexual, aging couple again reappears here. Interestingly enough, however, it is placed at the bottom corner of the page, and as such, it seems to serve as a wistful counterpoint to the crisis of rationality that is no longer hidden, but that has boldly emerged, front and center. After all, the biggest question here seems to be whether *the man* is the medical expert or the patient in need of the drug. Moreover, the indeterminacy of the expression on the man's face renders his status doubtful, as he could be identified as either a clear-minded and reflective physician or a patient suffering from symptoms of disorientation commonly ascribed to AD. In fact, the figure's vacillation between the two identities, between the poles of reason and unreason, and furthermore, between technoscientific certainty and uncertainty, effectively destabilizes the presumed rationality of both the masculine subject and the contemporary biomedical enterprise within which he is situated. The instability of psychopharmacological progress resonates with Scott Bukatman's commentary on the ambiguous implications of popular cultural representations of science within the cultural imaginary (Bukatman, 1995). Paradoxically, such fantasy images articulate anxiety over a 'perceived loss of cognitive power experienced by the subject in an increasingly technologized world', as well as a (re)affirmative 'sense of cognitive mastery' (Bukatman, 1995: 255). Bearing in mind Bukatman's point, the advertisement raises the unsettling possibility that the symptoms of disorientation and confusion commonly associated with Alzheimer's diagnosed, aging brains/bodies have begun to emerge among even the most 'rational', masculine subjects within a postmodern culture of intense biotechnological control, development, and 'progress' (cf. Fee, 2000, and Gottschalk, 2000).

Along a related vein, as the male subject oscillates between the identities of patient and doctor, he may be interpreted as a metaphor for the destabilization of the medical gaze as an abstract, masculine entity. The advertisement then also enables an understanding of the 'medical gaze' as contingent and impersonal, and also as a phenomenon that cannot be attributed to or 'owned by' individual men of medicine. Furthermore, the advertisement hints that men, and even the 'experts' who participate within and constitute the so-called 'medical institution', could potentially be subjects of institutionalized anti -AD intervention themselves. By extension, as the ad casts into question the related fantasies of masculine self-possession and disembodied cognition, 'gender' emerges as an 'effect' within a contested network of people, objects, medical

technologies, and institutions of scientific knowledge production and medical practice, rather than as a pre-existing structure.

Finally, the intimacy of pharmacological science not only within the hospital ward and doctor's office, but within the imagined, 'private' space of the family appears in a 2002 advertisement for Aricept, which consists of a photographic shot of an elderly Caucasian woman, presumably a grandmother, reading a book of fairy tales to a young, curly-haired blond girl (Figure 4). The accompanying text first reads, 'In mild to moderate Alzheimer's disease'. It then transitions into a larger font, affirming that, 'You see it as maintaining cognitive function.' Complementing the text on the opposite right side, above a list of the beneficial effects of Aricept, is the apparent follow-up message, 'She sees it as a bedtime story.' Here too, the powers of biomedicine, which take the form of scientifically well-regulated, 'Once-a -Day' tablets, appear to have secured the woman's position within white, middle class, familial life by stabilizing her internal rationality. Her well-maintained appearance, which includes fashionable and yet comfortable-looking clothes, make-up, eyeglasses, and even a golden wedding ring, works in conjunction with the loving act of reading a fairy tale to her grandchild, producing a portrait of a well-off and socially functional, aging woman. In the midst of a commonplace familial activity, the statement that, 'She sees it as a bedtime story' affirms that the girl is enjoying a bedtime story delivered to her through the pharmacological wonders of Aricept at work in her grandmother's brain. The figure of the grandmother in the image is perhaps most likely to be the 'You' addressed by the text; in other words, it appears to be she, and by implication, other elderly, AD-diagnosed women who might be viewing the advertisement, who could maintain cognitive function by taking the drug. That is, the advertisement seems to appeal to an aging woman (doctor and regular journal reader) who is implicitly proactive and clear-minded enough to assess her own health, and to manage her risk for developing dementia responsibly and independently, with the possible aid of the anti-Alzheimer's drug marketed in the image.

In mild to moderate Alzheimer's disease  
 You see it as maintaining cognitive function.

She sees it as a bedtime story.

