

## Modes of ordering disability: students living with visual disabilities in the Sultanate of Oman\*

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### ABSTRACT

This article examines how a group of students with visual disabilities speak about becoming disabled and living with disability in relation to: material entities, practices, and their own expectations regarding the future in the Sultanate of Oman. It draws upon individual interviews among six adults with visual disabilities. The article outlines, from a material semiotics approach, how various forms of modes of ordering enact disability. An interdisciplinary approach, informed by disability studies and science and technology studies, is implemented to interpret: How do students with visual disabilities express the relationships between material entities (such as bodies and technologies) and practices? In what ways are these relationships enacting different modes of ordering disability? What kind of modes of ordering disability are the participants experiencing in their lives? How have they responded to the modes of ordering that they have encountered?

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### Introduction

In the Sultanate of Oman (hereafter Oman), information and communication technologies (ICT) and education are highlighted as important areas to be developed to match the lives of people with disabilities. Diverse projects, workshops, conferences, publications, research projects focusing on ICT/assistive technologies, and education for people with disabilities have been delivered. Some examples of these are reported in Alfawair and Al Tobi (2015), Alqaryouti (2010), Amideast (2016), and Ministry of Education and World Bank (2012). However, initiatives like this often start out from a perspective where technology is seen in a deterministic way and as a tool for altering the lives of people with disabilities. This approach misses out that the reality for people with disabilities are multifaceted and related to various material entities (such as bodies and technologies) and practices. Additionally, as Al Zidjaly (2015, 20) highlights, there exists a lack of research about disability in the Arab region, [where Oman is located]. Consequently, this study examines how a group of students with visual disabilities speak about becoming disabled and living with disability in relation to: material entities, practices, and their own expectations regarding the future in the Sultanate of Oman. The study explores disability and technology as relational, meaning that they are part of intra-actions<sup>1</sup> between bodies, technologies, books, practices, values and support, and so on (cf. Moser 2003; Näslund 2009; Olaussen 2010). These intra-actions are additionally related to various ways of ordering (cf. Law 1994; Moser 2003; Olaussen 2010). The study draws upon a material

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semiotics understanding of disability as its starting point (cf. Moser 2003, 2005, 2006a). We contribute with empirical material (individual interviews) from Oman, which was collected in 2012 from six adults living with visual disabilities, who at the time of the study either were enrolled at a university or were graduates. The article addresses the following questions: How do students with visual disabilities express the relationships between material entities (such as bodies and technologies) and practices? In what ways are these relationships enacting different modes of ordering disability? What kind of modes of ordering disability are the participants experiencing in their lives? How have they responded to the modes of ordering that they have encountered?

### **Bodies, disability, material semiotics, modes of ordering**

The body and its relation to disability has been explored by scholars inspired by a variety of approaches and philosophies (cf. Feely 2016; Galis 2011; Moser 2003; Olausson 2010). One way is the bio-medical/ the individual/medical view, which regards disability as located in an impaired body, which by correct means and practices could be altered (Olausson 2010, 23). Such an approach tends to regard the body as having essential characteristics which constitute the meaning of what a 'normal/impaired' person is. Other scholars have disentangled disability as coming into existence by barriers and attitudes created by the society. As Feely (2016) outlines, work in this tradition tends to leave the body unquestioned (more specifically, the body is regarded as impaired), while the focus is on disability as a social construction. Another way of exploring the relations between the body and disability is found among scholars inspired by poststructuralism. They regard the body and disability as social constructions while discourses and language are sources of inspirations for their understanding (Feely 2016).

A non-essentialistic approach of the body, which simultaneously takes the materiality of disability (lived experience, embodiment, and pain) and semiotics into consideration, has emerged among scholars within the disability studies (Feely 2016). Their work bears a resemblance to the Actor-network Theory (ANT), an anti-essentialistic approach which evolved in the 1980s through work by Callon (1986a, 1986b), Latour (1986, 1988), and Law (1986). This approach (within the science and technology studies (STS)) enables an understanding of bodies to be effects of and to bear effects within their contexts. For this article, we are informed by ANT, more specifically, the material semiotics informed by Law (1994, 1999), on ways to trace disability as related to a knowledge of material and semiotics. This approach starts from an understanding where entities acquire their meaning by relations of humans and nonhumans (cf. Law 1994, 1999; Mol 2010, 257; Moser 2003, 26–27; Näslund 2009; Olausson 2010, 35). For Law (1994, 2), material semiotics enact different forms of ordering which he explains as multiple and as something which acts/enacts. As Moser (2003) and Olausson (2010) outline, disability is enacted in processes and modes of orderings which involves people, technology, texts, bodies, policies. Mol (2010, 263) states that the concept of modes of ordering include multiple forms of orderings.

