

## **Wearing the arm (or not). Reconceptualising notions of in- and exclusion in Disability Studies**

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*(Received 13 December 2011; accepted 16 March 2012)*

In the last few years the social model in Disability Studies has been criticized for focussing too much on social and environmental factors in mechanisms of in- and exclusion and overlooking the materiality and embodied experience of disability. In this article we look at the specific ways in which an assistive technology can give shape to mechanisms of in- and exclusion. We study the biographic narratives of two women who use(d) an arm prosthesis. As a result, new notions of what in- and exclusion can entail for people and how they come about are formulated.

**Keywords:** technical aids; practice-oriented; in- and exclusion; relational thinking

### **Introduction**

A dominant understanding in Disability Studies is that the bodily make-up of people cannot be held responsible for the fact that some people are categorized as able and others as disabled (Shakespeare 1998, Davis 1997, Albrecht, Seelman and Bury 2001). Disability is not considered an outcome of an individual's impairment, but a result from the social and environmental barriers that people with impairments have to face every day. Disability, as a concept, refers to being oppressed by a disabling society. Or, as Roulstone (1998) puts it: '... [the term should] not be viewed as purely adjectival, but as a fully relational concept.' The definition of normality and, hence, of 'loss of normal function or ability', is considered a political matter.

This social model of disability has been immensely helpful in challenging the medical model in thinking about disability (Davis 1997, Barnes 1998). For one, it changed the notions of in- and exclusion that are so closely linked to the concept of disability. Whereas medical and rehabilitation practices try to achieve inclusion and participation by 'normalising' people with impairments, 'correcting' their individual limitations, the social model aims at making society itself become more inclusive, for example by improving the accessibility of work and living environments, infrastructures and, above all, social attitudes.

However, in the process of critiquing the medical model a number of explicit and implicit assumptions have entered the field of Disability Studies that, in our opinion, cloud a vision on actual mechanisms of in- and exclusion related to disability as well as the nature of agency within these mechanisms. More specifically, in an emphasis on the societal responsibility for 'making' disability, the roles played in these

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mechanisms by people who have physical impairments are often neglected (see also Pols 2006, 2010; Moser 2006; Winance 2010). As a result, too much of an essentialist view is maintained in which a clear divide is presumed between people and some 'outer' in/excluding society. In addition, the physical-material dimensions of disability, including the impact of assistive technologies, has been neglected in Disability Studies (Gill 2001, 369). As a result people's embodied experiences with in- and exclusion has, until recently, been excluded from research (Pols 2010).

Following practice-oriented studies, such as those of Mol, Moser, Winance and Pols, we will, in this article, focus on how in- and exclusion, related to disability, are actually 'done' in everyday life. We will particularly focus on how the use and non-use of an assistive technology, the arm prosthesis, shapes and transforms such mechanisms. We present the lives of, Maria and Wendy; two women with a short arm for whom the arm prosthesis is a medical possibility. What shape do in- and exclusion take in their daily lives, how do they come about and whom and what are involved? In this way, we will open up the standard notions of in- and exclusion in the field of Disability Studies from a socio-material and embodied perspective.

### Technical aids and disability research

The *raison d'être* of technical aids, such as a walker, a hearing aid or arm prosthesis, is commonly believed to be their ability to solve practical problems for their users. With an aid people try to lower some of the physical or social barriers in their lives. However, the impact of such technologies is not limited to their functionality, nor is functionality something that can be separated from other, e.g. social, cultural and emotional aspects of people's lives. As we will see, technical aids are, in fact, intertwined with people and their lives in many complex ways (as are most technologies). They are part of the way people experience their body, the activities they can perform, the way they (can) deal with their social and material environment and the way that they are looked at by themselves and others.<sup>1</sup> Consequently, technical aids play an important part in the construction of what is to be (dis)abled and to related mechanisms of in- and exclusion.