ARICEPT®. Helping to make a difference for people living with Alzheimer's

- Slows the worsening of symptoms\*
- Proven to maintain cognition in placebo-controlled studies
- Well tolerated†
- Proven safety profile
- Once-daily dosing
- 3 years of real-world use

**ONCE-A-DAY**  
**ARICEPT®**  
 (donepezil HCl)  
5-MG AND 10-MG TABLETS  
**THERAPY TO REMEMBER™**

Please see brief summary of prescribing information on adjacent page.  
 EL208A99CR

\* Individual responses to ARICEPT® may include improvement, stabilization, or decline.  
 † The most common adverse events in pivotal clinical trials with ARICEPT® were nausea, diarrhea, insomnia, vomiting, muscle cramps, fatigue, and anorexia. Pivotal clinical trials of ARICEPT® have shown no increase, relative to placebo, in the incidence of either peptic ulcer disease or gastrointestinal bleeding. Nevertheless, cholinesterase inhibitors may be expected to increase gastric acid secretion. Therefore, patients (especially those at increased risk for developing ulcers—eg, having a history of ulcer disease, receiving concurrent nonsteroidal anti-inflammatory drugs) should be monitored closely for gastrointestinal bleeding. In pivotal clinical trials, syncopal episodes have been reported in association with ARICEPT® (2% vs 1% for placebo).

Figure 4. You see it as maintaining cognitive function.

Moreover, the fantasy of the self-sustaining (female) subject materializes in this advertisement as well, but there are different stakes involved. Whereas in the three advertisements we have previously discussed, the self-caring human subject has been inscribed as the fundamental building block of heterosexual, as well as middle class, working professional normalcy, the appeal of the ad at hand seems to lie in the imbrication of the self-managing, aging individual within vital and enriching intergenerational relationships. Clearly, Alzheimer's disease is here configured in highly gendered terms, as stable femininity appears to be contingent upon the maintenance and nourishment of social relations as the most meaningful objective of self-care on the part of the sufferer. In other words, the normative qualities of responsibility, self-reliance, and the capacity for physical and mental self-care that are attributed to the elderly woman in the image are cast not only as qualities essential to the wellbeing of the woman herself, but perhaps more importantly as the critical substance of intergenerational, familial continuity and self-perpetuation. In a material-foucauldian sense, the drug becomes thusly an important contribution to the socially acceptable and available set of 'technologies of the self' that sustain and regulate the self-maintained, modern individual. However, the scene depicted in the image is not without more dubious undertones. For instance, the assertion that, '[s]he sees it as a bedtime story', might be interpreted to suggest that it is in fact the elderly

woman with AD who is taking in a ‘bedtime story’ on the prolonged threshold of death, which is commonly metaphorized as ‘eternal sleep’. This reading would be supported by the fact that the drug, Aricept, in contrast to other brands on the market, is to be taken in the evening, before bed-time. On one level, the line merely affirms that the drug is to be taken in the evening, but on another level, the degenerative and fatal progress of the disease- which no drugs yet available on the market are capable of reversing- are brought to the fore. In the latter case, the advertisement inscribes in fact modern anti-aging biomedicine as a ‘fairy tale’ in its capacity to keep at bay the horrors of death, age, and decay associated with Alzheimer’s disease. Thus, the pharmacological agent may appear in the image as a kind of ‘magical entity’ (not unlike the fairy-like figure depicted on the book in the image) in its powers to stretch the duration of cognitive rationality within the human life course, and more broadly, the outer boundaries of ‘life’ itself in AD-diagnosed women. Even so, and despite the rhetorical suppression of anything deviant in the picture, the AD-affected body within the advertisement, and the volatility of the latter, lingers in all of the ads. Quite conspicuously so if also reading the subtext in the lower left-hand corner. The emphatic (yet highly medically contested) claim that the drug ‘slows the worsening of symptoms’ is tempered and even cast into question with the disclaimer stating that, ‘[i]ndividual responses to Aricept® may include improvement, stabilization, or decline.’ Furthermore, what initially seems to be an unequivocal assertion that the drug is ‘well tolerated’ is checked by the larger body of the disclaimer, the latter of which systematically lists possible adverse effects of the drug appearing in clinical trials; such effects include ‘nausea, diarrhea, insomnia, vomiting, muscle cramps, fatigue, and anorexia’, as well as ulcers and gastrointestinal bleeding in response to the medication. So, while the abject leakiness of the body is stringently contained within the image of the elderly woman and her grandchild, the specter of the unsuccessfully managed, recalcitrant AD-affected body and mind dwells within the disclaimer. The text conjures in fact up a phantasmagoric mangle of bodily organs, functions, and fluids that exceed the disciplinary constraints of medical expertise and intervention. Such a theater of excess underscores the potential for bodily transformations associated with Alzheimer’s disease to unsettle binary oppositions between, for example, subject and object, self and other, and interiority and exteriority.