Our study is further inspired by scholars such as Moser, Olausson, and Söderström, who work with disability studies and STS in various ways. Moser (2003, 2005, 2009) has, from various angles, highlighted the lived experience of becoming disabled after traffic accidents. Olausson (2010) has studied the experience of hard of hearing and its relation to disability, technologies, practices, and politics. Another inspiration for us is work by Söderström (2009a, 2009b, 2016) who, in different ways, has traced children/youths with different disabilities/without disabilities relations to technologies (mobile phones, ICT, assistive technologies, etc.). These scholars share a mutual interest of how disability is enacted as part of relations among others: bodies, technologies, working practices, and policy documents.

### **Research context, methods, and materials**

In Oman, visual disabilities comprise the most common form of disability among people with disabilities in the country (Economic and Social Commission of Western Asia (ESCWA) and League of Arab States 2014, 72). Additionally, as Al Zidjaly (2015, 28) outlines, people with visual disabilities have

traditionally had a privileged role in the Omani society. Al Zidjaly (2015, 20) also argues that there exists a lack of research focusing on disability in the Arab region, [where Oman is located]. As Gharaibeh (2009, 63) outlines, some of the challenges when exploring disability in the Arab societies relate to: limited directories of publications related to the topic of disability, poor statistics, variations in definitions and approaches exploring of disability, as well as publications about the topic being scattered and limited and not easily available on search engines. These aspects together caught our interest to delve deeper into the situation for people with visual disabilities in Oman. More specifically, we became interested in examining how a group of students with visual disabilities speak about becoming disabled and living with disability in relation to: material entities, practices, and their own expectations regarding the future in the Sultanate of Oman.

The article draws on individual qualitative interviews among six adults with visual disabilities who at the time of the study lived in Oman. Six participants, three women and three men aged 22–27 years, were part of the research which was conducted in Oman at the end of 2012. The participants were recruited through different people (one of the authors, a person within the disability area in Oman and by the participants themselves). Letters of information and consent were presented at the time of the interview to all the participants and additionally distributed to the participants after the interview via email. All the participants' names have been altered to safeguard their anonymity. Permission was additionally granted from the university where the enrolled students attended and from governmental agencies. The interviews were all tape-recorded and later transcribed. The interviews were analysed by reading and re-reading them to capture themes (cf. Braun and Clark 2006). Each interview was analysed individually and later on compared with each other. The analysis draws upon a material semiotic understanding. This form of analysis enables one to analyse the ongoing relations and the effects of material semiotics practices and the enactments of various modes of orderings in the lives of people with disabilities (cf. Moser 2003, 2005; Olausson 2010).

### The research setting, the participants

Oman is located on the Arabian Peninsula. It is a country which, during the latest 40 years, has gone through intensive infrastructural changes and developments in the field of education, disability, and technology. Higher education consists of both private and governmental institutions (AlNabhani 2007, 41). These institutions are available, in various extent, to people with disabilities. Admission to the governmental places are based on academic merits (Al-Lamki 2002, 77). As the National Centre for Statistics and Information (2015, 20) shows, around 61% of the students enrolled in higher education in 2013/2014 were women. Policy-making and legislation has had an impact on women's lives in Oman (Don and Issan 2007, 176–177). However, the local culture has been, and is still, partly influencing women's role in society leading to them being limited in developing their educational abilities (cf. Al-Azri 2013, 133). As Al Zidjaly (2015, 28–30) presents, Omani society strives to make the society more accepting and accessible for people with disabilities. Despite this, limited services and people's attitudes are intra-acting with the lives of people with disabilities. Additionally, aspects such as close family ties and influences of the religion of Islam bear effects on the lives for people with disabilities from an early age (cf. Al Zidjaly 2015).

The women and men who participated in the study are: Afsana, Saba, Saida, Majid, Almadi, and Altaf. Afsana is a 22-year-old woman who did her basic education in a regular school and holds a BA from an Omani university. At the time of the interview, she was on a sabbatical year. Afsana became visually disabled during her childhood. Saba is a 25-year-old woman. She obtained her basic education outside of Oman at a special school, and after that, she began her regular education in Oman before she started her university studies. She has a BA but has a desire to pursue further studies. Saba was born with an eye condition and has a sibling who has a similar condition and also lives with a visual disability. Saida is a 22-year-old woman who was at the time of the study enrolled at university undertaking BA studies. She did her basic education in regular school before she applied to and was accepted at the university. She is living with low vision and has a sibling who shares the same eye

condition. Majid is a 24-year-old man. He was, at the time of the interview, studying for a BA. Majid was member of a student association for students with disabilities. He was born with an eye condition which, over time, has made his sightedness worse. He shares this condition with two other siblings. Almadi is a 26-year-old man. He attained his basic education outside Oman where he attended special schools for students with visual disabilities. He has a BA from a university in Oman. Almadi was, at the time of the interview, working in a governmental agency. He was born with visual disabilities and has a sibling who lives with the same eye condition. Altaf is a 27-year-old man and he received his basic education at a special school outside of Oman and later gained a BA from a university in Oman. Altaf is currently employed in a financial agency. He is living with visual disabilities.