Existing theories of the impact of technical aids on in- and exclusion can be divided into three academic discourses. The first can be found in the discourse of medical and rehabilitation research and is referred to as *the deficit model* (Roulstone 1998). In this model, technology is considered a corrective tool. The technical aid is suggested to 'repair' limitations in a person's bodily capacities to achieve what is perceived to be a normal functioning body. This is the measure of success of technical aids. Inclusion is strived after in terms of an acquired vicinity to normalcy, and might be achieved with the help of rehabilitation therapists and a persevering user of the technical aid.

This discourse is heavily critiqued within Disability Studies, as it is believed to reinforce the idea that the source of in- and exclusion is to be sought after in the deficits of the disabled person (Shakespeare 1998; Roulstone 1998; Davis 1997; Albrecht, Seelman and Bury 2001). The striving for 'normalisation' through technology within this medical model is considered not a neutral endeavour, but a socio-political one.

In reaction to this medical approach, *the social barriers model* has been developed in Disability Studies. In this model, social organization is considered to be the primary source of disability, not the person with an impairment. As a consequence,

technologies should be studied for their potential to change the social and material environment and take away societal barriers, for example by improving work environments, or by changing attitudes and perceptions of the abilities of disabled people (Roulstone 1998). Recent technologies, such as email and texting, for example, offers opportunities for people with speech or hearing impediments to communicate, work and present themselves in a new fashion, changing the ways in which their potential abilities are defined and assessed by others. At the same time, technological changes can enhance or create new barriers for people with impairments, leading to new ways of exclusion.

The third discourse on the impact of technical aids is centered around Goffman's concept of stigma and focuses mainly on mechanisms of exclusion. Analysis is directed at the difficulties that appear in spontaneous, social interactions between disabled and non-disabled. It is noted that technological aids are often considered visible markers of one's impairment, functioning as a stigmatizing object in social interaction (see references in Lingsom 2008). As such, an assistive technology can bring about exclusion and make people avoid to use it.

Both the social barriers model and Goffman's approach are suitable to the agenda of Disability Studies, as they highlight the social construction of disability. However, it is remarkable that in all approaches described, the person with an impairment is considered to be an individual that can be clearly separated from and facing a social framework (see also Winance 2007). As such, even the social barriers model can be considered an essentialist instead of a relational approach, as it assumes this pre-existing opposition. In line with this, all three approaches reduce the relation between technology and in- or exclusion to terms of either trying to overcome or widen this pre-existing divide between the person and the surrounding world. Moser has shown, that assuming such divides in disability research will reinforce and confirm those very gaps (Moser 2006). Especially in research on the promises of technology for disabled people, the asymmetries between disabled and abled are reproduced. Moreover, this perspective overlooks the complex, multiple and changeable impact of technology on the lives of people. For technology does not only interfere with what we can and want to do, or with our relations to others, it interferes with who we are (Mol 2008).

In this article, we will take a more relational perspective, in which a person is constructed by and constructing a heterogeneous network of relations. Disability and the mechanisms of in- and exclusion related to it come about in concrete, every day practices. All kinds of factors are involved in such practices, including a person's specific body and technological aids, but also the physical structure of buildings and the actions of others (see also Moser and Law 2003; Moser 2006; Pols 2010; Winance 2010, 2011). There are thus no individuals facing an abstracted, objectified world, only situations that arise from heterogeneous networks of relations. This will lead to an important reconceptualisation of what in- and exclusion can entail for people.

### **The research**

There are several types of arm prostheses. Instrumental extensions, such as hooks, are designed to enable specific practical activities, for example driving a motor cycle, holding a cup or cutting bread. At the other side of the spectrum one finds the cosmetic arm, designed to resemble the aesthetics of a real arm, but without the possibility to move the fingers or change its angle. In between, one can find

myoelectric, body-powered or robotic arms that are designed to combine both characteristics, i.e. that can be opened and closed and that resemble a real arm. In this article we focus on the cosmetic and hybrid arm prostheses.