### **A Partial Picture of Alzheimer’s: Concluding Remarks**

Scholars of the visual cultures of technoscience argue that images and imaginations are conscripted as rhetorical tools in the production of public meaning (cf. van Dijck, 1998: 197). Accordingly, the commercial imagery for drugs available in case of mild to moderate Alzheimer’s disease, appearing repeatedly in medical journals, may sustain and regulate, but also interrogate and transform collectively produced AD-discourse, whether factual or fantasmic. A close examination of the ongoing remaking of the cultural imaginary around certain fetishized phenomena, such

as the medicalized brain of Alzheimer's disease, however limited, is, as we hope to have shown, worthwhile and compelling from such a perspective. In short, we have advanced an argument as to how pharmaceutical imagery can be regarded as "politics by other means". The advertisements we have discussed here, which simultaneously dramatize Alzheimer's as a disease of the brain and hail the drug as a potential antidote for such, are entangled within a network of political, artistic, and epistemological meaning-making systems that demand deeper investigation.

We have interrogated such images circulating within the 'public' domain that appear to express fascination, uncertainty, hope, fear, and awe in regard to biotechnical advancements in contemporary culture. In doing so, we have critiqued the image of biomedical science as neutral, apolitical knowledge by underscoring its (de)stabilization of rhetorical conventions and social categories within a contested cultural imaginary. For instance, as the ads are intended to be grasped quickly and efficiently by the spectator, their imagery may be read to constitute 'directive instruments, attaching quotidian, ideological, or political meanings to scientific subjects' (van Dijck, 2006: 8). A prime example of such appears in one of the ads through the construction of a fantastic window into a woman's AD-afflicted brain, producing a fantasy of the brain as feminized territory to explore and restore by neuroscientific means. We contend that the image does not merely reproduce aesthetic conventions vis-à-vis AD, but that it sets in motion processes of knowledge production and subject positioning through its very circulation among trained medical practitioners and lay people.

We have interpreted these images working with and through methodological devices from within the interdisciplinary critical registers of feminist (visual) cultural studies of technoscience. We have maintained that, by fetishizing the brain as a self-referential locus of pathology related to AD, and by promising an all-encompassing cure for such disease, the advertisements reproduce age-old notions of female and elderly subjects' embodied minds as sites in need of (commercial) scientific investment, control, and normalization. Perhaps, however, it is often the case that such normalizing desires do not necessarily belong to actual patients, but are rather the fantasies of middle-aged people worried about developing dementia as they mature, or care-takers, doctors or concerned relatives of AD-affected subjects. More importantly, such fears and desires conveyed within AD discourse are not only signposts through which normative, docile and "successfully" aging bodies –which may be more abstract than actually lived- are inscribed; we argue that they also produce reference and modulate points for identity formation. Along these lines, the ads may be mapped within the feedback loops of visual culture and commercial interests inflecting medical practices and laboratory research, as they fashion 'Alzheimer's disease' into a social and discursive matrix that renders not just specific drugs but also specific subject positions available.

