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# Media coverage of bionics: Implications for Human Rights, Sustainability, and Security



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## Introduction

- ❖ The field of bionics is based on the union of living organisms and machines [1].
- ❖ Bionics are proposed as body add-ons or replacement for many body parts (ears, eyes, retinal prosthetics; knees; neural prostheses; joints, muscles, kidney, liver, cartilage lungs, discs, pancreas, dental pulp, skin, hippocampus, legs, hands) and function such as speech.
- ❖ Bionic technology can be aimed toward restorative purposes and/or enhancement of human body-abilities beyond the normal [2].
- ❖ Media are seen to enable social participation [3] and to help set the discussion agenda for society and are seen to create the boundaries within which debates takes place [4-6].

## Aim

- ❖ to analyse how bionic technologies are portrayed in newspapers and the usefulness or lack thereof of that portrayal for disabled people.

## Methods

- ❖ *Analytical lens: Disability Studies framework*
- ❖ *Data source: New York Times, the Calgary Herald, the Globe and Mail and the Canadian newsstand a database of n=300 Canadian newspapers*
- ❖ *Inclusion criteria: the keyword “bionics” in combination with keywords visible in Tables 1-4.*
- ❖ *Generation of qualitative and quantitative data using Atlas-ti software*

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Table 1 Mentioning of social groups in the newspaper coverage of bionics

Codes	Canadian Newsstand(n=300 newspapers) 4826=100%	Calgary Herald 270=100%	The Globe and Mail 392=100%	The New York Times 492=100%
Aboriginal People/ Indigenous People/ First nations	7/3/0	2/0/0	2/0/0	0/3/0
Amputee	118	12	12	13
Business	1296	49	89	138
Caregiver	4	0	0	9
Corporate	129	5	21	129
Cyborg	55	5	2	10
Family/ies	1062//175	61	89	1130
Government	425	32	50	38
Immigrants	22	2	5	6
Impair	71	3	0	71
Industry	534	34	56	87
Inuit	17			
Military	255	12	19	27
Nurses	33	3	8	3
Parents	125	28	36	71
Patient	323	27	33	60
People with Disabilities/disabled people	8/27	0/1	0/0	1/5
Physicians	46	4	8	19
Society	391	31	27	56
Soldier	171	10	12	24
The poor	38	3	4	12
Therapist	75	4	7	9
Veteran	348	23	32	35
Women	888	115	195	221

Table 4: TV superhero's

Codes	Canadian Newsstand(n=300 newspapers) 4826=100%	Calgary Herald 270=100%	The Globe and Mail 392=100%	The New York Times 492=100%
Bionic man	373	22	25	39
Bionic woman	1166	70	142	98
Six million dollar man	357	19	22	19

## Key Findings

- ❖ Socially disadvantaged groups such as people with disabilities are barely mentioned (Table 1).
- ❖ Overly medical flavor of the bionic discourse (Table 2).
- ❖ Lack of social issues mentioned (Table 3)
- ❖ Hierarchy of devices evident with negative coverage of wheelchairs in relation to bionic legs (qualitative data not shown)
- ❖ The ability of bionics to ability enhance the wearer is not really thematized beyond the over-visibility of superhero TV shows (Table 4).

Table 2 Medical Language evident in the newspaper coverage of bionics

Codes	Canadian Newsstand(n=300 newspapers) 4826=100%	Calgary Herald 270=100%	The Globe and Mail 392=100%	The New York Times 492=100%
Amputee	118	12	12	13
Caregiver	4	0	0	9
Disease	321	24	21	41
Health	510	31	34	57
Impair*	71	3	0	71
Nurses	33	3	8	3
Patient	323	27	33	60
People with Disabilities/disabled people	8/27	0/1	0/0	1/5
Physicians	46	4	8	19
Therapist	75	4	7	9
Treatment	206	23	18	36

Table 3: Frequency of Use of Social Issue Related Terms n=articles=100%

Codes	Canadian Newsstand(n=300 newspapers) 4826=100%	Calgary Herald 270=100%	The Globe and Mail 392=100%	The New York Times 492=100%
Access	165	13	14	21
Afford*	32	4	13	21
Equity/equality	30/22	1/0	5/6	5/2
Income/cost	77/715	3/33	16/53	16/83
Discrimination	11	1	2	2
Stigma	7	0	0	2
Quality of life	54	6	4	3
Education	175	12	18	27
Employment	38	1	3	7
Problem	504	50	77	133

## Conclusion

- ❖ We argue that the overly medical flavour, the lack of mentioning of social issues and the lack of mentioning of the enhancement angle is detrimental to human security
- ❖ The invisibility of socially disadvantaged groups poses the question for whom bionics of the future will be available and whether we move towards the reality of new group of socially disadvantages groups the techno poor-impaired and techno poor-disabled [7-8]