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Editorial: Academic Freedom is an Essence of Bioethical Discourse

- Darryl Macer

As a Journal editor I must uphold the freedom of expression and our social belief that this is a basic human right. Authors have the freedom to express their ideas, as long as they do not falsely slander another moral being. We also demand in science that there is a rationale and evidence to be presented, and each journal has a choice whether to be a neutral forum allowing people to publish views that have some merit to be presented for academic discourse, no matter what the conclusions are, as is the position of *EJAIB*, in contrast to some journals that will only publish ideas that are consistent with a particular

viewpoint. In the past three years a popular idea of false news, fake news, and politically biased discourse has been more evident in the print, media and social media groups. For centuries there have been institutions that try to limit discussion to their particular ideology, theology or passion. We still have these, and it is part of the celebration of human diversity itself when we have a full range of positions. We respect their freedom.

Academic Freedom is only possible through a climate of open and transparent genuine discourse, using the full range of rational and emotional arguments that humans have created. It is a foundation also of academic associations, such as the Asian Bioethics Association, of academic institutions, and of the discipline of Bioethics.

When academic institutions attempt to stifle freedom of dialogue it usually backfires against them creating discontent, and the first extended paper in this issue of *EJAIB* by Stuart H. Hurlbert, describes an ideology-driven attack on him broadcast to the entire campus just before he gave a seminar at Scripps Institution of Oceanography. The readers of this journal will find this in conflict with the academic integrity expected of major fora of scientific knowledge. The allegations against Hurlbert were linked to bioethical issues of birth control, immigration, overpopulation, and the ecological crisis that we face as a planet. In academic dialogue it should be completely acceptable to ask questions about all the links between these phenomena. In fact it is an obligation of academic inquiry. Also, I note that as editor I gave all persons mentioned a chance to respond in this journal.

This is clearly a topic of the hour for us as a species as presented by a response article by Haydn Washington, Ian Lowe, and Helen Kopnina. We have to consider seriously the consequences of human freedom, and some governments have attempted by both voluntary and coercive polices to limit the number of children each person should leave as a moral agent on this planet. These are also important questions for the link. Finally in this issue please see the call for the Legacies of Hope, Peace and Love book which was launched in the Al Noor Mosque in our hometown, Christchurch, to show how Education can overcome prejudice, despite these evils.

The third paper in this issue is by Rochelle Deloria, Aspen Lillywhite, Valentina Villamil and Gregor Wolbring and reports on how the academic literature and media discuss disabled people in relation to AI and neuro-research. It is easy to see the linkages to this theme.

Attempts by scientists to suppress discussion of overpopulation: A California case that backfired nicely

- Stuart H. Hurlbert, Ph.D.¹

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Abstract

Distribution of literature on population issues at a Sierra Club symposium in San Diego on marine conservation led to an invitation to speak at the Scripps Institution of Oceanography (SIO) in 2017. A few hours before that talk was given, the speaker was attacked in an email sent to the entire SIO community by a SIO faculty member repeating a claim by the Southern Poverty Law Center (SPLC) that the speaker belonged to an “anti-immigrant hate group.” Some students then also objected to the speaker’s presence. Nevertheless, the talk was positively received by the two dozen people who came, though not by the SIO faculty member nominally in charge of the seminar series. The UCSD administration did not allow the SIO directorate to follow through on its promise to allow the speaker a convenient way to respond to his attackers. He did so anyway with a document that went to 1800 members of the SIO community. A flurry of email messages occurred within SIO; the few received by the speaker were mostly positive. The SIO community contributed \$600 to Californians for Population Stabilization, the organization falsely accused as being a “hate group.” One SIO faculty member concluded, “the controversy has resulted in a great deal more thought about US population stabilization at SIO than if only CMBC [Center for Marine Biodiversity and Conservation] students and faculty attended your talk.” Ethically challenged censors within the scientific community must always be confronted and exposed. It doesn’t take all that much to win local battles.

Key words: censorship, climate change, Scripps Institution of Oceanography, Californians for Population Stabilization, Southern Poverty Law Center, Jennifer Haase, Lisa Levin, Jay Barlow

The population-environment connection has become a taboo subject. Many young people on university campuses, including Berkeley, have been taught over the past decade that the connection between population growth and environment is not an acceptable subject for discussion. In many circles it is politically incorrect to say that slowing population growth will help to make it possible to preserve the environment for future generations.

At the Scripps Institution of Oceanography in San Diego I have learned that the countries whose scientists are involved in the Intergovernmental Panel on Climate Change have made a tacit agreement not to talk about the

population factor because it is “too sensitive”. Think about this ... the panel is composed only of scientists, who are purposely avoiding discussion of a significant factor in their principal subject. What has been happening? I will try to answer this question.

-- Martha M. Campbell, University of California, Berkeley, in “Why the Silence on Population?,” 2005

*The recommendations for action are made in a spirit of consensus and international cooperation, recognizing that **the formulation and implementation of population policies is the responsibility of each country** and should take into account the economic, social, and environmental diversity of conditions in each country, with full respect for the various religious and ethical values, cultural backgrounds and philosophical convictions of its people, as well as the shared but differentiated responsibilities of all the world’s people for a common future.*

-- Preamble to “Report of the International Conference on Population and Development,” Cairo, 1994

Introduction

In the United States discussion of national population policies and their environmental, social and economic consequences is strongly discouraged if not censored or suppressed outright by many scientific, academic and environmental establishments (Grant 1994, Maher 1997, Beck & Kolankiewicz 2000, Hurlbert 2001, 2011a,b,c,d, 2012, 2016a, Meyerson 2004, Campbell 2005, 2007, 2012, Ehrlich 2008, Hull 2011, 2018, Kolankiewicz 2011, Walker 2011, Weld 2012, Schindler et al. 2012). When such discussions invade or threaten to invade the institutional spaces these establishments control ideologically, their self-appointed guardians and overseers react in unethical ways. Often they simply nip such discussions in the bud without the wider community even knowing the nipping has taken place. When that is not possible, instead of joining the discussion, they may engage in *ad hominem* attacks on the individuals or organizations initiating the discussion.

This article exemplifies one possible way in which well-informed contrarians with sufficient time on their hands can respond with positive result to attacks of the latter sort. Many important general issues are addressed relating to ethics, the behavior of scientists, students and their institutions, and the intellectual openness of academia in the U.S. generally. These are addressed, however, by recounting in detail a rather complex case history, the tangled sequelae of a Sierra Club meeting and a talk I gave at the world famous Scripps Institution of Oceanography (SIO) at the University of California, San Diego, on February 28, 2017. This article departs in style from the drier, more academic tone of most EJAIB articles while being fully concordant with the journal’s focus on ethics. Much of the article consists of direct quotes from email messages received, directly or indirectly, from SIO faculty members, staff members and students. Aside from a few principals in the controversy, these individuals have

been granted anonymity here. And even where there are strong criticisms of me, I offer no individual rebuttals as none are needed.

This is a tale with many themes. One would be expressed most accurately by an old adage revised as, 'Lie down with the Southern Poverty Law Center (SPLC), get up with egg on your face.' Another theme is the censoriousness of scientists.

More positive themes include how you should stick to high principle, and "when someone is cruel or acts like a bully you don't stoop to their level. No, our motto is: when they go low, we go high", as First Lady Michelle Obama told the July 2016 Democratic National Convention she advised her daughters. Another theme is that those who "go low" usually are paper tigers, and if you confront them publicly you will get private messages of support in your inbox from persons you have never met – and sometimes even cash contributions!

A final theme is to be wary of stereotyping entire organizations based on the bizarre politics or bad behavior of their leaders. Many organizations that initially seem to be apolitical or politically centrist or moderate evolve according to Conquest's second law of politics: "Any organization not explicitly right-wing sooner or later becomes left-wing" (Anonymous 2008).

Conquest's third law, as modified by John Moore, is: "The simplest way to explain the behavior of any bureaucratic organization is to assume that it is controlled by a cabal of the enemies of the stated purpose of that bureaucracy." To that we might add: "...or by a cabal intent on surreptitiously, without a membership referendum or vote, radically modifying the original stated mission of the organization." In any case, during the typical leftward evolution of an organization, there is an ephemeral increase in membership political diversity. It takes a while for the more centrist or politically moderate members to understand what has happened and drift away. In some cases, of course, they can't drift away because membership is essential to their livelihood. Professors in many colleges and universities whose central administrations have been taken over by ideologues of the far left would be one example.

With that odd introduction, let us begin the tale.

Sierra Club's West Coast Ocean Forum

This half-day symposium was held in La Jolla, California on November 5, 2016. Lead organizer was Renée Owens, chair of the Wildlife Committee of Sierra Club San Diego chapter and member of the SC's National Marine Action Team. Half a year later, she would receive the Club's highest award, the Silver Cup Award as "the person who has most significantly contributed to the success of the Club's mission." (Thomas 2014)

Promotional materials noted there would be coverage of "topics such as endangered species, climate change and offshore oil, aquaculture, ecosystem based fishery management, National Ocean Policy, and tools to effectively protect and preserve our ocean ecosystems for the future."

Prior to the event, I asked Renée if I could bring some literature to distribute and if there would be tables

available for that. I knew Renée from back when she was an ecology Master's student in the Biology Department at San Diego State University and from private discussions of Sierra Club politics over the years. Her reply was, "Sure and yes."

The talks were excellent in substance and delivery, and some new friends were made. With the help of Allison McGee, wildlife enthusiast and member of the Sierra Club and of Scientists and Environmentalists for Population Stabilization (SEPS), we distributed about 1100 pieces of literature on national and global population policies and issues, censorship, and population growth as a driver of environmental problems. This was accomplished mainly via pre-assembled literature packets containing 35 items each.

One new acquaintance who appreciated our packet was Scripps Institution of Oceanography researcher Jay Barlow. Within an hour of the end of the symposium, I received the following email message from him:

"Thanks for the written material you provided at the Sierra Club meeting today. I read through most of it and found it to be very interesting.

It is amazing to me how many groups are afraid to even discuss issues of population growth. I was practically weaned reading the Population Bomb. Sad to see how far we haven't come.

At Scripps, there is a noon seminar sponsored most weeks by the Center for Marine Biodiversity and Conservation. If you or a member of your group were interested, I'd love to hear you speak there.

Currently I am the President for the Society for Marine Mammalogy, a professional society with approximately 2000 members. We host biennial conferences that attract 1500-2500 attendees. Speaking for myself, I'd welcome your group [SEPS] at an exhibitor table at our Society meetings. If your group were interested, I'd be happy to bring it up to our Board with my recommendation."