The article is based on the biographic narratives of two women, Maria and Wendy, who use (in the case of Wendy), or used (in the case of Maria), an arm prosthesis. They were both interviewed using a variation of the Biographic Narrative Interpretation Method (Wengraf 2001, 2010). In this method the narrative of an interviewee was triggered with only one open question, asking after the story of their life in relation to the technical aid, posed by the interviewer at the beginning of each interview. After the initial narrative had been finished, the interviewer asked follow up questions that replicated both the chronology and wording of the interviewees. All questions probed specific experiences, rather than emotions, or opinions. The reason for choosing this particular technique is that it provides for rich and layered information on the negotiations and adaptations between person and technology. The initial narrative gives clear insight in the way interviewees currently perceive and construct their relation to the technical aid, whereas the second part of the interview gives access to situated memories of their practical, physical experiences with the technical aid, adding complexity, contradiction and nuance to the stories. In addition to the interview material, we use fragments of an online blog Wendy has kept, to report on her experiences with the prosthesis.

The interviews are part of a larger study, in which 29 people are interviewed who make use of, did use or refused to use a walker, a hearing aid, incontinence pads or an arm prosthesis. At the time of writing nine interviews with people with one short arm were interviewed. In the selection of interview candidates a variety of people in terms of gender, age and use or non-use of the technical aids was aimed for. Interview candidates for the arm prosthesis were found with the help of our own private networks and with the use of a co-researcher who had met many people with short legs and arms in his identity as physical therapist and user of a leg prosthesis. In this article we address two cases only. The stories of Wendy and Maria were chosen for this analysis because they are similar in age, gender and socio-economic status and the fact that both women had (had) the prosthesis attached to their upper arm, but almost opposed in the way they use and perceive the artificial arm.

### **Wendy (43 years old)**

Wendy was born with a shorter left arm. She has no left elbow or lower arm, but she does have three fingers which she can use effectively. As a child, her parents asked her if she was interested in wearing a prosthesis, but she never was. Wendy felt she could do everything she wanted to and she did not feel she ‘missed’ an arm or hand (see also Frank 1986). As she reached the age of 25, Wendy started getting serious back problems and after a few years had to stop working in a pharmacy. The problem was rooted in the scoliosis in Wendy’s back, but as her condition worsened doctors started to relate Wendy’s extreme back pain to her having a shorter arm. As Wendy uses her fingers on both arms, she is used to leaning forward, worsening her back condition. She realised that wearing an arm prosthesis might take part of the pain away.

Wendy, however, resented the idea of using an aid. ‘I disliked the idea of having to use an arm. It felt like admitting that I needed support and that I was different than

others. It made me feel handicapped.’ But as the pain worsened, at the age of 38, she decided she should try one.

She started out using a myoelectric arm. This is a prosthesis with an electronic system connected and reacting to traction of the muscles in the upper arm, enabling a person to open and close the hand. Wendy had always been able to use the fingers on her short arm and she hoped that the myoelectric arm could compensate for the loss of that functionality. However, in her case this system was not fail proof. On 15 February 2005 she writes on her blog:

I no longer think it is funny to be stuck to my fitness apparatus when I want to step off, because I cannot open my hand. I no longer think it is funny to not be able to open my hand when I want to grab the steer of my bicycle. I do not think it is funny when my hand does not close because the battery is low, just when I want to take of my coat. And that I first have to take of my arm and change the battery, then put on my arm again so that I can close my hand, to finally take of my coat.

During rehabilitation you need to have a lot of humour, because those little accidents happen all the time. But when the prosthesis is integrated in your daily life, you just want the thing to work properly. You do not want to be hindered in this way. In accordance with the artificial-arm-maker I finally decided to start trying another type of prosthesis.

Wendy switched to a hybrid arm, a body-powered prosthesis that reacts to movements of the muscles in the shoulders, opening or closing the artificial hand. This effect is enhanced by an added electric device (hence, the term hybrid). She is still using this type today.

The prosthesis brought substantial relief of Wendy’s back pain. Working has become an option again, as well as using a computer more intensively. Although she does not wear the arm all day long, at this moment Wendy feels the arm has become a part of herself and she is glad to have the option to choose to wear it or not.