## Results and discussion<sup>2</sup>

The participants speak of becoming disabled and living with disability as part of relations to different material entities, such as bodies and technologies. They additionally state how various practices and values (for instance, societal support, educational practices, and gendering practices) impact on their disability. Therefore, different material entities, support, practices, and values can be regarded as intra-acting modes of ordering disability. These orderings are constantly shifting. The participants express similarities and differences in their experiences with various modes of ordering. Sometimes, they additionally explain ways in which they have responded to the challenges and opportunities presented to them. This section will present some examples of modes of ordering which, from the presentation, might look as separate but, in reality, are intra-acting.

### *Modes of ordering disability in relation to bodies*

Some of the participants talk about how disability is related to bodily functions in various ways. Afsana gives an example of this by telling about how she was born without any disability but later became visually disabled:

- Afsana: ( ... ) I was diagnosed with a ( ... ) tumor.  
 Rebecka: Ok.  
 Afsana: It was not cancer, benign ...  
 Rebecka: Ok.  
 Afsana: ... but it was pressing on the optic nerve.  
 Rebecka: I see.  
 Afsana: So it damaged ( ... ) the cells and there was not enough blood flow ( ... ) which is why I got this visual impairment.

For Afsana, disability became part of her life when the tumour affected the optic nerve; the cells causing the blood flow to be too low and as such resulted in her becoming visually impaired. Afsana feels that her disability influences the whole of her body and its functioning. Saba, on the other hand, gives an alternative expression of disability as related to the senses. For her, disability is an effect of the lack of one's senses which can be compensated for by other senses. Thus, Afsana and Saba outline the overall effect of disability which includes the body and its makeup of cells, blood, senses, and feelings. Their views of living with disability, as related to the individual body and its material form, is one form of the ordering of disability. This can be seen as expressions of a material semiotics view of disability. More specifically, the extracts introduce that one part of the ordering of disability is about material entities such as bodies and cells and their relations to feelings, senses, and so on. For Afsana and Saba, the enactment of their disability includes the body and its materials such as cells, blood as well as senses and feelings. However, the ordering of disability is not solely about individual bodily functions; it is simultaneously related to practices and other material entities (cf. Moser 2003; Näslund 2009; Olausson 2010). As the later sections present, disability is regarded as getting its life in relation to societal support, technologies, teachers, parents, classmates, friends, and student association besides the materiality of the body/bodies.

### *Modes of ordering disability in relation to societal support*

All of the participants express how parents, friends, and societal practices have influenced their lives, education, and ways of living with disability. Majid outlines how his membership in an association for students with disabilities affects his life. The association arranges evening events and courses to raise awareness about disability. When asked if he enjoys being head of this association he says:

- Majid: Yeah ( ... ) because before I was ( ... ) as anybody, I don't have a problem, my eyes or but ( ... ) when I became low vision, I have low vision, I became one of them, and really maybe, now I feel more ( ... ) more relax[ed] than before.
- Rebecka: Ok.
- Majid: Even I was before ( ... ) my eyes ( ... ) everything is ok ( ... ) but now, even I have low vision, but I feel more, more relaxed ( ... ) than before.
- Rebecka: Ok ...
- Majid: [Cannot hear what is being said]
- Rebecka: ... so you found like a group of people you can ...
- Majid: Yeah, because of [the] group, maybe ( ... ) because we have ( ... ) a group and also we have ( ... ) relationship between ( ... ) together ( ... ) ...
- Rebecka: Hmm.
- Majid: ... and we [are] working together ( ... ) not like ( ... ) before, before ( ... ) even, even I don't have problem in my eyes, ( ... ) but I ( ... ) [regard that] now [it] is ( ... ) better than before.

The association inspires him to feel more relaxed about living with his disability and to have friendships with the other members. This resembles Olausen's (2010, 204) findings of how membership in an association for people with hearing disabilities gives room for its members to feel at ease and share a mutual understanding of living with disabilities.

In our study, some of the participants additionally expressed their experiences of a non-supportive environment. Saida explains that she feels that disability is about an individuals' view of disability and Omani society's history of not accepting people with visual disability:

- Saida: ... sometime, sometimes individuals put in their mind that I'm disabled and I can't do ...
- Rebecka: Hmm.
- Saida: ... and also sometimes, other times the society [,] I think sometimes [,] I really feel that [the] Omani society is not enough ready to accept these people.
- Rebecka: Ok.
- Saida: Not yet, not yet ready to accept blinds and low visions.