I said I'd be glad to talk at SIO, Jay passed that on to Penny Dockry, the administrator who handled arrangements for such, a date of February 28, 2017 was set for the talk, and I sent a title and abstract to Penny.

Penny sent out a notice to the SIO community at some point, and then sent, on the morning of my talk, a reminder with full details, as follows. The abstract of the talk was my own, not a put-down by Penny! Penny included a mini-bio for me copied from the SEPS website.

Announcement of a Talk by Stuart Hurlbert

From: Dockry, Penny <pdockry@ucsd.edu>

Date: Tue, Feb 28, 2017 at 8:23 AM

Subject: CMBC Brown Bag: Sustainability, Population, Censorship, and Unholy Left-Right Alliances

To: "all-at-sio@ucsd.edu" <all-at-sio@ucsd.edu>

Cc: Stuart Hurlbert <hurlbert@mail.sdsu.edu>

Please join us:

CMBC Brown Bag -TODAY - February 28 [Center for Marine Biodiversity and Conservation]

12:30 - 1:30

4500 Hubbs Hall [SCRIPPS INSTITUTION OF OCEANOGRAPHY]

Sustainability, Population, Censorship, and Unholy Left-Right Alliances

This talk will cover a number of boring, unimportant topics that may leave you with bad feelings either about some of your favorite scientific societies and environmental organizations -- or about the speaker. However, a very good packet of literature will be provided that could turn you into a dyspeptic and change your life.

Speaker: Stuart H. Hurlbert

Stuart H. Hurlbert is President of the Scientists and Environmentalists for Population Stabilization and Professor Emeritus of Biology at San Diego State University. His teaching and research have been primarily in the areas of lake ecology, biostatistics, and man-environment relations. He is a Fellow of the American Association for the Advancement of Science, member of several other scientific societies, and winner of the National Academy of Sciences 2003 Award for Scientific Reviewing. He encourages environmental scientists and their professional societies to show greater courage in addressing U.S. population growth, its consequences, and the urgent need to slow it down.

Penny Dockry, Operations Manager
Center for Marine Biodiversity and Conservation
Program for Interdisciplinary Environmental Research (PIER)
MAS-MBC, 858-822-2790, <http://cmbc.ucsd.edu>

Incoming from Jennifer Haase and Acolytes

Two hours before my talk a message from a stranger, SIO geophysicist Jennifer Haase, popped up in my email inbox. Her message was sent directly to Penny Dockry and copied to me and the entire SIO community (ca. 2200 persons). Reflecting ignorance and poor researching skills, Jennifer used innuendo and a link to the Southern Poverty Law Center to accuse me and organizations I was (and am) associated with as being "racist," "anti-immigrant haters" and to imply my talk should be boycotted.

Jennifer also copied her message directly to Keira Auzenne, hired in September 2016, as SIO's "first ever equity, diversity and inclusion coordinator" (Hook 2017). Were they really going to roll out the big guns for a retired professor from the minor leagues at San Diego State, I mused? Someone with high potential for bringing "diversity" to SIO so long as he was "included"?

Though I did not discover it until later, Jennifer's attack excited the emotions of at least four younger members of the SIO community, inspiring them also to broadcast criticisms of me. Some of these were copied to me, some I saw only later.

Jennifer's attack got my adrenalin titer up a bit. My primary reaction, however, was neither surprise nor anger but rather only that another teachable moment was at hand. So I hopped into my car, smiling, for the five-mile drive from my house to SIO.

Here verbatim is Jennifer's original 'warning' to her SIO colleagues:

"From: Haase, Jennifer S <jhaase@ucsd.edu>

Date: Tue, Feb 28, 2017 at 10:52 AM

Subject: Re: [All-at-SIO] CMBC Brown Bag: Sustainability,

Population, Censorship, and Unholy Left-Right Alliances

To: "Dockry, Penny" <pdockry@ucsd.edu>

Cc: "all-at-sio@ucsd.edu" <all-at-sio@ucsd.edu>, Stuart Hurlbert <hurlbert@mail.sdsu.edu>, Keira Auzenne <kauzenne@ucsd.edu>

Dear Penny,

Thank you very much for the invitation to hear Mr. Hurlbert at the CMBC Seminar. Unfortunately I will not be able to attend. I will use this opportunity to use my first amendment rights to provide a few facts to the SIO community.

1) The website of Californians for Population Stabilization provides this background on Stuart Hurlbert: <http://www.capsweb.org/winter-2016-2017-newsletter>

"Stuart Hurlbert, President of Scientists and Environmentalists for Population Stabilization, CAPS member and former CAPS Board Member"

2) Californians for Population Stabilization was reported by the Southern Poverty Law Center to be an Anti-Immigrant hate group based in Santa Barbara California: <https://www.splcenter.org/hate-map>

I'd like to make a request to the administration of the Scripps Institution of Oceanography to provide one additional fact, if possible, and that would be the number of faculty, staff, and students that were not born in the US but have emigrated to the US. I know quite a few personally and hold them in the highest esteem.

Among all of the seminars that are presented by outside speakers at Scripps Institution of Oceanography, there is only a finite amount of time to dedicate to seminars that may be tangentially related to our research interests, so I choose to attend those of the highest scientific quality. I'm choosing to sit this one out.

Sincerely,

Jennifer S Haase, Research Geophysicist

Scripps Institution of Oceanography

University of California, San Diego

9500 Gilman Dr., La Jolla, CA 92093-0225

jhaase@ucsd.edu, Phone: +1-858-534-8771, Fax: +1-858-534-9833"

Normandy Beachhead Secured, Talk Given, Censor Flushed Out

Twenty minutes later I was meeting Penny, putting out literature packets for attendees, surveying the conference room, and being introduced by Jay and SIO oceanographer Lisa Levin. Haase's attempt to keep my audience small was at least partially successful. Only about two dozen people showed up, whereas 2-3 times that many had shown up when in 1996 I gave a more narrowly focused, technical talk in the same room on "The Life and Death of the Keystone Species Concept." Ironically, that then-about-to-be-published talk was also found irritating by some at SIO as it skewered a major 'sacred cow' of ecologists that had been birthed at SIO in the 1960s (Hurlbert 1997)!

Penny obviously felt embarrassed for SIO at Haase's attack on me. I told her not to worry, but asked her if I would be allowed to send out to the SIO community my response to the attack. She said that would be possible.

My audience was friendly and welcoming. With one exception, there wasn't a scintilla of Haase-like hostility during or after my talk, not even an aggressive question or

comment. Of more than 1200 copies of 38 different articles, charts, policy statements, op eds, etc. that I and Alisson McGee provided in packets on a back table, 838 were picked up by attendees for leisurely digestion. They included 30 copies of the classic review article, "The environmental movement's retreat from advocating U.S. population stabilization (1970-1998)" (Beck and Kolankiewicz 2000). Within a day of my talk I received three complimentary email messages from talk attendees. So it seemed to me to have been another successful Johnny Appleseed operation, all the stay-at-homes notwithstanding.

That "one exception" was of some significance, however. During conversations just before and after my talk I learned that Lisa Levin was the official faculty advisor for these 'brown bag' seminars, that she learned of my talk only after it was scheduled, and that she was upset with Jay and Penny for not getting her permission first. And even after I had given a talk that seemed to rile or be thought improper by no one, to judge from the Q & A session or later comments received by email, Lisa expressed to me her feeling that I was an inappropriate speaker for SIO and would not have been approved by her, nor would a talk by anyone else that focused in part on past, current and proposed national population policies and their connections to conservation and environmental values. She opined that overconsumption is a problem in the U.S. but overpopulation is not.

In other words she is representative of that great mass of globalist academics who are responsible for most U.S. university graduates, even those coming out with PhDs in economics, political science, public health or the agricultural or environmental sciences, knowing no more about national and global population policies and issues than they did when they graduated from high school. With that record as educators, they are on thin ice whenever they decide to criticize the obvious inadequacies of the journalists, lawyers, politicians, economists, businesspersons, etc. churned out by their very own institutions.

It is regrettable that Jay and Penny were castigated by some colleagues for their "error" in bringing me as a speaker to SIO. I understand that now speakers for this seminar series cannot be scheduled without first being vetted by Lisa for their political acceptability. George Orwell turns over in his grave once again.

First Cavalry Contingent Arrives

On return to my office I began preparing rebuttals to the criticisms by Jennifer and her friends for later transmission to the SIO community. There were a number of discussions going on at SIO and UCSD that must have been interesting but that I was not privy to and that the principals were tight-lipped about. I apologized to Penny and Jay for getting them into hot water, and began checking on the procedure for sending out a rebuttal.

I did eventually hear that Keira, SIO's diversity, equity and inclusivity coordinator, quizzed Penny about how the CMBC Brown Bag seminars are scheduled and promoted. One has to wonder who put Keira up to that and on what grounds. I guess when "racists" are afoot, one cannot be too careful.

More heartening was when Jay finally let me know of his behind-the-scenes defense of the open discussion of ideas. Here are his thoughtful February 29 messages to Penny and Lisa, passed on to me on March 2. Jay gives a pretty good summary of the main points of my talk, and that will have to suffice for the talk non-attendees until I am invited back.

Hi Stuart. *I agree completely that this is a valuable teachable moment. One of my students was involved in the email exchange and I plan to spend an hour or more getting her to talk through her feelings. I was more alarmed than you sound to be about the viciousness of the attack. I suspect that you have been at this long enough to have developed some pretty thick skin.*

Below is a message I sent to Lisa Levin (the academic head of CMBC) and to Penny to help them understand why I still feel that your talk was very appropriate to CMBC. **Jay**

Hi Penny, *I feel badly for involving you in this controversy, but want to give you some background on why I think it is important for our students. Don't worry, I don't plan to invite any more speakers to CMBC. Below, I explain to Lisa why I think that this sort of talk is important for CMBC students. Lisa suggested that I forward this to you. I cc'd [XXX] because she was one of the key opponents to Stuart's presence at SIO.* **Jay**

Lisa, *I respectfully disagree with you about the appropriateness of Stuart Hurlbert's lecture yesterday. I think that if we want our CMBC students to be comfortable leaving the ivory tower and to be successful in the policy arena, they need to be able to listen to (and debate) ideas that they fundamentally disagree with. Unfortunately, I don't think we have done a very good job in this aspect of educating our students. The response of the students to the talk by Stuart Hurlbert illustrates this. Instead of attending, listening, and disagreeing, they retreated into their like-minded twittersphere of political correctness. [Ok, they used mass emailings, but the effect is the same as twitter]. In this space, they feel comfortable with generalizations and name-calling-bordering-on-libel that would never occur in a public forum. Opinions seem to matter more than facts (sound like any other recent forums?).*

It is important to recall what was actually said by Stuart while fresh in our memories. He re-stated the commonly held belief that human population growth is bad for the environment (duh!). He explained at great length how that fact has fallen off the conservation agenda and documented that with several articles. He went on (too long) on how the AAAS has rejected participation of his group at commercial booths at their meetings. Finally, he discussed the implication of immigration policy on US population growth. Now that we are demographically at ZPG (fertility rate =2), immigration is a key component of population growth in the US. He showed a slide with the population consequences of a variety of different immigration policies. He did not, at Scripps, advocate for any particular policy other than a consideration of the

conservation impact of population growth and immigration policy.