By analyzing some of the articulations of Alzheimer's disease which, through their aesthetic and discursive conventions have been mobilized within the domain of popular commercial imagery, we have also critiqued the notion that the 'science of AD' is an insular and pure body of information, produced and shared among only knowing researchers and experts in the field of biomedicine. On the contrary, we have tried to trace the enunciation of the science of AD through the rhetorics of both popular culture and 'hard' biomedical science, which intertwine within scientific journals of neurology and geriatrics. We have maintained that the images resonate with culturally shared tropes of ambivalence, fear, hope, unease, and deep uncertainty over the intimacy of biomedicine within its subjects' day-to-day lives, the volatility of gender identities and relations, and more broadly, the panicky instability of the boundaries of what is communally envisioned to constitute 'normal' human life. Throughout our analysis, we have also suggested that possibilities for rethinking some of the pervasive and problematic conceptions of normative subjectivity emerge within the commercial scientific images at hand. We have striven to underscore not only the inscription of AD-diagnosed people as liminal subjects vis-à-vis sedimented understandings of behaviors intrinsic to white, middle-class, middle-aged social status and identity, but also their (re)appropriation within meaning-making regimes mediated by the pharmaceutical industry. Yet, in working through the discursive and social knots within which AD-diagnosed subjects are precariously positioned on the margins of both society and idealized human individuality as disembodied *cogito*, we also hope to have enabled further engagement with questions of emerging aging subjectivities from fresh angles.

By deploying interdisciplinary methods grounded within feminist visual cultural studies of technoscience, we have attempted a partial, yet rigorous, critical reading of various rhetorical and material configurations of aging womanhood, and perhaps have even broached the possibility of imagining other embodied subjectivities that resist the abstract framework of the autonomous and disembodied subject of 'Western' rationality. In particular, we hope to have underscored not only the rhetorical or cultural, but also the intrinsically corporeal and biochemical dimensions of Alzheimer's disease, and to have created space for further analysis of the intricate, and as of yet highly unknown, material-semiotic life of the affliction. After all, we hardly intend to suggest that Alzheimer's is but a sociopolitical or even commercial construction without real-life underpinnings. Anyone suffering from AD, or caring for friends or family with AD, could undoubtedly testify to the exhausting psychic and social demands exacted upon those living with or in the presence of the illness. Instead, we have tried to draw attention to the reality-producing potential and politics of the texts through which collective imaginings of the disease are shaped in pharmaceutical visual culture. And the potential for doing it differently.

Along this train of thought, we indeed want to suggest our present-day cultural investment in the discovery of a ‘cure’ for the horrors of aging precludes the possibility of imagining senile (aging) womanhood, in its deviation from ideals of rationality and the strict criteria for ‘normal humanity’ as disembodied *cogito*, as an alternative way of being, a mode of, recalcitrant and suffering, embodied subjectivity in its own right. The pervasiveness of images of normalcy within the cultural imaginary of AD may be read as indicative, largely speaking, of the intense social and psychic limitations upon our understanding of that which may qualify a person as a subject within contemporary society. In other words, the perceived capacities to think rationally, to be in control of one’s body, to live independently, to maintain a socially acceptable physical appearance, and to behave decently to others have been intrinsic to our cultural intuitions as to what demarcates not only a ‘normal subject’, but even a ‘human being’ in the first place; such reference points of normalcy are also inextricable from fraught markers of class, race, sexual orientation and gender. Along this vein, we hold that the advertisements resonate with the Enlightenment-humanist hopes invested in pharmacology to restore rationality and ‘normalcy’ within the fabric of its subjects’ day-to-day lives and moreover, to the power of biomedicine in particular in sustaining normative ideal of successful aging. More importantly, the images also lay the groundwork for critical and creative interventions with regard to new developments in anti-Alzheimer’s disease technologies, aging bodies, and emerging categories of people, as well as the activities of meaning-making through which we understand and forge our relations with one another.

### Notes

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1 In 1907, German psychiatrist and neuropathologist Alois Alzheimer published a case study describing a 51-year old woman with symptoms that, over time and history, have been ascribed to the illness that bears his name. The clinical report describes her deteriorating memory, delusions, and disorientation, as well as the findings of a postmortem autopsy four years later, which revealed cerebral atrophy, neurofibrillary tangles and senile plaques. Since then, medical knowledge of AD has advanced rapidly, while much of its

etiology also remains uncharted. The eponym for AD was suggested in 1910, and in the early 1950s the condition became classified as a disease. The 1960's saw a pronounced focus develop on microscopic tangles and plaques in the brain, and presently it is regarded as the most common form of dementia. Despite ongoing research efforts, there is still no universally recognized cure, and Alzheimer's is understood to be a progressive and fatal brain disease that affects millions of people. It has also been agreed upon for some time that there is substantial variability and clinical heterogeneity in the development of the disease, as well as in the symptoms that manifest themselves among different patients with dementia of the Alzheimer's type.