The result shows that the ordering of disability is related to societal support. In countries like Oman, the society has extensive impact on the lives of people with disabilities throughout their lives. Services and people's attitudes bear effects on the success or failure in the lives of persons with disabilities in various ways. As such, a person with disabilities need additional support from the family and friends. This has also been found in our study. Sometimes, support among the participants resembles each other in the manner and type of support that they get from family, society, university, and so on. The body is related to the support. An example is the expression by Majid when he talks about his eyes in relation to being a member of the association. Additionally, the relationship between the body and the wider society is another part of the ordering. This is found in Saida's view of the Omani society's lack of accepting people with disabilities. So, lack of acceptance is also part of modes of ordering. Consequently, in this ordering, bodies, societal support and acceptance are intra-acting and bears effect on the participants' ways of living with disability.

### *Modes of ordering disability in relation to technologies*

As Moser (2003), Näslund (2009), Olausen (2010), and Söderström (2016) highlight, different material entities and practices in relation to the individual body and mind and society give life to disability. For Moser (2003) and Olausen (2010), disability is enacted in processes and modes of orderings, which involve people, technology, texts, bodies, and policies. From the interviews, we came to know more

about this form of enactment and ordering of disability. For Saida, the conducting of sessions of interpretation relates to the use of computers and to classmates' assistance:

- Saida: And also when (...) using the (...) computers, some, some subjects we have to use computers for example I'm taking now interpreting because I'm studying translation ...
- Rebecka: Ok.
- Saida: ... or we have interpreting (...) so we have to use (...) the computers in order to listen to the video and (...) starting interpreting. So if (...) I can't use them myself, I have to (...) to have someone to help me, to open the video and then close it when I finish.

Thus, the technology, the computer, is a co-structor in the act of interpretations since it is needed in order to listen to videos and for Saida to start her interpretations. The process also includes the classmates of Saida but it is the computer which sparks the process of interpretation by enabling Saida to open the video. As Saida explains, her way of conducting sessions of interpretation is related to the use of computers and to her classmates' assistance. Almadi's experience resembles Saida's. For him, the teachers and his friends recorded course literature, read questions, and took answers. This, together with the computer, was part of his education:

- Rebecka: And (...) when you took your exams how did you take your exams?
- Almadi: Exams (...) in computer.
- Rebecka: In computer.
- Almadi: No[t] all, sometimes computer, sometimes people read (...) question ...
- Rebecka: Ok.
- Almadi: ... and take answer.

Our study endorses that the ordering of disability is not only determined by the physical impairments of an individual's body but also by the relationship of the body with practices, material, and semiotic entities (cf. Moser 2003, 2005, 2006a; Näslund 2009; Olausson 2010). The study shows how different material entities (books, papers, programmes, and black boards), in relation to practices (ways of examination), give life to disability. In our interview with Altaf, he addresses the relationship between technology and teachers' practices. Altaf had access to a Braille typewriter which the teacher did not allow him to use since it made sounds when Altaf used it. The technology, by causing sounds, portrayed Altaf as causing a disturbance in the classroom instead of enabling him with his education and eventually led to the non-use of it. Thus, the interrelationship between Altaf, the typewriter and the teacher's practice was not smoothly connected; they were in fact in conflict.

In summary, the study highlights that, for the participants, technologies played a part in their studies in multiple ways and additionally were interrelated to the staff and classmates. The interactions of the body, technology and teachers' practices were sometimes working in cooperation, while at other times, they work in a non-cooperative way.

### *Modes of ordering disability in relation to educational practices*

The result additionally shows that besides the individual body, societal support, different forms of material entities: books, black boards, technologies (computer, Braille typewriter), the educational practices are an integral part of the modes of ordering disability. For Majid, his disability is related to educational practices in such a way that when his visual disability worsened, he had to change his subject of study. He started his study in the technical area but had to transfer to another college after some years:

- Majid: ... in, in the college many things change, I cannot see anything, cannot see the board, cannot see what's written in books ...
- Shariffa: Oh.
- Majid: ... it's so difficult to work in (...) workshops.
- Rebecka: Yeah.
- Shariffa: Hmm.

- Majid: ( ... ) so, I face a lot of difficulties ...  
 Rebecka: Difficulties.  
 Majid: ... in, yeah, in continuing my study in engineering.