He did not say anything racist. He did not vilify non-white immigrants. Not all people who work on immigration policy are racist, even though some clearly are.

Just to be clear about my position, I agree with most things Stuart said yesterday, and I disagree with most of the solutions proposed by his group, Scientists and Environmentalists for Population Stabilization. We SHOULD consider the effect of population growth on the environment. A doubling of the US population in 50 years WOULD have a negative effect on the environment. Immigration IS a key component of current US population growth. I think the biggest unknown is the effect of immigration to the US (and to Europe) on the global environment. I suspect that is neutral or slightly positive.

We should be able to talk about these things. Jay

Rebuttal and Re-Education of Jennifer and Acolytes

Here verbatim is my response to Jennifer's attack that went out to the SIO community. Below that I quote brief excerpts from the original messages of her acolytes with a few comments of my own. In the 10-page document that eventually went out to the SIO community the entireties of all the messages they sent me plus my accompanying detailed response to each were provided.

Ms. Haase is presumably an above average geophysicist if she's employed by SIO, but that is not incompatible with being completely uninformed or ideologically blinkered on other issues, and willing to shoot from the hip on them as well.

This problem is not confined to academics of course. Consider this quote from a recent piece about celebrity actors, "Hey Hollywood, Smugness Isn't a Political Strategy" (McArdle 2017):

"[C]elebrities are stupid about policy, often breathtakingly so. On the other hand, so is everyone else. You want to hear some really stupid ideas about policy? Grab a group of whip-smart financial wizards, or neurosurgeons, or nuclear physicists, and sit them down for a nice dinner to debate some policy outside their profession. You will find that they are pretty much just as stupid as anyone else, because policy is not about smart. I mean, smart helps. But policy is fundamentally about domain knowledge, and that knowledge is acquired only by spending a great deal of time thinking about a pretty small set of problems. Funnily enough, this is also how one gets good at finance, or neurosurgery, or nuclear physics."

Ms. Haase and I have never met. She knew nothing about the detailed content of my talk. But she was determined to let the SIO community know that it probably would not be of "the highest scientific quality." Instead of attempting to compromise my "first amendment rights", she might have come off with less egg-on-her-face if she'd listened to my talk before exercising her "first amendment rights."

Ms. Haase brought up my connection with Californians for Population Stabilization (CAPS). But why? The

announcement of my talk did mention that I am president of another organization, Scientists and Environmentalists for Population Stabilization (SEPS), but makes no mention of CAPS. I am a member of CAPS and proudly served on its board of directors for 12 years before starting up SEPS in 2012. The leadership of CAPS consists of some of the smartest, most civic-minded, politically courageous people I know. Why did Ms. Haase not also bring up the Sierra Club to which I also belong and which also takes positions on population issues?

The answer to these questions is blatantly clear. Ms. Haase wants to use guilt-by-association and unobvious indirection to smear me as being "anti-immigrant" and a "hater." Disappointing. A real blemish on SIO. It's none of Ms. Haase's business, but large numbers of my relatives are immigrants, the majority of my close friends are immigrants, and I've helped immigrants from half a dozen countries with their applications for entry [into the U.S].

Ms. Haase's core error is to regard the Southern Poverty Law Center (SPLC) as a respectable, fair-minded organization. While it has occasionally done worthwhile things, in recent decades it has dedicated much of its effort to smearing in its messages and online "research articles" all the major U.S. population stabilization organizations as being "racist," "xenophobic," "white supremacist," and so on. And when SPLC decides any particular organization is proving too effective in informing the public and in stymying bad legislation (like bills that would double immigration rates), SPLC goes for the jugular: it puts that organization on its official list of "hate groups." Then SPLC issues press releases and newsletters saying the number of hate groups is growing fast, "and by the way, please send us more money."

Many who have taken a close look at the SPLC have concluded it has become a morally and intellectually bankrupt organization. Here are a few articles that make the case [all, and dozens more, are available on line; just google the titles]:

A Guide to Understanding the Tactics of the Southern Poverty Law Center in the Immigration Debate
The Church of Morris Dees: How the Southern Poverty Law Center Profits from Intolerance
The Hate List: Is America Really Being Overrun by Right-wing Militants?
Mission Creep and the Southern Poverty Law Center's Misguided Focus
Racial Racketeering for Fun and Profit: The Southern Poverty Law Center Scam
SPLC 2: The Search for More Money
The Hate Group That Incited the Middlebury Melee
Years of Turmoil and Complaints Led the Southern Poverty Law Center to Fire Its Founder Morris Dees
Turmoil Engulfs the SPLC: A Closer Look at the Underlying Scam of the Organization's 'Hate Group Designation'

The SPLC has never articulated coherent population or immigration policies of its own. It just wants to keep proposals on these matters by other organizations off the table everywhere, and no methods are too unethical for their use.

Below are the verbatim messages from the three

graduate students and one postdoc who got stirred up. They were victims, were upset and had some valid concerns, albeit none relevant to my talk or qualifications or to the integrity of SEPS and CAPS.

Acolyte #1

Jennifer, thank you for bringing this to our attention. I just read the SEPS website and the Californians for Population Stabilization website. The list of policy recommendations, especially on the CAPS website, is almost entirely focused on anti-immigrant policies: ... Sex education and family planning are mentioned only briefly on each website (e.g, 2/13 policy recommendations on the CAPS website). These are racist, anti-immigrant organizations. I'm surprised and disappointed that they are being given a voice and an audience at SIO.

Acolyte #2

Thank you Jennifer for bringing this up, and I look forward to your comments being addressed officially. I am grateful for the link you provided because I am now aware that an invited speaker at SIO associates with an organization that clearly views French minorities in Canada, Natives' rights to their lands, and a good relationship with Mexico as major problems. I think I have officially been dis-invited. If anyone attends the event, please bring up SIO's loose policies on admitting me here.

Acolyte #3

For people attending could they also add that Mexican and Brazilian students bring 5 years of funding from their home countries' science foundations. Nonetheless, the intellectual property of the science produced by those students belongs to UC. This is migration of foreign-funded intellectual capital and may ease the feeling of "migration-is-tearing-the-country-apart".

Acolyte #4

While sustainability, natural resource utilization, and population growth are serious issues, it seems extraordinarily myopic (at best) to suggest that reducing immigration is somehow a solution to control world population. Recent research finds that countries which have developed see large reductions in population growth, so if anything, a viable solution is to improve standards of living (e.g. health care, education) for more people, either by increasing immigration or supporting development in poorer countries. And I note that much of the apocalyptic fear-mongering about population growth has its roots in Ehrlich's "The Population Bomb", well known for the following passage: "The battle to feed all of humanity is over. In the 1970s hundreds of millions of people will starve to death in spite of any crash programs embarked upon now. At this late date nothing can prevent a substantial increase in the world death rate..." I wasn't around in the 1970s, but I don't recall reading about this in my history texts...

My responses to these posts were civil, information-rich and lengthy on the assumption these were smart people,

and that the responses would eventually be made available to the whole SIO community. While the responses and private conversations they generated are not repeated here, some sense of them may be gained by this list of articles, each suggested to one acolyte or another (all can be found by googling the titles).

Pew Projection for U.S. Population in 2065: A Challenge to Clinton and Trump.

Beaver Fever: The Manic Quest to Grow Canada's Population

The Ecological Rights of Humans

International Migration as an Obstacle to Achieving World Stability

How Migration Hurts Poor Countries: Liberals, Take Note – Small Developing Nations Suffer When Good People Leave

There Is No Global Population Problem

The Environmental Movement's Retreat from Advocating U.S. Population Stabilization (1970-1998): A First Draft of History

Bringing the SIO Community up to Speed

I prepared a 10-page compilation of the attacks on me by Jennifer and others and my responses to them, titling it "Attack on a speaker by Scripps Institution of Oceanography geophysicist and students, and the speaker's response." I sent the document to SIO Director Margaret Leinen. I asked for her permission to put it out on the SIO-wide listserv. Both she and Penny had earlier said this would be possible, but I did not want Penny in particular to catch any more flak for simply being fair and open-minded. And as I wrote to Margaret, "Overall, my response may represent a more valuable educational contribution to the SIO community than did my talk. And, permitted by the SIO administration, it will be a clear sign that SIO is not in danger of becoming a West Coast version of Middlebury College!" (Saul 2017).

But Margaret later had heard from some high level UCSD central administrator, that "the LISTSERV is internal and not appropriate for facilitating non-SIO individuals' communications with SIO" or even "a note on your [my] behalf." In other words, let the attacks stand.

Apparently at some point during an email firestorm that I was not privy to, Margaret did send out to the SIO community this notice about use of the listserv:

"The All-at-SIO list is for messages of immediate interest to the SIO community. The list is unmoderated and self-regulating, but you must be a list member to post. Examples of acceptable messages include seminar time changes, notifications of road closures, events affecting SIO facilities, lost/found items, or "lights on" warnings. All-at-SIO is not to be used for political or collective bargaining purposes, to post items for sale, or for housing-related messages. ...If you take exception to an All-at-SIO posting please direct your comments to the sender only. Do not reply to the entire list."