### ***Wearing the arm or not***

It is evident that Wendy’s arm prosthesis is an important factor for inclusion in the traditional terms of ‘participation’. When wearing the artificial arm, Wendy is no longer tempted to use the fingers on her short arm and she is prevented from leaning forward. Also, the hand of the prosthesis can be used to push and lift things. As a result, Wendy can keep a straight posture during all kinds of activities, including typing, and her back pain is reduced.

There is more to it, however. The characteristic of lengthening her arm and preventing her to use her own fingers, also has some drawbacks. Wendy describes how she struggled to deal with the extra arm length: ‘At first it felt I had an arm that reached up until my left knee; it felt so long and strange to me.’ As time went by, Wendy trained performing daily activities with the arm, and her body image adjusted. ‘The arm started to feel shorter to me’. But still, she finds it hard to do things in a way that feels natural to her. ‘I am used to zipping up my coat with my hands close to my chest, but now I have to do it near my waist. I have to think about these things constantly’. As a result, Wendy has decided to only wear the prosthesis outside the house. ‘When I am home, I do not want to think too much about how to do things’.

Another situation in which she does not to wear the arm is described in her blog during the summer of 2004.

7th of July 2004:

It is incredibly heavy to wear the arm when it is warm outside. It does not matter what clothes I wear, the arm itself is just so hot. To tell the truth, I think it is impossible to wear this thing when it is over 20 degrees celsius. At least not without getting seriously depressed. Maybe I should just leave it off, but it is a hard choice:

- No arm: nice and cool and a free feeling, but more back pain
- An arm: less back pain, but being super warm all the time

25th July 2004:

I finally made a decision. When the thermometer on the outside wall of my bedroom shows a temperature over 20 degrees, I will not wear the arm. Period. It took me some time to make up my mind. The reason was that I did not feel like going out on the street again as a visibly disabled person. When wearing the arm, I do not stick out and that is pretty nice. Without the arm, I am 'the women with the short arm' again. And I did not look forward to that.

But when I tried it, it turned out that I was not so conscious of 'walking around with my short arm' at all. I easily and quickly slipped back into my Wendy-without-prosthesis-life. Perhaps this should be no surprise. I walked around like this for 38 years and I had all the time to guard myself against the looks and comments of people. It felt very familiar to present myself like that again.

The feeling of freedom was actually much more dominant. When the weather is nice, I want to feel the sun and the wind touch my skin. That is the ultimate summer feeling for me! With the prosthesis I feel a prisoner of my own body, as if I am sitting in the sun wearing a black woolen sweater, looking at all those people in summer dresses. I can finally enjoy summer again and I cannot explain how important this is to me!

Wearing the arm, Wendy is now *included* in some activities and experiences, such as maintaining a job or 'not sticking out'. At the same time, Wendy is excluded from others, for example, 'doing things without thinking' in her home or having the ultimate summer feeling. Wendy's story shows that her experiences of in- and exclusion related to the arm prosthesis are not limited to striving for participation or to feeling stigmatized. In other words, Wendy's concerns are not solely directed at overcoming a divide between her and 'normal, outer society'. They also include the summer wind and the sun, stroking her skin. It is clear that the arm does not just help Wendy to achieve entry into an outer world, but is very much part of the embodied way in which Wendy experiences that world. And especially in such situated experiences, inclusion and exclusion can emerge.

It also becomes apparent that inclusion is not something that can be isolated from exclusion; the materiality of the extended arm can simultaneously bring about inclusion in one practice and exclusion in another. This interrelatedness also becomes apparent in Wendy's actual dealing with stigma, or with 'being socially different'. Wendy appreciates the arm giving her the opportunity to 'not stick out' anymore. 'The first time I could ride a bicycle with two arms was amazing. I thought: "look at me, I am part of your world now!", but obviously nobody noticed!'. Although Wendy did not start to use the prosthesis because of this particular social effect, she ended up liking it. The arm makes it possible for her to 'pass' as normal (see also Goffman 1963; Gill 2001; Lingsom 2005). In some situations, however, Wendy feels very uncomfortable wearing the arm; for example in a shirt with short sleeves. 'I am

used to the attention my short left arm attracts: I have dealt with it all my life. Nevertheless, I feel very vulnerable when the artificial arm is exposed. I feel I have to start all over again.' Wendy explains that she cannot apply the skills she developed for being different as a 'one-arm-person' for dealing with being different as a 'person-with-an-artificial-arm'.