2 A few examples of recent international films themed on Alzheimer's disease include: *Away From Her* (2007), *The Savages* (2007), *Aurora Borealis* (2006), *Sundowning* (2005), *The Notebook* (2004), *A Song For Martin* (2001), *Iris: A Memoir of Iris Murdoch* (2001), *Firefly Dreams* (2001), *Age Old Friends* (1989), and *I Never Sang For My Father* (1970).

3 The Swedish Medical Products Agency reported on December 16, 2004 on mortality rates in additional studies in a two-year follow-up of Reminyl as compared with placebo. And, in 2007 the same Agency reported on the lack of scientific evidence for any curbing effect on the disease of any available brand of cholinesterase inhibitors. (See: [www.lakemedelsverket.se](http://www.lakemedelsverket.se) , accessed November 18, 2008).

4 We would like to thank one of our anonymous reviewers for this suggestion.

5 The Alzheimer's Association website aims to provide information about Alzheimer's disease to the general public, including details pertaining to warning signs, diagnosis, and the physiological characteristics of the illness. See, in particular, the sections entitled 'What is Alzheimer's?' and 'Brain Tour' within the 'Education Center' (<http://www.alz.org/index.asp>, accessed November 10, 2008).

6 See 'High Hopes for Alzheimer's Film', on the website, BBC News: Health. Published on January 12, 2002, the article discusses medical experts' optimistic anticipation of the film, *Iris* (2002), which documents the life of novelist Iris Murdoch (<http://news.bbc.co.uk/1/hi/health/1748586.stm>, accessed November 10, 2008). Similar feelings of enthusiasm over films addressing Alzheimer's are expressed on other sites as well. See, for instance, 'Alzheimer's Film Hits the Red Carpet', which is a brief statement of applause for the film, *Away From Her* (2007), published on January 24, 2008 on the Alzheimer's Association (UK) website. Neil Hunt, the Chief Executive of the Alzheimer's Association (UK), writes that, 'this film brings to the screen "the reality of over 700, 000 people with dementia in the UK and the millions more who care for them' ([http://www.alzheimers.org.uk/site/scripts/news\\_article.php?newsID=245](http://www.alzheimers.org.uk/site/scripts/news_article.php?newsID=245), last accessed on November 10, 2008).

## References

Aricept (2001) 'You See it as Maintaining Cognitive Function', *Journal of the American Geriatrics Society*, 49 (3): Back cover. (Also appearing in the August, 2002 issue of *Neurology*, 59(4): First page.)

Aricept (1998) 'More Physicians Are Diagnosing Alzheimer's Disease', *Journal of the American Geriatrics Society*, 46(9): Back cover. (Also appearing on the back cover in the five following issues.)

Armstrong, P., and H. Armstrong (2004) 'Thinking it Through: Women, Work and Caring in the New Millennium', pp. 173-90 in K. Grant, C. Amaratunga, P. Armstrong, M. Bosco, and A. Pederson (eds) *Caring For/Caring About: Women, Home Care, and Unpaid Caregiving*. Aurora, Ontario: Garamond Press.

Åsberg, C. (2005) *Genetiska Föreställningar. Mellan Genus och Gener i Popular/Vetenskapens Visuella Kulturer*. [The Genetic Imaginary: Between Gender and Genes in the Visual Cultures of Popular/Science] Dissertation. Linköping Studies in Arts and Sciences.

Åsberg, C. and E. Johnson (2009) 'Viagra Selfhood: Pharmaceutical advertising and the visual formation of Swedish masculinity' in *Health Care Analysis* vol 17, no 1, 2009.

Åsberg, C. (2009) 'The Arena of the Body: The Cyborg and Feminist Views on Biology' in *Doing Gender in Media, Art and Culture*. Eds. Rosemarie Buikema and Iris van der Tuin. London: Routledge (published in Dutch 2007).