So on March 10 I took the matter further upstairs with a message to the UCSD Chancellor that was copied to Margaret and read, in part, as follows:

*Dr. Pradeep Khosla, Chancellor
University of California, San Diego
Dear Chancellor Khosla,*

Recently, as an invited speaker at SIO I had the "privilege" of being attacked in an email by a SIO faculty member that went out to the whole SIO community a couple of hours before my talk, as an anti-immigrant, hate-mongering racist. ... I would like to request that you authorize Dr. Leinen or one of her staffers to send out my response to the all-at-sio@ucsd.edu listserv. I'm told that this violates some newly discovered regulation that the faculty member attacking me was not held to. **But I think a chancellor can easily permit an exception, especially when it will be so strongly in the interests of the reputation of SIO and UCSD.** [bolding was in original]
 Many thanks for your consideration.
 Sincerely, Stuart Hurlbert

He never responded. So I turned to the SIO online directory and with a couple of helpers over a couple of hours obtained email addresses for about 1800 members of the SIO community, certainly the great majority of those on the SIO listserv. To these I sent my response with this cover letter:

Friends at SIO,
 You may recall receiving on February 28 attacks on me broadcast via all-at-sio@ucsd.edu by Jennifer Haase and others. This is my response [10-page document was attached]. It includes, verbatim, the attacking email messages and much supplementary information. This incident is peanuts compared to recent instances of ignorance-driven incivility, riots and attempted censorship at other academic institutions. I was not inconvenienced in the least, my talk was well received, no buildings were trashed and no one got beat up. Still, ethical aspects of the incident might merit internal SIO discussion. Not least of these would be attempts by others to prevent me from defending myself before the same audience that received Haase's message.
 Best regards, Stuart Hurlbert, SDSU

Unsure about how successful my direct mail operation would be, for insurance I added to the Preface of the 10-pager this plea: "Perhaps there is among you, one brave and tenured soul who will be willing to simply forward this piece and its attachment to the whole all-at-sio list." At least two SIO faculty members and one student later told me they'd tried but I think no attempt succeeded.

There was an initial problem with the spam-blocking robots, but by sending to only one portion of the 1800 recipients at a time and by varying the subject line of the emails that I sent out, everything worked like a charm. Among the subject lines were:

*"Sequelae of chance meeting at Sierra Club
 Topics for ethics discussions
 Compliant technocrats arise!
 Population policy, no, GHG emission policy, si
 Need for more diversity training
 SIO hardly measures up to UCLA
 Interesting doings in Hubbs 4500"*

The only missing item was the PowerPoint presentation of my actual talk.

Good Returns for the Effort

From senior members of the SIO community, I got more

than a dozen positive, if mostly brief responses and a single negative one. Below are given, without comment, excerpts from seven of these, including the negative one:

"I just read your response with great interest. Thanks for taking time to do that. I think it is fair to say that the controversy has resulted in a great deal more thought about US population stabilization at SIO than if only CMBC students and faculty attended your talk. Opinions are hard to change, but thought is the first step."

"Ha. Everybody is running scared - say anything and you will be labeled one of the -ists. In a kinder and gentler world, I would expect Haase to contact you to discuss her actions, Jay to provide you any and all support you need since he is your sponsor, and maybe even the director Leinen to discuss this with you directly since the whole mess reflects very poorly on Scripps."

"When dealing with SIO individuals I suggest first reviewing Roger Revelle's papers, talks, and addresses on the importance of population control as the prime problem of the 21st century. He left UCSD and went on the Harvard faculty focused on this issue. You will find that quoting Revelle will give you weapons with more impact than any thing you say regardless of how correct you are."

"Sure, those of us benefiting from the wealth and culture those immigrants made possible may well suffer in some ways from an increased global population, or an increased population in the US or California. There are factual reasons for this, to which you allude in your complaint. Controlling immigration and keeping the present culture unchanged may be good for a large group. But, with the exception of things like the US government filling San Francisco with immigrants to ensure taking the state, immigration is a small-group activity of people who seek an improved life. It is fine to advocate controlling these people but, brother, you better be ready to be called anti-immigrant and, the correlation of wealth and race being what it is, a "racist." "

"Just to let you know this business didn't go by unheeded. Sad that the days when differing points of view or sensitive issues were discussed in a collegial manner seem pretty much to be of the past. I'd seen the Haase business at the onset which heightened my interest in attending your talk. But I missed it. If you will send me an appropriate address, I'll send you a fiver to cover the costs of the materials you mention which had best be sent to [XXX]. [I had offered to send, for \$5, a literature packet to anyone who didn't get one at my talk]."

"After the attacks started on all-at-sio, I wanted to attend your seminar to show my support, [but] I was unable to attend because of a previous meeting. Thank you for setting the record straight to everyone at SIO, and taking the time to send an email to each one of us. I'm disappointed, although not surprised, that you were denied the same medium (all-at-sio) to respond. It was also disappointing that SIO admin let the attack on you proceed, even though all-at-sio is for non-political information about upcoming events of interest to

everyone at SIO. This is not the first time that SIO has helped and supported hate groups that further SIO's political agenda." [The reference is to the SPLC].

"Thank you for your talk yesterday at SIO and for taking a few minutes to chat at the end. As I said yesterday, while our heated debates over climate are probably in large part proxy for talking about population, no one wants to have that conversation. I think this is for two reasons - first this whole "mishegas" appears insoluble but second and more importantly it calls up a complex moral issue and our shift away from viewing such issues from a community perspective to an individual perspective can cause considerable moral confusion and uncomfortableness. It is in this confusion that an innocent call for reviewing population as a driver in environmental change can be perceived as morally ambiguous - even racist. I appreciate your willingness to push on in this issue especially given the responses you have received. This is important work."

I also got responses from three SIO students which led to some productive (I think) further email conversations with them. Here are excerpts from only their initial responses to my mailout:

"I will be the one brave and [non-] tenured [non-graduated] soul who will be willing to simply forward this piece and its attachment to the whole all-at-sio list, because with the use of the bcc field, I have no idea to whom your ideas were originally sent and I also don't believe in censorship. How much courage did it take for you to take on junior scientists? I stand by what my colleagues and I said, and I welcome future discussions with you, around a cup of coffee, where you are not in a position of authority and in control of the dialogue."

"First, I would like to thank you for coming to present your research at SIO. I was unable to attend your talk, for completely irrelevant reasons... I was deeply saddened upon hearing the reaction of some of the students and even faculty, many of whom were of the opinion that you should not have been allowed to speak at our institution. And by "saddened" I really mean "terrified". ... I want to thank you for responding to the criticism you have received from our colleagues, and I am sorry that you were not given the chance to do so directly. I admire your clarity and courage. If I were more brave, and considerably more tenured, I would forward your email to all-at-sio. I sincerely hope somebody does."

"While you might be thinking of it as a scientist, there is a whole other area of study that has more insight on the social implications that a notion like population control might have on communities of color and underrepresented communities. So please education [sic] yourself on these issues because you clearly don't see the issues of power dynamics in our society.... Don't try and silence students with your spoofed up rebuttals for being revolutionary. You are a supporter of population control, so let me ask you, are you willing to be the first subject?"

A Fundraiser for CAPS!

Just as the furor was dying down, a welcome dose of humor arrived from the Southern Poverty Law Center,

courtesy of SIO graduate student Abby Cannon. This ended up enriching the coffers of CAPS by a good amount. Abby did not want to argue, she just wanted to honor me, so wrote SPLC:

From: Southern Poverty Law Center
<noreply@splcenter.org>

Date: Thu, Mar 16, 2017 at 5:00 PM

Subject: A gift to the SPLC was made in your honor

To: Stuart Hurlbert <hurlbert@mail.sdsu.edu>



Dear Stuart Hurlbert,
Abby Cannon sent you an eCard! And, made a gift in your honor to the Southern Poverty Law Center.

Remember to be an advocate for tolerance in your community. Please speak out against bigoted remarks whenever and where you hear them. Contact us online. We welcome your feedback.

400 Washington Ave., Montgomery AL 36104

No mention of the size of the donation. Perhaps \$10-20 as she's a student, but an honor nonetheless and one worth reciprocating. So a week later Abby received this message from CAPS:

From: Jo Wideman <jo@capsweb.org>

Date: Fri, Mar 24, 2017

Subject: Congratulations!

To: "alcannon@ucsd.edu" <alcannon@ucsd.edu>

Cc: Stuart Hurlbert <hurlbert@mail.sdsu.edu>

Dear Abigail Cannon,

Stuart Hurlbert has made a gift of \$200 to Californians for Population Stabilization in honor of your Excellence in Marine Biology and Status as #1 Quick-Thinking Jokester Among Scripps Institution of Oceanography Graduate Students.

Remember to be an advocate for diverse perspectives in your community. Please speak out against bigoted remarks whenever and wherever you hear them.

We send our best wishes as you work to implement these ancient words of wisdom from your grandparents' generation:

After two years of concentrated effort, we have concluded that, in the long run, no substantial benefits will result from further growth of the Nation's population, rather that the gradual stabilization of our population would contribute significantly to the Nation's ability to solve its problems. We have looked for, and have not found, any convincing economic argument for continued population growth. The health of our country does not depend on it, nor does the vitality of business nor the welfare of the average person.

John D. Rockefeller III, Chairman, Presidential Commission on Population Growth and the American Future, 1972

Sincerely,

Jo Wideman, Executive Director

Californians for Population Stabilization (CAPS)

1129 State Street, Suite 3D

Santa Barbara, CA 93101

When I forwarded that to several dozen of my new acquaintances at SIO, I got a quick reply from one even more generous soul. That prompted me to inform Margaret, the Chancellor and dozens of others of further positive fallout from Abby's initiative, via the following message:

Margaret Leinen, Director, Scripps Institution of Oceanography

Pradeep Khosla, Chancellor, University of California, San Diego

and others

Kudos to SIO grad student, Abby Cannon, for inspiring strong support for population stabilization! See below. [now above]

An SIO colleague is further supporting this effort by offering to provide a 1 for 1 match, up to a total of \$1000, for any donations to CAPS from the SIO community. Just ask the CAPS Executive Director to implement the "SIO match" when you make your donation and state that you work at SIO.

Don't be stingy!

Best regards, Stuart Hurlbert, SDSU

PS: here's a good recent article on the topic at hand from today's Wall Street Journal:

"The Real Immigration Debate: Who to Let In and Why" (Krikorian 2017)

Within a few days CAPS had gotten \$300 in donations from the SIO community, which, with the match and my earlier contribution, gave it a total haul of \$800.

What Might Have Been

When Renée Owens told me I could distribute population literature to attendees at the November 2016 Sierra Club symposium, neither she nor I could have envisaged the chain of positive educational consequences for SIO students, staff, faculty and administrators – and the larger scientific and environmental communities -- that would follow. Should Jennifer Haase get some of the credit, too? Yes, but only credit for a grave mistake that might easily have gone awry and had very different, negative consequences.

The main campus of UCSD, a community of about 40,000 students, staff and faculty members, is only about a mile from SIO's campus of about 2200. While denizens of SIO are mostly nose-to-the-grindstone natural scientists of diverse sorts, the main campus is home to, inter alia, all the humanities and social sciences, including ethnic studies and the UCSD Center for Comparative Immigration Studies (CCIS). Much of the output of the CCIS during the last two decades has consisted of apologetics for mass legal immigration and mass amnesties for illegal aliens. Always phrased in super-scholarly language of course.

What would have happened if Jennifer had sent, or others had forwarded, to students and faculty on the UCSD main campus her announcement that an "anti-immigrant racist" representing a "white supremacist" organization was going to be speaking at SIO at 12:30pm? Especially if she'd given them a full day's notice, not just two hours?