Thus, the individual body, different material entities such as the black board, as well the practices of the university, led to Majid having to transfer to another college. Additionally, different practices and material entities affect the education of the participants. Afsana explains how her teachers' practices often were non-supportive while at other times they, together with material entities such as play dough, supported them in their education:

- Afsana: ... ( ... ). So we entered and although there were some teachers who ( ... ) didn't like the idea very much because they thought, the teachers were not qualified to teach visually impaired. There were some courses like, you know courses in linguistics ...  
 Rebecka: Yeah.  
 Afsana: ... ( ... ) which had some symbols, like the ones in the dictionary for pronunciation  
 Rebecka: Yeah.  
 Afsana: ... we had to know how to write those symbols ...  
 Rebecka: Ok.  
 Afsana: ... and they were saying how can they learn these things ...  
 Rebecka: Ok.  
 Afsana: ... but we had some professors who were very co-operative and ( ... ) they made these symbols out of play-dough, the ...  
 Rebecka: Aha.  
 Afsana: ... so we could touch it ...

This form of ordering additionally reflects on the students' lives after they finish their education. For Altaf, who has a BA and who works in a financial agency, his area of study causes him to feel hindered. He feels that despite having a university degree, he cannot find meaningful employment which enhances his personal development.

Our study reveals that sometimes educational practices are interfering with the participants' choices of study in a non-supportive way. Thus, at the only governmental university in the country, students with visual disabilities were, at the time of the study, only accepted at the college of Arts and Social Sciences. This, together with the material entities (such as the individual's body, technologies, blackboard, books, play dough, etc.) and different forms of practices, impacts students with visual disabilities during the course of their studies as well as when they are out of the university environment. At the same time, the study shows that different practices and material entities enabled the participants with their education. For instance, the use of material entities such as play dough and teacher practices led the participants to finding alternative ways of gaining knowledge in their area of study. Our findings reflect Söderström's (2016, 95) study of how classrooms, the use of assistive technologies and educational practices guide different forms of participation among pupils with disabilities in the activities in the classroom.

### *Modes of ordering disability in relation to gender*

Besides the ordering of disability in relation to bodies, societal support, technology and educational practices, the participants talked about how the lives of women and men with disabilities in Omani society are ordered. The intertwining of gender and disability was revealed in our study. In Oman, gender differences relate to the local culture and people's lives (cf. Al-Azri 2013; Don and Issan 2007). This has a profound effect on the lives of people with disabilities. Saida relates her view of gender and her life of being disabled to her brothers' experiences of living with disability. According to her, life is more difficult for a man with disability:

- Saida: If I'm a man ...  
 Rebecka: Yeah.  
 Saida: ... it's gonna be more difficult. [Giggles].

- Rebecka: Why?  
 Saida: I don't know, I mean, they have to drive a car not like ( ... ) [a] woman. I, I think, I love to drive a car and I wish that I can, but I think it is less important to drive a car if you are a woman than if you are a man.  
 Rebecka: ( ... )  
 Saida: Because when I see, that's ( ... ) I'm sure of that because I'm seeing my younger ( ... ) brother. I feel that I am, I'm accepting the situation more than he does.  
 Rebecka: Ok.  
 Saida: Because he has to go outside with his friends ...

Thus, the relationship of being a man, with the obligation to drive a car and to be active in wider society, is part of the reason why Saida feels that life is more difficult for a man with a visual impairment.

Our study additionally shows that that the ordering of disability, and its relationship to gender, is reflected in the use of technology. Technologies such as the white stick is related to traditional views of gender as well as the individual's feelings about gender and differences. Since some women do not wish to be exposed to other people looking at them, they prefer to not use technologies such as the white stick. Majid states that gender differences exist in relation to the use of technologies and again this is related to the way gender differences are practised in Oman:

- Majid: Not like a man, a man needs ( ... ) he can deal easily with ( ... ) with ( ... ) technologies. Even [if] it affect[s] ( ... ) his appearance but in any case he can use it no problem. ( ... ) for example, the stick, the white stick ...  
 Rebecka: Ok.  
 Majid: ... ( ... ) most ladies in our group who have ( ... ) low vision they don't use it at all.  
 Rebecka: They don't use the stick?  
 Majid: They don't use the stick at all.  
 Rebecka: Ok.  
 Majid: When I ask ( ... ) them why, they ( ... ) they ( ... ) [say] because it's the other ( ... ) maybe they're ashamed ...  
 Rebecka: Ok.  
 Majid: ... or feeling that other people looking ( ... ) [at] them as a different or something different.

The extracts reflect Moser's (2006b) view that gender and class are interrelated to disability. More specifically, our study reveals that the intra-actions of disability and gender are related to the individual's body, the wider society with its practices, and technology. On the one hand, perceptions of the bodies of women and men as either being abled or disabled influence the participants' possibilities of being part of the wider society. On the other hand, this ordering is not only about dis/abled bodies but also about values and traditions of the responsibilities of women versus men. Thirdly, it is also related to material entities and technologies. So, in conclusion, the use of technologies in the lives of people with disabilities is related to values and traditions of the society and about gender which contributes to certain forms of ordering disability.