Beaulieu, A. (2000) 'The Brain at the End of the Rainbow', pp. 39-51 in J. Marchessault and K. Sawchuk (eds) *Wild Science: Reading Feminism, Medicine, and the Media*. London and New York: Routledge.

Bleier, R. (1984) *Science and Gender: A Critique of Biology and Its Theories on Women*. Oxford: Pergamon Press.

Bloom, L. (ed.) (1999) *With Other Eyes: Looking at Race and Gender in Visual Culture*. Minneapolis: University of Minnesota Press.

Braidotti, R. (1994) *Nomadic Subjects: Embodiment and Sexual Difference in Feminist Theory*. New York: Columbia University Press.

Bryld, M. and N. Lykke (2000) *Cosmodolphins. Feminist Cultural Studies of Technology, Animals and the Sacred*. London: ZED Books.

Bukatman, S. (1995) 'The Artificial Infinite: On Special Effects and the Sublime', pp. 255-289 in L. Cooke and P. Wollen (eds) *Visual Display: Culture Beyond Appearances*. New York: The New Press.

Burns, A. and R. Levy (1992) *Clinical Diversity in Late Onset Alzheimer's Disease*. Oxford, New York, Toronto: Oxford University Press.

Callaf i Alsina, J. (1997) 'Benefits of Hormone Replacement Therapy: Overview and Update', *International Journal of Fertility and Menopausal Studies*, 42 (Supplement 2): 329-346.

- Dawson, G. (1994) *Soldier Heroes: British Adventure, Empire and the Imagining of Masculinities*. London & New York: Routledge.
- van Dijck, J. (1998) *Imagination: Popular Images of Genetics*. London: McMillan Press.
- van Dijck J. (2006) 'Picturizing Science: The Science Documentary as Multimedia Spectacle', *International Journal of Cultural Studies*, 9(1): 5-24.
- Dumit, J. (2004) *Picturing Personhood: Brain Scans and Biomedical Identity*. Princeton and Oxford: Princeton University Press.
- Fantastic Voyage* (1966) Dir. Richard Fleisher, 35 mm, 101 min, 20th Century Fox.
- Fee, D. (2000) 'Introduction: The Broken Dialogue', pp. 1-17 in D. Fee (ed.) *Pathology and the Postmodern: Mental Illness as Discourse and Experience*. London, Thousand Oaks, and New Delhi: Sage Publications.
- Field, H. and R. Brackin (2002) 'Neurological Disorders of Increased Prevalence in Women: Migraine, Multiple Sclerosis and Alzheimer's Disease', pp. 467-480 in S. Kornstein and A. Clayton (eds) *Women's Mental Health: A Comprehensive Textbook*. New York, London: The Guilford Press.
- Franklin, S., C. Lury, and J. Stacey (2000) *Global Nature, Global Culture*. London, Thousand Oaks, and New Delhi: Sage Press.
- Gottschalk, S. (2000) 'Escape From Insanity: "Mental Disorder" in the Postmodern Moment', pp. 18-48 in D. Fee (ed.) *Pathology and the Postmodern: Mental Illness as Discourse and Experience*. London, Thousand Oaks, and New Delhi: Sage Publications.
- Haraway, D. (1997) *Modest\_Witness@Second\_Millennium. FemaleMan©\_Meets\_OncoMouse™ Feminism and Technoscience*. New York, London: Routledge.
- Haraway, D. (2003) *Companion Species Manifesto: Dogs, People, and Significant Otherness*. Chicago: Prickly Paradigm Press.
- Henderson, V.W. (1997) 'Oestrogens and Dementia', *Maturitas* 27 (1): 12.
- Irigaray, L. (1985) *This Sex Which is Not One*. Ithaca: Cornell University Press.
- Jones, A. (2002) 'Introduction: Conceiving the Intersection of Feminism and Visual Culture', pp. 1-8 in A. Jones (ed.) *The Feminism and Visual Culture Reader*. London and New York: Routledge.
- Jordanova, L. (1989) *Sexual Vision: Images of Gender in Science and Medicine Between the Eighteenth and Twentieth Centuries*. New York: Harvester Wheatsheaf.
- Keller, E.F. (1992) *Secrets of Life, Secrets of Death. Essays on Language, Gender and Science*. New York: Routledge.
- Klinge, I. (1997) 'Female Bodies and Brittle Bones: Medical Interventions in Osteoporosis', pp. 59-72 in K. Davis (ed.) *Embodied Practices: Feminist Perspectives on the Body*. London: Sage Publications.