I don't yet have the iconic status of a Charles Murray

(Saul 2017), Milo Yiannopoulos (Doubek 2017) or Anne Coulter (National Review 2017). But maybe I'd have given them a run for the money with respect to crowd size and crowd violence. That would have been a real test for SIO director Leinen and UCSD chancellor Khosla. Would they have been able to quickly pour 'oil on troubled waters'? If not, would they have sent a bill to Jennifer for damages to people and property? After all, drunk drivers don't intend to destroy property or kill or maim people either.

Not Culpable: Margaret Leinen

Margaret, the SIO director was in no way responsible for any of the silliness and misdeeds at SIO. And I don't blame her for obstacles put in the way of my getting a response out to the SIO community. She was between a rock and a hard place, between some of her less civil, less informed minions on the one hand and a stonewalling UCSD chancellor on the other. I did not speak with her during these travails and have never met her.

My only prior interaction with Margaret left me impressed. SEPS has operated exhibitor booths on population issues at the meetings of 24 different scientific societies since 2013 (Schindler et al. 2012, Hurlbert 2016). These booths have always been well received by attendees and organizers, and we have been routinely invited back for the following year. But the American Association for the Advancement of Science (AAAS) has been rejecting booth applications from SEPS and other population-focused NGOs since 2011. When SEPS applied for a booth at the 2016 meeting of AAAS, we included an endorsement of our application by three dozen past or current presidents of scientific societies. Margaret, then president of the American Geophysical Union, signed on. But most society presidents we invited did not have the courage to do so. Endorsers were not endorsing any particular positions advocated by SEPS but only saying that SEPS is a credible educational organization dealing with important issues and operates under a highly reputable board of directors and advisory board, both consisting primarily of scientists. But that was not sufficient for many timid and/or censorious society presidents who were invited to endorse. The scientific community unfortunately has thousands more of these than it does of Margaret Leinen's.

Martha Campbell and the UN

I opened this essay with a quote from Martha Campbell (2005) and another from a UN document (POPIN 1994). Martha is a "veteran" of UC Berkeley politics and a savvy, worldly-wise scholar with long experience in dealing with global population issues especially in the context of family planning and empowerment of women in developing countries. She would not be at all surprised to see another variety of "political correctness" blossoming, hopefully briefly, at SIO. She is aware of the need to keep population out of the deliberations of the multinational IPCC. Too often, strong initiatives in the UN to deal with population issues have been nipped in the bud by the Catholic and Muslim nations that make up about half of the UN membership. The leadership of the IPCC has to be pragmatic if it is to be successful.

One can imagine, however, that Martha *might* be

disdainful of the failure of *the U.S. members* of the IPCC, among whom are SIO scientists, to have internal discussions of the population factor in climate change and the contribution of U.S. population growth to it. Is there a critical mass of scientists in SIO with the requisite political and moral courage to take the lead here? To venture beyond their role as compliant, grant-hungry technocrats might of course bring down upon them the displeasure of the uninformed “it’s not overpopulation, it’s only overconsumption” zealots.

As Martha also well knows, and has demonstrated in her own undertakings and writings, our institutional failures are not grounds for inaction or despair. Until censors like those in the AAAS, SIO and Google take over larger portions of our society, there remain abundant opportunities for effective individual action. For example, while the IPCC needs to focus on its core technical mission and the ideally apolitical, nonpartisan quality of its output, discussion of the population growth-climate change nexus is being fostered by many individual journalists and academics (O’Neill et al. 2010, Stephenson et al. 2010, Weiss 2010, Cafaro 2012, PAI 2012, Hickey et al. 2013, Campbell et al. 2014, Plautz 2014, Palfrey 2017, Bongaarts & O’Neill 2018).

The Omitted Elephant - And its Refusal to Leave and Stop Trumpeting

On the other hand, Martha might *not* openly be so disdainful of the failure of U.S. scientists to engage on the topic of U.S. population growth as a driver of climate change.

In the body of her 2005 presentation, she adduced two answers to the question in her title, giving a good discussion of each. One was the hostile take-over of the 1994 Cairo conference by well-funded organizations who rejected the quoted preamble for the meeting, wanted no talk of population policy or population management or of encouraging small families, and wanted to focus only on matters such as women’s rights and reproductive health. (Weld, 2012, also gives an excellent and pungent analysis of that travesty and its consequences.) The other answer was a simplistic ‘demographic transition’ theory that argued that it is necessary for a poor nation’s economy to greatly improve before women will get more rights and education and choose smaller family sizes (Potts et al. 2009, Ryerson 2012).

When Martha elaborated on her 2005 talk for a journal article with the same title (Campbell 2007), she discussed “six identifiable reasons” for the silence. That paper was in turn slightly revised and updated for a chapter (Campbell 2012) in the excellent Cafaro and Crist (2012) anthology. Some SIO and UC Berkeley colleagues may be pleased that castigating mention of their institutions has been expurgated from these 2007 and 2012 versions.

But why did Martha omit mention of a *seventh* reason for silence, the biggest ‘elephant in the living room’ and a major cause of high U.S. greenhouse gas emissions? That is the fact that for some decades immigration has been the primary driver of population growth in the U.S. as it has in many other developed countries. In the absence of major policy changes, the U.S. population now is projected to increase by 116 million between 2015 and 2065, with

post-2015 immigrants and their descendants accounting for 88 percent of that growth (Pew Research Center 2015, Hurlbert 2016b).

As Martha realizes, however, there is extreme hostility on the part of both major political parties in the U.S., most of academia (especially the hard left that dominates most university central administrations and the ‘Arts and Letters left side’ of campus) and myopic U.S. environmental NGOs, both to development of a national population policy, as called for at the Cairo Conference in 1994 (POPIN 1994), and, in particular, to reduced immigration levels and population stabilization as advocated by various U.S. national commissions (Ryerson 2012, Hurlbert 2014, 2017) and a dozen U.S. NGOs dating from the 1960s. Those who go against this censorious juggernaut will be attacked, smeared, even physically assaulted or threatened with job loss. In a posthumously published piece, former CAPS president and SEPS advisory board member Diana Hull (2018) laid it on the line:

“But the saddest spectacle of all is to realize the near universal acquiescence and collaboration of population specialists in the academic community, who claim to agree with the theory of inevitable and unstoppable U.S. growth. Yet we also know they have every right to be terrified of having ruined reputations and thwarted promotions as a result of being labeled racists or nativists. As a consequence they seek refuge in issues of global overpopulation, rather than getting involved in this issue at home, where they have a much better chance for success.”

Thus Martha has always been smart to hold back a bit and save her energies and political capital for confronting the other six causes of silence. Allied battalions mostly outside of academia will cover for her on the seventh.

The commonest mantra used to suppress discussion of national population policies, or even the *idea* of formulating them, is ‘population is a global issue.’ This is taken, as an illogical non sequitur, to imply that individual nations have no moral right to stabilize their own populations if that requires restriction of immigration flows. The implication is patent nonsense of course, but it does provide a pretext for cowardice in the face of difficult and controversial national issues. In the real world, from national governments to average citizens in the street, a different and more responsible ethic holds. Garrett Hardin (1989) expressed it most succinctly:

“We are not faced with a single global population problem but, rather, with about 180 separate national population problems. All population controls must be applied locally; local governments are the agents best prepared to choose local means. Means must fit local traditions. For one nation to attempt to impose its ethical principles on another is to violate national sovereignty and endanger international peace. The only legitimate demand that nations can make on one another is this: “Don’t try to solve your population problem by exporting your excess people to us.” All nations should take this position, and most do.”

That statement may well have been one inspiration for the preamble to the 1994 Cairo conference. In any case there is a bright light on the horizon. An initiative led by

Rob Harding (2018), and begun about the time I was speaking at SIO, hopes to gather international grassroots support to inspire the UN to develop a 'Framework Convention on Population Growth' that expands on the 1994 preamble as well as on the more recent 'World Scientists' Warning to Humanity: A Second Notice' (Ripple et al. 2017). As of May 2018 more than 30 organizations and hundreds of scientists from 15 countries have signed on to the Harding initiative. Wish them well!

Conclusion

This episode ended favorably for the SIO community as a whole and certainly for CAPS and myself. That was due, in large part, to luck. If Jennifer Haase had put out her attack on me a few days earlier, Lisa Levin likely would have disinvited me, simply because her less-informed opinions on population issues differed from mine. And if Lisa did *not* cancel my talk SIO might have had a riot on its hands with all the possibilities that would have offered.

But what are the larger lessons? Ideology-driven censorship and suppression of diverse opinion and inconvenient facts, especially on social issues, is common in the scientific community, academia generally, and the media. Much of this is carried out, overtly or covertly, by persons who run and staff those institutions and use their positions to advance narrow personal agendas, confident of their own moral superiority. Nothing new here. But the resulting generalized ignorance and misinformation across society on key social, environmental and economic issues is a major cause of social and political conflict in the U.S.

Bias and ignorance on the part of journalists is a major, if not the biggest, part of the problem; but where were those journalists (and their editors and publishers) trained....?

For those many topics and issues outside our own areas of expertise, we rely heavily on the popular media. We all have limited time. We would like at least one good newspaper or one good TV news program that would suffice to keep us up-to-date with balanced, fearless capsule summaries of all the major issues and accurate factual information relating thereto. Such newspapers and news programs do not exist. Some of the major news outlets that mostly loudly and repeatedly proclaim their objectivity and balance – National Public Radio, FOX News, CNN, and the New York Times come to mind – are often in fact among the least balanced and objective on many issues.

But censorship is also accomplished by persons outside the power structures, either by threatening mob violence or by ad hominem attacks like that by Jennifer. How many people decided not to attend my talk because they did not want to condone an "anti-immigrant hater" or be labeled "racist"? Perhaps quite a few, given the SIO scientist who noted that "everybody is running scared...[lest they] be labeled one of the -ists," and the graduate student who felt "terrified" at the number of SIO faculty members and students expressing desire to suppress my talk.

Would-be censors like Jennifer Haase should be free to express their opinions. But university administrators still need to step up to the plate. They should disallow faculty

and students bullying people into not attending talks by particular speakers or deplatforming anyone whose opinions the administrators find offensive. There is, after all, much rhetorical output by university administrators and professors that is found offensive by the general public. Also, human population issues, including migration, are transcendental ones of our time. University administrators need to take the lead in pushing for curricula that cover those issues in broader, more comprehensive, less technocratic and less ideological manners than they are covered now. Such would be especially relevant for programs in the environmental sciences, like those at SIO. At the moment, a "safe space" for diverse opinion on such topics presumably still remains unavailable there.