### *Modes of ordering disability in relation to future prospects*

In the interviews, the participants give voice to values such as wishing for independence, acceptance, awareness, inclusion, equal opportunities, and choice. They express how these values are related to disability, bodies, societal support, educational practices, and technologies. When talking about the future, these values and its relationship to the previous modes of ordering disability arise. Our study reveals that technology is regarded as being important for people with disabilities to attain higher education and future work. In line with Moser (2006a, 380), our study shows that technology is viewed by the participants as an essential part of the process of gaining independence. Technology is additionally expressed as a way in the future to achieve the same rights as people without disabilities. When Saida talks about the future, she relates to technology and equal rights:



- Saida: My dream [is] that Oman will [be]come a country that is, have that special technology for those people, and in schools, in universities, in ( ... ) places of works, in every aspects of life.
- Rebecka: Ok.
- Saida: Because I think they, they have the same rights as the others. They have to enjoy life ...

Majid also regards that technology plays a part of the future for people with disabilities in Oman as a way to gain independence.

- Majid: My dream ( ... ) to see ( ... ) all people in Oman who have ( ... ) any kind of ( ... ) disability ...
- Rebecka: Yeah.
- Majid: ... they working or ( ... ) dealing with people or ( ... ) going anywhere they want, as ( ... ) anybody ...
- Rebecka: [Difficulties hearing what is being said].
- Majid: ... like anyone who has ( ... ) who, who don't have any kind of ( ... ) disease or something or disability. I wish to see like the technologies now, the technology they are trying to, to help us to be independent ...

The result also reflects how the intertwining of gender and disability, individual capabilities, societal values about inclusion, equality, and awareness are all interconnected with future aspirations. The dream for Saba is related to gender and disability; more specifically about giving confidence, dealing with marginalization due to one's gender, and also about showing that being disabled does not mean that you are incapable:

- Saba: ... ( ... ) as a lady, a blind lady, first I want to reach to every blind girl here in, in the Sultanate and I would like to take her hand and lead her to be a successful woman to give her confidence and to reach her goals. Because there are many women, man, many females in Oman are marginalized and they are ( ... ) they were not, ( ... ) they did not study, they did not complete their higher education. That, this is my ( ... )
- Rebecka: This is your future dream?
- Saba: Yes.
- Rebecka: Ah, it's a nice ( ... )
- Saba: And then ... ( ... ) ... personally you know, I want to complete my higher education, I want to be a professional interpreter, something ( ... ) to prove to the world that the blind ( ... ) person is capable of doing anything.

Another form of future aspirations is presented by Afsana. Her view of the dream society in Oman is about equal opportunities for education and about societal support:

- Afsana: ( ... ) that they get equal opportunities for education ( ... ) for during ( ... ) during school and higher education ( ... ) well. ( ... ) that they get enough support ( ... ) from the government and from ( ... ) non-governmental organizations. ( ... ) from the people ( ... ) that awareness spreads to all parts of Oman about disability and that people ( ... ) people treat them ( ... ) as equals not as people who are disabled and then excluded from certain parts of ( ... ) the society or ( ... ) from ( ... ) taking part in certain activities or ( ... ) like ( ... ) not taken into schools and things like that.

## Conclusion

In this article, we have striven to create an understanding, from a material semiotics approach, how various modes of ordering enact disability. Empirical material (individual interviews with six students with visual disabilities in Oman) was related to a material semiotic understanding. By implementing this, the article showed how various forms of ordering are related to the lives of students with visual disabilities in Oman. The article presented how a group of students with visual disabilities speak about becoming disabled and living with disability in relation to: material entities, practices, and their own expectations regarding the future in the Sultanate of Oman.

The material semiotics approach provided us with ways to illustrate that disability is an effect of relations between material entities (such as bodies and technologies) and practices. The article gave voice to the participants' expressions of the relationship between material entities and practices.

More specifically, for the participants, disability is part of relations between different forms of material entities (bodies, bodily parts, technologies), and practices (within the society and in the educational arena) which include values, support, and so on. These relations in turn intra-act and contribute to the process of various forms of ordering disability in practices. Thus, the article outlined how the relations form various modes of orderings which contribute to the participants' experiences of living with disability (as a young adult woman and man), their focus of study, their access to education, their use of and access to technologies, and their future aspirations. Finally, the article presented some of the participants' responses to the modes of ordering that they have encountered. Our article showed that sometimes the participants adapt to the ordering while at other times they oppose the ordering which has become part of their lives.

The article has contributed with new insights to research focusing on disability, and technology in the Arab region. Additionally, the article by its focus on the various modes of ordering can bear an effect for future students with visual disabilities as well as other disabilities in various settings. By centring on the ordering of disability in relation to how a group of students with visual disabilities speak about becoming disabled and living with disability in relation to: material entities, practices, and their own expectations regarding the future in the Sultanate of Oman, there is an opening to trace alternative ways of making the educational and societal practices attune to current, as well as future, ambitions of people with disabilities. The article also showed that the orderings that are part of the students' lives are intra-acting and sometimes form relationships in a coherent way; while at other times, they are in conflict with each other. An elaborated study of this would be an interesting topic to explore in future research. Another topic of interest to disentangle are the modes of ordering that researchers contribute to with their studies of topics like this.