Because those mechanisms of in- and exclusion are interrelated, Wendy constantly has to negotiate between the advantages and disadvantages of wearing the prosthesis. "I am constantly asking myself 'What does it bring me? And what do I sacrifice?'" She says this constant decision making exhausts her, yet she also describes a strong sense of freedom it gives her.

10th of November 2004

Life with an artificial arm has pretty much become a part of my life now. I really appreciate it to be able to decide myself on the moments in which I will wear the arm or not.

In Wendy's story we can see that in- and exclusion are mechanisms a disabled person is not so much facing, but that she is part of in everyday practices and negotiations. Every time Wendy decides on wearing the arm or not, she is co-constructing herself as well as the situations she enters (and that become accessible or non-accessible to her). Exclusion is not something that 'happens' to her, nor is inclusion always something that she has to 'work hard for'. Furthermore, the prosthesis does not form a bridge between her and the world, but changes the agency and experience of its user. Wendy is not a person using an artificial arm to achieve participation or avoid stigma. Rather, she enters situations as Wendy-with-arm or Wendy-without-arm. Each assemblage leads to specific, embodied experiences of in- and exclusion.

Like Winance (2006), in her research on the process of adjustment between person and wheelchair, we find that, whilst finding a balance with a technical aid, the boundaries between a person, his/her body, assistive technologies and their relations to different situations, such as work or home, are constantly shifting and negotiated. There is no stable or sharp distinction between a disabled person and an 'abled' outer world. This also means that the understanding of in- and exclusion needs to incorporate this view. We will deepen the argumentation, turning to Maria's story.

### **Maria (49 years old)**

Maria lost her left lower arm when she was six year old, in a playing accident. At the age of eight, she started wearing an instrumental hook, but mainly because her parents wanted her to. Later, when she was sixteen she switched to a myoelectronic arm. She started an education to become a nurse and, afterwards, worked as a nurse for merely thirty years. During that period, she switched the electronic arm for a cosmetic one, as the latter was much lighter and just as practical for Maria to use.

In the meantime, Maria got married and got two children. As she felt she could handle the babies better without the prosthesis, she stopped wearing it in her home. However, as soon as she went out the door, she put on the arm.

At the age of 34, Maria was diagnosed with extremely high blood pressure. Talking to a therapist, it became clear to her that the constant shifting between wearing and not wearing the arm, generated immense stress for her. In accordance

with her doctor, Maria decided to try and stop wearing the artificial arm (except in her work). She describes the period: ‘The first year without the artificial arm was very hard, as I was extremely anxious all the time. With the artificial arm I had always tried to hide that I missed an arm and to be as ‘normal as possible. Letting go of this strategy was very difficult for me. It felt like walking around naked.’ However, after two months of trying, the blood pressure dropped sharply and Maria decided she would not wear the prosthesis anymore in non-work environments. Looking back, Maria feels the artificial arm has hindered her in accepting her childhood trauma and the fact that she is physically different from others. Now that she got rid of it, she feels she can, finally, accept herself.

### *In- and excluding others*

Today, Maria states the arm never really had a practical function for her; she only wore it look as normal as possible. When Maria became a mother (something she had always wanted) the prosthesis was no longer just redundant, it started to become a true hindrance. With the arm on, she could not approach and handle the babies the way she wanted. To Maria, the arm (the hard surface, the fact that she could not use her own skin touching the child) made her children less accessible to her. She could not ‘be a mother’ in the way she had envisaged. Moreover, both babies adapted to the possibilities of their mother’s specific body very quickly, for example rolling into her right hand when she wanted to pick them up out of bed. So, together, Maria and her children started to push the artificial arm out from their contact and together they shaped a new physical, practical, social and emotional assemblage in Maria’s life.