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Why denial of human overpopulation is a key barrier to a sustainable future

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Abstract

There is increasing evidence that humans are not living sustainably. There are three major drivers of unsustainability: overpopulation, overconsumption and the growth economy. There is widespread denial about these issues, especially about overpopulation. The 'World Scientists' Warning to Humanity' highlights the problem of increasing human population, as do the IPCC and IPBES reports. However, all have been largely ignored by policy-makers and much of academia. The size of an ecologically-sustainable global population is considered in this article, which then discusses the reasons why society and academia largely ignore overpopulation. The claim that discussing overpopulation is 'anti-human' is refuted. It is argued that denial of overpopulation is leading society towards collapse, and solutions are suggested.

Key Words: Scientists' Warning to Humanity; population; denial; overshoot; collapse

Introduction

The paper in this issue of *EJAIB* by Stuart Hurlbert (2019) highlights the ongoing denial around population operating within academia. We discuss this further here. The Second World Scientists' Warning to Humanity (Ripple et al. 2017) has now been signed by 21,000 scientists. It states:

"We are jeopardizing our future by not reining in our intense but geographically uneven material consumption and by not perceiving continued rapid population growth as a primary driver behind many ecological and even societal threats."

This warning is based on the data of the environmental crisis, which show that society is in 'overshoot', and this has been known for decades (e.g. Catton 1982). Yet **most members of** society, governments and much of academia, continue to ignore or deny the impact of overpopulation, overconsumption and the growth economy (Washington et al. 2019). This paper argues this is worrying, especially

the deep denial about overpopulation. After all, Hulme (2009) notes that if there is a 'safe' level of greenhouse gases to avoid runaway climate change, then is there not also a desirable world population? We discuss here the tendency in academia to avoid the topic of overpopulation. This is irrational, and not in humanity's best interests, nor those of the amazing diversity of life we share this planet with. If society upheld ecocentrism and ecological ethics (Curry 2011; Washington et al. 2017) it could not support the huge ecological impacts of overpopulation.

Other key science documents discuss the drivers of unsustainability. The IPCC 'Climate Change 2014' Synthesis report (2014, p. 5) noted: *"Globally, economic and population growth continued to be the most important drivers of increases in CO₂ emissions from fossil fuel combustion."*

The IPBES (2019) extinction report notes: 'Key indirect drivers include increased population and per capita consumption'. The focus of this article is on overpopulation, and the reasons for its denial, as well as positive ways forward.

Environmental data show the unsustainability of human overpopulation

Washington et al. (2019) summarise the environmental data for human overpopulation. Unsustainable population growth pushes the world beyond its carrying capacity (Catton 1982). The world is finite, and we know that human numbers are now far larger than ever before in history (see Figure 1). Our global population is more than 7.7 billion people. Despite declining global Total Fertility Rates (TFRs), population momentum is projected to cause global population to rise to 9.8 billion by 2050 and 11.2 billion by 2100 (UNDESA 2017). The idea sometimes put forward that the population explosion is 'over' is clearly mistaken (as discussed by Campbell 2012).

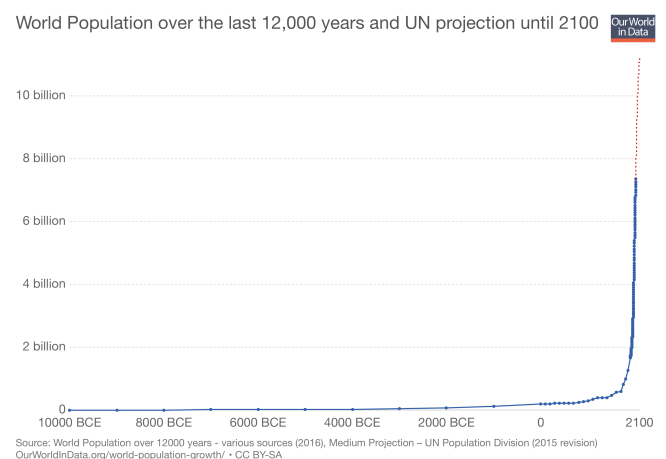


Figure 1 World Population growth over time (Source: <https://ourworldindata.org/world-population-growth>)

In 1968 Paul Ehrlich published 'The Population Bomb', which alerted the world to the dangers of exponentially growing population. He was later part of coining the entity (Ehrlich et al 1977):

Environmental Impact = Population x Affluence x Technology

Or 'I = PAT'. Our impact on the Earth is thus the number of people times their affluence (per capita consumption of resources) times the technology we use. Of course *historically* most of the impact from pollution and carbon emissions has come from the consumers in the developed world (Monbiot 2009). However, the developing world is rapidly catching up. If this is done using traditional carbon-polluting industry (as it mostly still is), the result will be steeply accelerating global carbon emissions, resource consumption, and increasing pollution (Washington 2015). Gerlagh et al. (2018) note that from 1990 to 2017 the increase in GHG emissions is one-fourth attributable to the growth of emissions per person, whereas *three-fourths* are due to population growth.

The world is in ecological overshoot, with massive extinction underway (IPBES 2019). Adding another 2.1 billion by 2050, and 3.5 by 2100, would cause extensive impact, major clearing of native vegetation (to produce food), escalation of greenhouse gas production, ecosystem collapse, and an even greater mass extinction (Crist et al. 2017). The unsustainability of the current population is clearly shown by the Global Ecological Footprint of 1.7 Earths (GFN 2019), by the Living Planet Index (WWF, 2018) having declined by 60% since 1970, and by an extinction rate at least a 1000 times above normal (MEA 2005). One million species (at least) are now threatened by extinction (IPBES 2019). Biodiversity experts such as E.O. Wilson (2003) suggest we could lose half (or even two thirds, Raven et al. 2011) of the world's species by the year 2100. Butler (2012) notes that both climate change and the extinction crisis are merely *symptoms* of ecological overshoot by an obese humanity.

If population and affluence were to continue to increase as projected, by 2050 food production would have to increase by 70% (FAO 2011). It is difficult to see how it is possible given the many accelerating and interconnected environmental problems that food production now faces (Brown, 2012). Production could be boosted by degrading most of our remaining natural areas and biodiversity to increase cropland by a fifth (Erb et al. 2009). This would cause massive negative impacts on nature (Crist et al. 2017). And yet despite all this, talking about overpopulation remains controversial. Many scholars write of the need for a 'smaller ecological footprint', but as Dietz and O'Neill (2013, p. 78) point out: 'we need smaller footprints, but we also need fewer feet'.

An ecologically-sustainable global human population?

What might be an ecologically-sustainable population number for the Earth? It is odd that this question today receives little discussion in academia. Biocapacity data suggest that if we made no change at all to consumption patterns, we could currently sustain a population of 4 to 5 billion (Engelman 2013). However, this would not work if every one of those lived at the US standard, where the Earth could sustain a quarter of today's population, or 1.75 billion people (Assadourian 2013). If we were to

move to the European standard of consumption it has been argued it would be 2 billion (WPB n.d.).

If everybody on Earth shared a modest standard of living, midway between the richest and the poorest, that figure might be around 3 billion (PM 2010). The world is clearly already *overpopulated* in regard to being ecologically-sustainable. We cannot live in 'Harmony with Nature' as the UN programme argues for (<http://www.harmonywithnature.un.org/>) when our numbers are degrading the world's life support systems and causing ecocide – ecological genocide (Washington 2019).

Why is overpopulation such a difficult policy issue?

In practice, many governments actually seek to boost their population growth by pro-child policies in order to boost their economic and political advantage (Kopnina & Washington 2016). In some countries, population growth is seen favorably, as politicians and economists assume that a larger population stimulates economic growth (discussed in Washington et al. 2019). In the last decade, population growth has become a polarised issue in sustainability discourse (Kopnina & Washington 2016), with debates ranging from ambiguity to open hostility.

Why do governments and academia continue to ignore this key issue? Few things seem to create such controversy as suggesting we should 'limit human numbers'. Into it comes issues such as religion, racism, social and ecological justice, equity, and poverty (Washington 2015; Kopnina & Washington 2016). The problem is that questioning population growth cuts at the heart of the received wisdom of a million years of human evolution, where 'more' people was always seen as being better (Washington 2015). There is also the question of religious discouragement of birth control methods. Add to that the fundamental desire of governments to have more citizens and greater power (Washington et al. 2019).

History shows a worrying decline in discussion about overpopulation by the UN and other government bodies (Campbell 2012). In 1994 the UN 'Cairo' conference stopped talking about 'family planning' and instead spoke only of 'women's reproductive health' (funding for family planning then dropped worldwide). At that time population control became something of a taboo word, as it was portrayed as infringing on 'women's rights' (Ibid). There is also the key problem that the political Left – and much of the environment movement – have failed to face up to overpopulation as a key issue, either ignoring it or denying its essential importance (Crist 2012; Kopnina & Washington 2016). A silence about population is demonstrated by several organisations. The policies developed by the UN's 'Sustainable Development Goals' do not seriously address population (Kopnina & Washington 2016). The recent Living Planet Index (WWF 2018) emphasized the need to curb consumption, but marginalized population. Some 'degrowth' advocates also avoid or dismiss overpopulation (e.g. Kallis 2018). Derer (2018) notes there is almost a complete silence about overpopulation, both in the media and academia.

Is talking about overpopulation anti-human?

The Discovery Institute video 'The War on Humans' argues that any argument against population growth is

anti-human (DI 2014). They claim that anti-human activists want to reduce the human population by 90% because of a hatred of humanity (as discussed in Kopnina & Washington 2016). However, no serious evidence to support this is presented.

Environmental scientists and scholars who point out the danger of overpopulation do so for two key reasons. The first is that this is causing ecocide and extinction of life. The second is that the first reason is likely to lead to famine and war, and the major loss of human life. Both would be tragedies. Hence talking about overpopulation is not anti-human but *pro-human*. Population activism seeks to avoid mega-death (both human and nonhuman). Similarly, it wishes to avoid a situation where international conflict and war are increased. Talking about overpopulation is thus one of the most pro-human (as well as pro-nature) things any of us can do to reach an ecologically (and socially) sustainable future (Lowe 2016; Washington 2019).

Denial of overpopulation leading us towards collapse?

Diamond (2005) argued in his book 'Collapse' that societies inevitably expand until they reach limits such as: food, water, and mineral resources. Whether the society then fails or survives, he said, depends on whether they are able to adapt to the new situation. He argues that any society can *choose* whether to adapt to new realities or ignore them until it is too late to adapt. The critical issue is whether societies are able to adapt to the new reality (in this case the data shown by the 'Scientists' Warning' that overpopulation and overconsumption are fundamentally unsustainable). Diamond (2005) argues that this question is determined by the values of the society.