Latour, B. (1987) *Science in Action: How to Follow Scientists and Engineers Through Society*. Cambridge, MA: Harvard University Press.

Leysen, B. (1996) 'Medicalization of Menopause: From "Feminine Forever" to "Healthy Forever"', pp. 173-191 in N. Lykke and R. Braidotti (eds) *Between Monsters, Goddesses, and Cyborgs: Feminist Confrontations With Science, Medicine, and Cyberspace. Feminist Confrontations with Science, Medicine and Cyberspace*. London and New Jersey: Zed Books.

Lykke, N. (2002) 'Feminist Cultural Studies of Technoscience and Other Cyborg Studies: A Cartography', *The Making of European Women's Studies* 4: 133-143.

Lykke, N. (2008) 'Feminist Cultural Studies of Technoscience: Portrait of an Implosion', pp. 3-15 in N. Lykke and A. Smelik (eds) *Bits of Life: Feminist Studies Meets Cultural Studies Meets Science Studies*. Seattle: University of Washington Press.

Lykke, N. and R. Braidotti (eds) (1996) *Between Monsters, Goddesses and Cyborgs. Feminist Confrontations with Science, Medicine and Cyberspace*. London: ZED Books.

Meinert, C.L. (2001) 'The Inclusion of Women in Medical Trials', pp. 303-306 in M. Lederman and I. Bartsch (eds) *The Gender and Science Reader*. London, New York: Routledge.

Oudshoorn, N. (1994) *Beyond the Natural Body: An Archeology of Sex Hormones*. London: Routledge.

Reid, R. and S. Traweek (eds) (2000) *Doing Science + Culture: How Cultural and Interdisciplinary Studies Are Changing the Way We Look at Science and Medicine*. London and New York: Routledge.

Reminyl (2001) 'All -Around Success With New Reminyl', *Neurology*, 57(6): 957-960. (The advertisement also appears on the back cover.)

Reminyl (2004) 'Dignity', *Journal of Neurology, Neurosurgery, and Psychiatry*, 75(supplement).

Robertson, A. (1991) 'The Politics of Alzheimer's Disease: A Case Study in Apocalyptic Demography', *The Journal of Health Services* 20( 3): 429-442.

Rose, N. and C. Novas (2005) 'Biological Citizenship', pp. 439-463 in A. Ong and S. Collier (eds) *Global Anthropology: Technology, Politics, and Ethics and Anthropological Problems*. Malden, MA: Blackwell.

Sawchuk, K. (2000) 'Biotourism, "Fantastic Voyage", and Sublime Inner Space', pp. 9-23 in J. Marchessault and K. Sawchuk (eds) *Wild Science: Reading Feminism, Medicine, and the Media*. London and New York: Routledge.

Smelik, A. and N. Lykke (eds) (2008) *Bits of Life. Feminism at the Intersections of Media, Bioscience, and Technology*. Seattle, London: University of Washington Press.

Stafford, B.M. (1991) *Body Criticism: Imaging the Unseen in Enlightenment Art and*

*Medicine*. Cambridge, Mass.: MIT Press.

Stafford, B.M. (1996) *Good Looking: Essays on the Virtue of Images*. Cambridge, Mass.: MIT Press.

Storey, J. (1993) *An Introductory Guide to Cultural Theory and Popular Culture*. Athens: University of Georgia Press.

Sturken, M. and L. Cartwright (2001) *Practices of Looking: An Introduction to Visual Culture*. New York, Oxford University Press.

Thornham, S. (2000) *Feminist Theory and Cultural Studies*. London: Arnold.

Ward-Griffin, C., A. Oudshoorn, K. Clark, and N. Bol (2007) 'Mother-Adult Daughter Relationships Within Dementia Care: A Critical Analysis', *Journal of Family Nursing* 13 (1): 13-32.