In this way, two different Maria-assemblages started to exist next to each other. Maria shifted between them during the day. ‘My dog always knew when we were going for a walk, because I would go and fetch the arm. And when the doorbell rang, I always had to look who was at the door and then decide on whether I needed to put on the arm.’ Very close friends or family members were allowed to see Maria without prosthesis, but regular friends, neighbours and colleagues were not. Looking through the window, near the front door, Maria was actively deciding on who and what she was going to include in her Maria-without-arm-assemblage. Maria’s story refutes the standard notion of a person *facing* in- or exclusion because of an impairment. Maria appears to be the one that is in- and excluding.

But it is not a simple case of turning things around, of transferring the source of agency related to in- and exclusion from society to the disabled person. It is more complicated than that. In this particular period, Maria did not feel like she was in control, nor did she experience a joyful sense of freedom. Whereas Wendy describes the constant choosing as a source of freedom and control (even though she also describes her initial trouble in setting her own unwritten action rules about the use and non-use of the arm), Maria does not express such feelings. In fact, the shifting became a heavy burden for Maria (also described by Gill, 2001) and she decides to let the arm go.

Maria’s case shows that deciding to wear the artificial arm or not, leads to shifting boundaries between herself and others, between her (dis)abilities, the worlds she is (and wants to be) part of (or not), and optional programs of actions. But, even though Maria is actively part of this process of decision making, she cannot be considered the stable, single or predictable source of action or control.

**The arm prosthesis: shifting social responsibilities**

Even though Maria and Wendy have very different experiences in relation to the use of arm prosthesis, they also share some concerns. In both stories, the women are busy trying to regulate the effects the arm prosthesis has on others. This has to do with the ability of the arm prosthesis to help wearers approach an image of bodily normalcy. Instead of causing a stigma, such as a wheelchair or a hearing aid (or a hook for that matter), the cosmetic and electronic/bionic/hybrid arm prostheses mask the missing of a limb to the fleeting observer in everyday interactions and offer an opportunity to avoid stigma and to 'pass' as almost normal.

The stories of Wendy and Maria both show clear examples of such attempts to 'pass'. Maria told us she has used the arm prosthesis for decennia to hide, as much as she could, the fact that she missed her left lower arm. She claims she became very good at it: 'Once we stayed over at one of my husband's old friends, a police detective. The man was very surprised to find out, only after the weekend, that I used an artificial arm.' And even though Wendy started to use the artificial arm because of medical reasons, she states she appreciates the experience of 'not sticking out' anymore.

Maria and Wendy are both aware of the fact that deciding to stop or to start (temporarily or permanent) wearing the prosthesis has an impact on others. They both seem to carefully manage these effects, by socially marking short term or long term changes. For example, when Maria wanted to stop wearing the prosthesis, she first consulted her husband and children. She felt she needed their approval, as her decision would also have a potential impact on their social lives. On the first day, she went to her children's school and shared with all the teachers and children that she was no longer using the arm, involving them actively, but also announcing that she would from that moment on become Maria-without-an-arm for them. Wendy told us that she warns friends when she decides not to wear the arm. She feels she needs to prepare them for Wendy-without-the-arm, so that they are not frightened by her appearance. 'When you have always known someone having two arms, and she suddenly comes up to you with half a left arm, you can get shocked. It is logical.'

Wendy continues: 'The funny thing is, in the past, when I did not own a prosthesis, I was never worried about how other people might feel. I did not have that choice and I knew that if I had to worry about that, I would never leave my house. I figured people just had to accept me for who I was.' Also Maria states that, now that she got rid of the arm: 'people will just have to take her me for who I am: Maria-with-one-arm.' It looks like when Maria and Wendy do not have an artificial arm around the responsibility for a smooth contact with 'others' seems to be distributed more, or shifted to that particular other.

These examples show that the arm prosthesis does more than simply offer an opportunity 'to pass as normal'. It brings with it a sense of social responsibility. Through its presence or absence, the arm prosthesis changes one's possible social strategies and responsibilities in dealing with being different. As a result action and mutual social responsibilities shift. Again, we can see that the artificial arm, then, does not so much 'bridge a gap' between a person and society, but changes the way they are mutually constructed.