'Causal Layered Analysis' supports Diamond's theory that societies collapse when they are unable to adapt to changing circumstances, providing a causal explanation: while responding by change appears a more rational approach than marching bravely to inevitable collapse, that apparently irrational behaviour can reflect the way underlying metaphors prevent a concerted response (Washington et al. 2019). This is an uncomfortable conclusion for our present civilisation, since it is reasonable to conclude that our underlying myths and metaphors are a very serious obstacle to meeting the challenges we now face.

In regard to solutions, firstly we need to understand our human tendency to denial, and engage in *dialogue* to break this down. Through such dialogue we can then accept our problems - and act on them (Washington 2018). In regard to actually slowing, stabilizing and reducing global population (over time) the nine *non-coercive* solutions of Engelman (2016) we believe are excellent ways forward.

Conclusion

We are faced with three major drivers of unsustainability - overpopulation, overconsumption and the endless growth economy. Clearly, talking about any of these is not easy, as society is in denial of all of them. Nevertheless, to reach a meaningful 'sustainability' society must seek to engage in such dialogue. The denial

of human overpopulation is a major problem for both nature and humanity. We must see and act on all the 'elephants in the room', and that means that overpopulation can no longer be ignored or denied. Overpopulation and overconsumption are entwined, and need to be solved concurrently. The 'Scientists Warning to Humanity' shows that society's current path of overpopulation and overconsumption is fundamentally unsustainable. Society thus needs to listen to - and act - on this warning.

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How research literature and media cover the role and image of disabled people in relation to artificial intelligence and neuro-research

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Abstract

Disabled people are impacted by Artificial Intelligence (AI) including Machine Learning (ML) linked neuro and brain based scientific and technological advancements (from now on called AI/Neuro for short). How disabled people are portrayed and what role is linked to disabled people in AI/Neuro discourses impacts how AI/Neuro are advanced in relation to disabled people. A content analysis was performed on 786 academic abstracts obtained from Scopus and the 70 databases of EBSCO-HOST, 208 Canadian newspaper articles and 286 tweets. Within the academic literature, Canadian newspapers and tweets covered, the main portrayal of disabled people was a medical or deficiency one, and the main roles of disabled people evident were the ones of being a medical/therapeutic user and medical focused research participant of AI/Neuro advancements. The following roles were not present: "victim" of AI/Neuro advancements; "educator", "advocate", or "knowledge producers" on the social and other implications of AI/Neuro, and "stakeholder". No role was linked to AI/Neuro governance, ethics and policy discourses. The limited scope of roles of disabled people

in the AI/Neuro literature covered and the medically slanted portrayal of disabled people revealed decreases the utility of how AI/Neuro advancements are discussed, especially the AI/Neuro ethics and governance discourses.

Keywords: disabled people; people with disabilities; artificial intelligence; AI; machine learning; neurotechnology; neuroscience; neuroengineering; newspapers; Twitter; academic literature; governance; ethics; role narrative; portrayal; imagery; identity

Introduction

Artificial Intelligence (AI) including machine learning (ML) and neuro scientific and technological advancements increasingly intersect (Hassabis et al., 2017; Bell, 1999; Lee, 2016; Cavazza et al., 2017; Buttazzo, 2001; de Garis, 2007; Catherwood et al., 2016; Meeuws et al., 2017; Wu and Feng, 2018; Garden and Winickoff, 2018). Disabled people are impacted by how AI/Neuro¹ products and processes are advanced.

An extensive body of literature on the potential implications and governance of advancements exists for AI (Floridi et al., 2018; Asilomar and AI conference participants, 2017; IEEE, 2018; The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, 2018; Participants in the Forum on the Socially Responsible Development of AI, 2017; Partnership on AI, 2018; European Group on Ethics in Science and New Technologies, 2018) and neuro (Roskies, 2002; Farah, 2005; Levy, 2008; Stahnisch, 2015). Furthermore, the ethics and governance of AI and Neuro discussions increasingly intersect (Yuste et al., 2017; Aicardi et al., 2018a; Aicardi et al., 2018b; Ienca, 2018; Burwell et al., 2017). Disabled people have a stake in and are impacted by how the ethics and governance of AI/Neuro advancements are discussed.

Disabled people can potentially be assigned multiple roles in AI/Neuro discourses such as therapeutic or recreational user, research subject (medical and social aspects), educator, designer of AI/Neuro products or processes and AI/Neuro researcher. It could also entail the role of expert and advocate for themselves and others in relation to AI/Neuro products and processes, which could include being contributor of knowledge and views to neuroethics and neurogovernance discourses.

Disabled people can also be portrayed in different ways, for example medical focus, deficiency focus, negative focus, neutral focus, positive focus, or social issues focus.

The objective of this study was to investigate the role assigned to and the portrayal of disabled people in relation to AI/Neuro coverage in academic literature, Canadian newspapers, and Twitter tweets.

Background

AI/Neuro and Disabled People

Disabled people are impacted by AI/Neuro driven advancements in many ways. For example, a) as potential users of AI/Neuro advanced products and processes, b) by

the changing societal parameters caused by societal use of AI/Neuro enabled products and processes, c) by products and processes that employ AI/Neuro being able to outperform humans in a given task, and d) by how autonomous behavior of AI enabled Neuro products and processes play themselves out. Within the coverage of AI/Neuro, disabled people can hold multiple roles. The role that an individual holds is often linked to one's identity (Fox and Ward, 2006; Caldwell, 2009; Longmore, 1985) whereby the identity is often also linked to the imagery evident by the words used to portray the person. The identity one has of oneself or others attribute to oneself influences expectations of the role of that person within society (Longmore, 1985). This is one factor that can influence how a problem is defined and what solution is sought (Wolbring, 2004) and "shapes public opinion and policy preferences" (Hart and Nisbet, 2012: 704). The terms "disabled people" and "people with disabilities" for example are often used to depict the social group of disabled people (Barnes, 1999; Miles and Singal, 2010; Chataika et al., 2012) and the social issues they face, whereby the term "patient" is often used to focus on the medical aspect of the person including the disabled patient.

Governance of AI/Neuro

Numerous countries have AI strategies (Ding, 2018; Dutton, 2018), many of which explicitly cover ethics and governance issues (Canadian Institute for Advanced Research (CIFAR), 2018). Guidelines not linked to a given country also exist such as *The Ethical Framework for a Good AI Society* (Floridi et al., 2018), the *Asilomar AI Principles* (Asilomar and AI conference participants, 2017), the *IEEE Initiative on Ethics of Autonomous and Intelligent Systems* documents (IEEE, 2018; The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, 2018), the *Montreal Declaration for a Responsible Development of Artificial Intelligence* (Participants in the Forum on the Socially Responsible Development of AI, 2017), the *Partnership on AI Tenets* (Partnership on AI, 2018) and the *European Group on Ethics in Science and New Technologies statement on artificial intelligence, robotics and 'autonomous' systems* (European Group on Ethics in Science and New Technologies, 2018).

The field of neuroethics investigates ethical, social and legal issues raised by neuro-advancements (Roskies, 2002; Farah, 2005; Levy, 2008; Stahnisch, 2015). Some ethical issues engaged with are personal identity, autonomy, and privacy (Hanrahan, 2015) safety, coercion, distributive justice, and authenticity (Sherlock, 2009). Issues mentioned under neurotechnology governance include enhancement versus therapy, consciousness, cognitive liberty, autonomy, and privacy, human identity, dual-use, hype and false claims, education, distributive justice, access and democratic governance (Garden and Winickoff, 2018).

In regard to the linkage between AI and Neuro, it is stated that the four ethical priorities for

¹ We use AI/Neuro as a short way to indicate advancements that cover neurotechnologies, neuro-engineering, neuroscience, and brain based advancements in conjunction with AI which includes artificial intelligence and machine learning.

neurotechnologies and AI should be the privacy, identity, agency and equality of people (Yuste et al., 2017). An OECD report highlights unique ethical, legal and social issues that arise with the perceived special status of the brain and AI systems (Garden and Winickoff, 2018). As to brain computer interfaces, to just give one AI/Neuro application, the following concerns were identified: “personhood, stigma, autonomy, privacy, research ethics, safety, responsibility, and justice” (Burwell et al., 2017: 1).

Disabled people are impacted by how AI/Neuro advances are governed and the role narrative and imagery of disabled people within AI/Neuro advancements and their governance.

Public and stakeholder engagement is one focus of AI governance (Wilkinson et al., 2011; Stahl and Wright, 2018; Canadian Institute for Advanced Research (CIFAR), 2018; Boyd and Wilson, 2018; McKelvey, 2018) and neuro discourses (Garden and Winickoff, 2018; Morein-Zamir and Sahakian, 2010; Illes et al., 2005). It is noted that disabled people face numerous barriers in being knowledge producers; they also face barriers in being heard within various stakeholder engagements and governance discourses in a meaningful way (Diep, 2017).

Given the importance of role narratives and imagery of the person, the objective of this study was to investigate the role narrative around and imagery of the disabled person within the AI/Neuro focused coverage of three influential sources of literature: academic articles, newspaper articles and Twitter tweets.

Methods

Study Design:

The objective of this study was to ascertain the role assigned to and portrayal of disabled people in the academic literature, Canadian newspapers and Twitter tweets engaging with AI/Neuro advancements. The questions answered in the study were: a) What words are used to describe disabled people? b) What roles of disabled people are evident in the AI/Neuro discourses? c) What neuro-applications cover disabled people within the AI/Neuro discourse?

A scoping review approach was chosen to answer the research questions. Scoping studies “map rapidly the key concepts underpinning a research area” (Arksey and O'Malley, 2005: 21) (Anderson et al., 2008; Levac et al., 2010), in order to identify the extent of research conducted on a given topic (Grant and Booth, 2009; Davis et al., 2009; Njelesani et al., 2012) and the current understanding of a given topic (Anderson et al., 2008). This study followed in a modified way the stages outlined by (Arksey and O'Malley, 2005): identifying the review's research question, identifying databases to search, generating inclusion/exclusion criteria, recording the descriptive quantitative results, selecting literature based on descriptive quantitative results for manifest and latent coding of qualitative data, and reporting findings of qualitative analysis.

As to newspapers, framing is one way to perform a newspaper analysis (Entman, 1991, 1993). We investigated how the AI/neuro coverage in the newspapers framed the role and imagery of disabled people.