## Notes

1. In this article, we talk about intra-actions instead of interactions. Intra-action is a concept developed by Karen Barad. She regards that intra-action compared to interaction pays more attention to how entities are enacted, thus for her, the entities are not pre-given as in the concept of interaction (Barad 2003, 815).
2. In the extracts from the interviews (...) is used in the text to indicate omissions from the original interviews and [...] is used for presenting inserted alterations. Both the omissions and the insertions were done as a way to correct the interview linguistically, to not reveal the interviewees' identity, and to ease the reading.

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No potential conflict of interest was reported by the authors.

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## References

Al-Azri, K. M. 2013. *Social and Gender Inequality in Oman: The Power of Religious and Political Tradition*. London: Routledge.

- Al-Lamki, S. M. 2002. "Higher Education in the Sultanate of Oman: The Challenge of Access, Equity and Privatization." *Journal of Higher Education Policy and Management* 24 (1): 75–86. doi:10.1080/13600800220130770.
- Alfawair, A. M. J., and A. S. Al Tobi. 2015. "Special Needs Education in Sultanate of Oman: Past, Present and Future." *Scholars Journal of Arts, Humanities and Social Sciences* 3 (2B): 415–422. Accessed August 25, 2016. <http://sasjournals.com/wp-content/uploads/2015/04/SJAHSS-32B415-422.pdf>.
- Alqaryouti, I. A. 2010. "Inclusion the Disabled Students in Higher Education in Oman." *International Journal for Cross-Disciplinary Subjects in Education* 1 (4): 216–222. doi:10.20533/ijcdse.2042.6364.2010.0030.
- AlNabhani, M. 2007. "Developing the Education System in the Sultanate of Oman through Implementing Total Quality Management: The Ministry of Education Central Headquarters – A Case Study." *PhD diss.*, University of Glasgow. Accessed August 18, 2016. <http://theses.gla.ac.uk/41/1/2007AlNabhaniPhD.pdf>.
- Al Zidjaly, N. 2015. *Disability, Discourse and Technology: Agency and Inclusion in (Inter)Action*. Basingstoke: Palgrave Macmillan.
- Amideast. 2016. "New Course Teaches English to Visually Impaired Students in Oman." Accessed August 18, 2016. <http://www.amideast.org/ar/news-resources/feature-stories/new-course-teaches-english-visually-impaired-students-oman>.
- Barad, K. 2003. "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter." *Signs: Journal of Women in Culture and Society* 28 (3): 801–831. doi:10.1086/345321.
- Braun, V., and V. Clarke. 2006. "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology* 3 (2): 77–101. doi:10.1191/1478088706qp0630a.
- Callon, M. 1986a. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuç Bay." In *Power, Action and Belief: A New Sociology of Knowledge?*, edited by J. Law, 196–233. London: Routledge & Kegan Paul.
- Callon, M. 1986b. "2. The Sociology of an Actor-Network: The Case of the Electric Vehicle." In *Mapping the Dynamics of Science and Technology: Sociology of Science in the Real World*, edited by M. Callon, J. Law, and A. Rip, 19–34. Houndmills: Macmillan.
- Don, G., and S. Issan. 2007. "Higher Education in Transition: Gender and Change in the Sultanate of Oman." *Scottish Educational Review* 39 (2): 173–185. Accessed August 25, 2016. <http://www.scotedreview.org.uk/media/scottish-educational-review/articles/180.pdf>.
- Economic and Social Commission of Western Asia (ESCWA) and League of Arab States. 2014. *Disability in the Arab Region: An Overview*. Beirut: United Nations House. Accessed August 25, 2016. [https://www.unescwa.org/sites/www.unescwa.org/files/page\\_attachments/disability\\_in\\_the\\_arab\\_region\\_-\\_an\\_overview\\_-\\_en\\_1.pdf](https://www.unescwa.org/sites/www.unescwa.org/files/page_attachments/disability_in_the_arab_region_-_an_overview_-_en_1.pdf).
- Feely, M. 2016. "Disability Studies after the Ontological Turn: A Return to the Material World and Material Bodies Without a Return to Essentialism." *Disability & Society* 31 (7): 863–883. doi:10.1080/09687599.2016.1208603.
- Galis, V. 2011. "Enacting Disability: How Can Science and Technology Studies Inform Disability Studies?" *Disability & Society* 26 (7): 825–838. doi:10.1080/09687599.2011.618737.
- Gharaibeh, N. 2009. "Disability in Arab Societies." In *Disabilities: Insights from Across Fields and Around the World*, edited by C. A. Marshall, E. Kendall, M. E. Banks, and R. M. S. Gover, 63–79. Westport, CT: Praeger Publishers.
- Latour, B. 1986. "The Powers of Association." In *Power, Action and Belief: A New Sociology of Knowledge?*, edited by J. Law, 264–280. London: Routledge & Kegan Paul.
- Latour, B. 1988. *The Pasteurization of France*. Cambridge, MA: Harvard University Press.
- Law, J. 1986. "On the Methods of Long-Distance Control: Vessels, Navigation and the Portuguese Route to India." In *Power, Action and Belief: A New Sociology of Knowledge?*, edited by J. Law, 234–263. London: Routledge & Kegan Paul.
- Law, J. 1994. *Organizing Modernity*. Oxford: Blackwell Publishers.
- Law, J. 1999. "After ANT: Complexity, Naming and Topology." In *Actor Network Theory and After*, edited by J. Law and J. Hassard, 1–14. Oxford: Blackwell Publishers.
- Ministry of Education and World Bank. 2012. *Education in Oman: The Drive for Change*. Sultanate of Oman: Ministry of Education. Accessed August 25, 2016. <http://documents.worldbank.org/curated/en/280091468098656732/pdf/757190ESW0v20W0ector0Report0English.pdf>.
- Mol, A. 2010. "Actor-Network Theory: Sensitive Terms and Enduring Tensions." *Kölner Zeitschrift für Soziologie und Sozialpsychologie. Sonderheft* 50: 253–269. Accessed September 15, 2016. <http://dare.uva.nl/document/2/90295>.
- Moser, I. B. 2003. "Road Traffic Accidents: The Ordering of Subjects, Bodies and Disability." *PhD diss.*, University of Oslo.
- Moser, I. 2005. "On Becoming Disabled and Articulating Alternatives: The Multiple Modes of Ordering Disability and Their Interferences." *Cultural Studies* 19 (6): 667–700. doi:10.1080/09502380500365648.
- Moser, I. 2006a. "Disability and the Promises of Technology: Technology, Subjectivity and Embodiment Within an Order of the Normal." *Information, Communication & Society* 9 (3): 373–395. doi:10.1080/13691180600751348.
- Moser, I. 2006b. "Sociotechnical Practices and Difference: On the Interferences Between Disability, Gender, and Class." *Science, Technology, & Human Values* 31 (5): 537–564. doi:10.1177/0162243906289611.
- Moser, I. 2009. "A Body That Matters? The Role of Embodiment in the Recomposition of Life After a Road Traffic Accident." *Scandinavian Journal of Disability Research* 11 (2): 83–99. doi:10.1080/15017410902830520.
- National Centre for Statistics and Information. 2015. "Higher Education Statistics." Accessed August 25, 2016. [https://www.ncsi.gov.om/Elibrary/LibraryContentDoc/bar\\_Higher%20Education%20Statistics\\_229b36e2-ec3e-473b-955a-aeffc4689699.pdf](https://www.ncsi.gov.om/Elibrary/LibraryContentDoc/bar_Higher%20Education%20Statistics_229b36e2-ec3e-473b-955a-aeffc4689699.pdf).