Interestingly, the social impact of the arm is often not the reason for using it. In the case of Wendy, severe physical problems made her choose for the artificial arm. The shifts in social action and responsibility just came with it. So, even if one uses the

arm for practical reasons only, the way one can relate to other people and the mechanisms of in- and exclusion encountered in everyday situations, will change in a fundamental way. It shows that this technology ‘matters’ in a more fundamental way than we might expect from a medical or Goffmannian perspective. It also shows that action or agency in relation to in- and exclusion is not something that belongs either to an individual or a social framework, but that it comes about in specific relational networks (that include people as well as things).

## **Conclusion**

In recent disability literature, one can find a plea for supporting and discerning practices in which people with impairments are considered (and constructed) as both different and normal (Winance 2006, 2007; Pols 2010). It entails a critique on the idea of ‘normalisation’ or trying (and expecting) people with impairments to live and act as much as possible as ‘normal people’, either with the use of an assistive technology or not. This expectation puts people in a disadvantageous position to start with, because they actually do have impairments. Scholars should acknowledge and study the specificity of having a particular impairments, whilst showing that (dis)abilities and (ab)normality are, in fact, constantly negotiated and constructed. In this article we try to support and extend this line of research, focussing on in- and exclusion.

Sociological notions of in- and exclusion, and disability, are often based on the image of a single person dealing with an ‘outer social’ framework (see Winance about Goffman in Winance 2007). In this article we suggest a different perspective, following a relational and practice oriented approach. The individual and the social context are part of the same relational network, shaping each other constantly in everyday practices. In addition, things, technologies and bodies are part of that network and they are constantly changing and co-shaping (dis)abilities and subjects (opening and closing action possibilities).

Starting from this perspective the notion of in- and exclusion opens up. It is no longer limited to work participation, or the communication with ‘abled’ others, but extends into ‘being able to handle one’s young children’ and ‘feel the wind touching one’s skin in summertime’. Moreover, acknowledging that the prosthesis both opens and closes action possibilities shows that Wendy and Maria are very much part of the mechanisms of in- and exclusion. They constantly have to decide on who/what to involve in a situation. But they are never the sole architects.

In this negotiating, Wendy and Maria both showed a concern for the feelings or reactions of ‘abled’ others in reaction to their impairment. When the artificial arm is not a part of one’s life, the option to ‘pass as normal’ is closed, but other strategies to deal with ‘being different’ become possible. Whether or not a prosthesis is used redistributes the responsibility for smoothing the contact between Maria/Wendy and ‘others’.

To acknowledge that there is no single (human) source of action in situations of in- and exclusion, and that they are interrelated, offers us an opportunity to view (dis)ability in a new manner. All technologies open and close opportunities for action and by allowing a technology into or removing it from the assemblage of our body-and-things we constantly negotiate between the options. This is not restricted to people with impairments. As a matter of fact, we are all disabled when we cannot use the (right) things we need in order to work, eat, communicate or move around. Yet,

in relation to assistive technologies, such as an arm prosthesis, a particular discourse comes about, constructing a sharp divide between the abled and the disabled.

In this study, we can see that in everyday practices this divide is not a sharp one and that it is renegotiated all the time, partly by the technology-users themselves. Also, we can see that the negotiating does not differ so much from other technology-users. At the same time, the specific dilemma's that are related to the use of an arm prosthesis, such as the shifting of social responsibilities, informs us on the lived and embodied sense of having this particular impairment, contributing to understanding both sameness and difference.

### Acknowledgements

We would like to thank Ruud Hendriks and Jeanette Pols for their comments on an earlier draft of this paper. This article is part of a research project financed by Disability Studies in The Netherlands (DSIN), a coöperation between Handicap+Studie and The Netherlands Organisation for Health Research and Development (ZonMw).

### Note

1. Even though sexual attractiveness and related body-image are important topics in current Disability Studies, this was hardly addressed by the interviewee we will discuss. Therefore the theme will not be taken up in this article.

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