- Näslund, R. 2009. "Bringing Actors Together: ICT, Disability and Pupils in Special School." *Lic thesis*, Luleå University of Technology.
- Olaussen, I. 2010. "Disability, Technology & Politics: The Entangled Experience of Being Hard of Hearing." *PhD diss.*, University of Oslo. Accessed September 15, 2016. [https://www.duo.uio.no/bitstream/handle/10852/17655/Materie\\_208\\_Olaussen.pdf?sequence=1&isAllowed=y](https://www.duo.uio.no/bitstream/handle/10852/17655/Materie_208_Olaussen.pdf?sequence=1&isAllowed=y).
- Söderström, S. 2009a. "The Significance of ICT in Disabled Youth's Identity Negotiations." *Scandinavian Journal of Disability Research* 11 (2): 131–144. doi:10.1080/15017410902830587.
- Söderström, S. 2009b. "Ungdom, Teknologi og Funksjonshemming: En Studie av IKTs Betydning i Dagliglivet til Ungdommer Som Har en Funksjonsnedsettelse [Youth, Technology, and Disability: A Study of the Meaning of ICT in Everyday Lives of Youths with Disabilities]." *PhD diss.*, Norges teknisk-naturvitenskapelige universitet.
- Söderström, S. 2016. "Socio-material Practices in Classrooms that Lead to the Social Participation or Social Isolation of Disabled Pupils." *Scandinavian Journal of Disability Research* 18 (2): 95–105. doi:10.1080/15017419.2014.972449.