Data Sources:

The academic databases EBSCO-Host (an umbrella database that includes over 70 other databases itself) and Scopus, which incorporates the full Medline database collection, were searched using their complete time ranges. They were chosen because they contain many articles covering a wide array of topics of relevance to the study ranging from medical, technical to social topics. The two databases contained over 4.8 Million articles published by journals that contain the terms ‘AI’ OR “artificial intelligence” OR “machine learning” OR “IEEE” OR “brain” in the journal title and include journals focusing on the ethics and societal aspects of AI and neuro such as the journals “neuroethics” and “AI and Society” and the proceedings of the AAAI/ACM Conference on AI, Ethics, and Society.

For the academic literature the focus was on abstracts of academic articles (Burwell et al., 2017) to ensure more relevant hits. An additional inclusion criterion used was the inclusion of only scholarly peer reviewed journals in EBSCO-All, while reviews, peer reviewed articles, conference papers, and editorials were searched in Scopus.

300 Canadian Newspapers covering all regions of Canada from the ProQuest database Canadian Newsstream for its complete time range from 1980-August 2018 were searched. The Canadian newspapers were chosen as a source of data because a) the government of Canada's 2017 AI strategy includes as one focus the investigation of the impact of AI on society, which could be discussed in the newspapers, b) Canada has a developed neuroethics academic community that could contribute to the newspaper coverage and c) over 75% of Canadians still read newspapers (News Media Canada, 2015, 2017) and as such are influenced by what they read.

Tweets from Twitter.com from the start of Twitter until August 17, 2018 were searched, as Twitter is seen as highly effective in its message propagation (Ye and Wu, 2010; Kim and Chandler, 2018; Zannettou et al., 2018).

Data Collection:

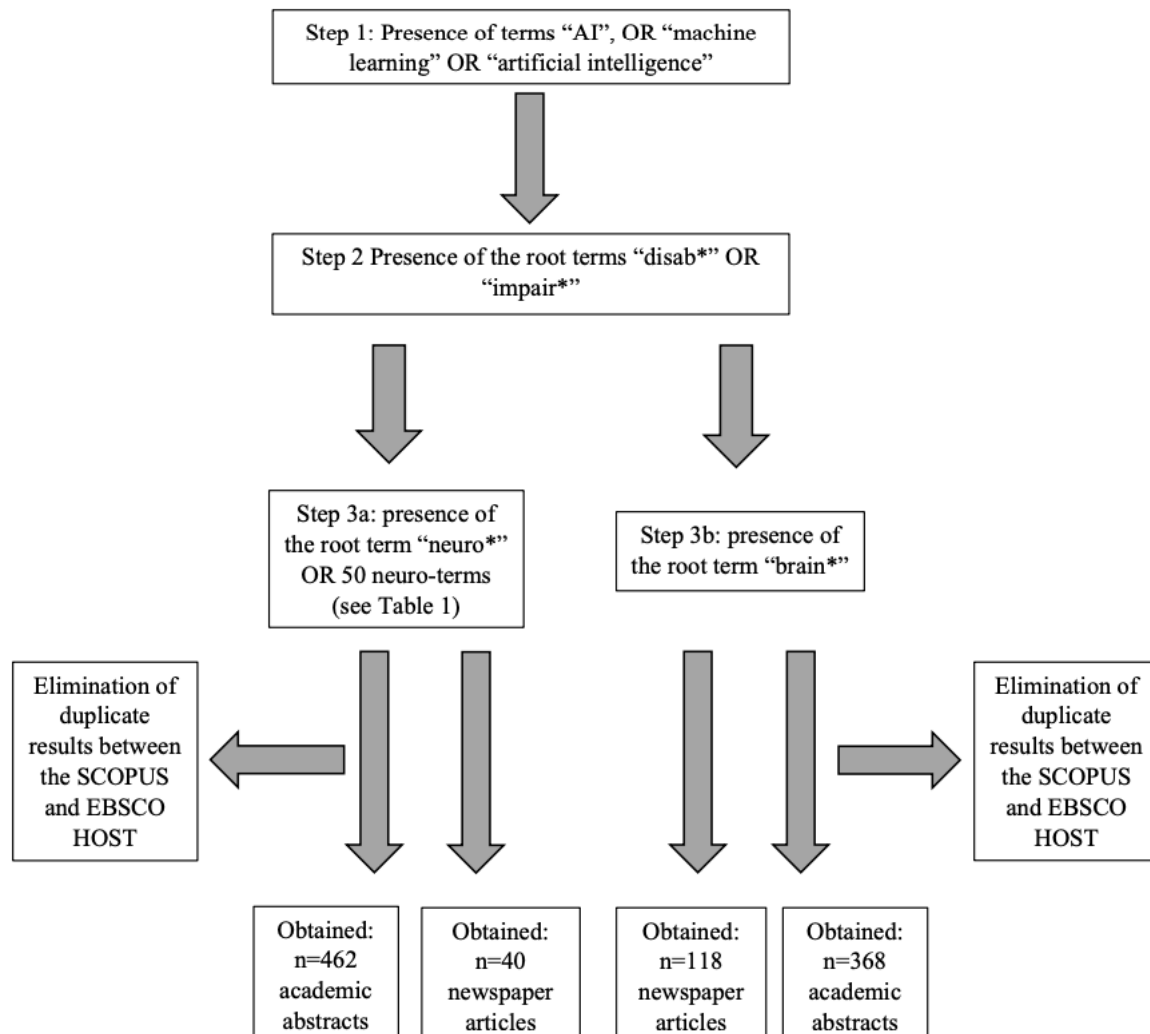
An explicit search strategy was employed to obtain the data (Davis et al., 2009). For the newspapers and tweets, the full text was focused on due to the non-availability of abstracts. For the academic literature abstracts were searched.

Search strategy (September 4, 2018) to obtain academic abstracts and full text of newspaper articles (Figure 1):

Strategy 1, Step 1: The presence of the terms “AI”, OR “machine learning” OR “artificial intelligence”.

Strategy 1, Step 2: Within the Step 1 results, the presence of the root terms “disab*” OR “impair*” was searched for to cover various terms depicting disabled people.

Strategy 1, Step 3a: Within the Step 2 results the presence of the root term “neuro*” OR 50 neuro-terms (see Table 1) chosen based on earlier research performed by the authors was searched for.

Figure 1: Flow chart of the selection of academic abstracts and full text newspaper articles for qualitative analysis**Table 1:** Frequency of mentioning of neurotechnologies

Neurotechnologies	Frequency of mentioning in neuro /50NT related academic abstracts	Frequency of mentioning in Brain related academic abstracts	Frequency of relevant mentioning in neuro/50NT related newspaper articles	Frequency of relevant mentioning in Brain related newspaper articles	Frequency of mentioning in tweets
1. MRI or fMRI	79	86	0	0	4
2. Neuroimaging	66	53	1	0	2
3. brain computer	34	28	0	3	12
4. Robot	17	13	0	0	14
5. Virtual reality	11	4	0	0	0
6. Human computer interaction	8	0	0	0	0
7. Cochlear implant*	7	0	0	0	0
8. Neuroprostheses	6	5	0	0	0
9. Brain stimulation	5	4	1	0	1
10. Brain machine	5	3	1	0	3

11. Transcranial magnetic stimulation	4	0	0	0	0
12. Enhancement	3	3	0	0	0
13. Assistive technology	3	1	0	0	0
14. Deep brain stimulation	2	2	0	0	0
15. Neurofeedback	2	3	0	0	0
16. Nerve stimulation	2	0	1		0
17. Neuroinformatics	2	7	0	0	0
18. Artificial brain	1	1	0	0	0
19. Neurostimulation	1	0	1	0	0
20. electrocorticography	1	2	0	0	0
21. Facial electromyography	1	1	0	0	0
22. Intracranial electroencephalography	1	0	0	0	0
23. Cognitive Enhancement	1	1	1	0	0
24. Neuropage	1	0	0	0	0
25. Brain driven car	1	3	0	0	0
26. Brain controlled car	0	0	0	0	36
27. Exoskeleton	1	1	1	1	0
28. EEG	0	2	0	0	0
29. brain-mobile-cloud interface (BMCI)	0	1	0	0	0
30. Fuzzy cognitive map	0	1	0	0	0
31. Transcranial direct current stimulation	0	0	0	0	0
32. Neuromodulation	0	0	0	0	0
33. God Helmet	0	0	0	0	0
34. Nootropic*	0	0	0	0	0
35. Subvocal	0	0	0	0	0
36. Deep mind	0	0	0	0	0
37. Cranial electrotherapy stimulation	0	0	0	0	0
38. Ear-EEG	0	0	0	0	0
39. Hemoencephalography	0	0	0	0	0
40. Whole brain emulation	0	0	0	0	0
41. Pulsed electromagnetic field therapy	0	0	0	0	0
42. Responsive neurostimulation	0	0	0	0	0
43. Sacral nerve stimulation	0	0	0	0	0
44. Speech technolog*	0	0	0	0	0
45. Spinal cord stimulator	0	0	0	0	0

46. Cortical modem	0	0	0	0	0
47. Hippocampus prosthesis	0	0	0	0	0
48. Artificial hippocampus	0	0	0	0	0
49. Optogenetics	0	1	0	0	0
50. Bionic eye	0	0	1	1	0
51. Direct acoustic cortical implant	0	0	0	0	0
52. Exocortex	0	0	0	0	0
53. Collaborative cognitive simulations	0	0	0	0	0
54. Brain-to-text	0	0	0	0	0
55. Brain to speech	0	0	0	0	0
56. Speech BCI	0	0	0	0	0
57. Neuralink	0	0	0	0	0
58. Darpa Ram sensor	0	0	0	0	0
59. Prosthetic memory device	0	0	1	0	0
60. Muse headband	0	0	0	0	0
61. THync mood altering headset	0	0	0	0	0
62. Neurochip	0	0	0	0	0
63. Neuroenhanc*	0	0	1	0	0
64. Moral enhancement	0	0	0	0	0
65. Artificial Voice Synthesizer	0	0	1	0	0

After elimination of duplicates, 462 abstracts of academic articles and 40 full text newspaper articles were downloaded for content analysis.

Strategy 1, Step 3b: : Within the Step 2 results the presence of the root term "brain*" was searched for.

This search strategy obtained 324 unique academic abstracts and 168 full text newspaper articles which were also downloaded

For Twitter, the search engine on the twitter.com webpage was searched March 28, 2019 (Figure 2).

Step 1: for the presence of "AI" OR "machine learning" OR "artificial intelligence"

Step 2: for the presence of "disabled" OR "disability" OR "disabilities" OR "impaired" OR "impairment".

Step 3a: for the presence of "neuro" (n=11) OR "neurotechnologies" OR "neurotechnology" (n=0) OR "neuroscience" (n=85)

Step 3b: for the presence of "brain" (n=190)

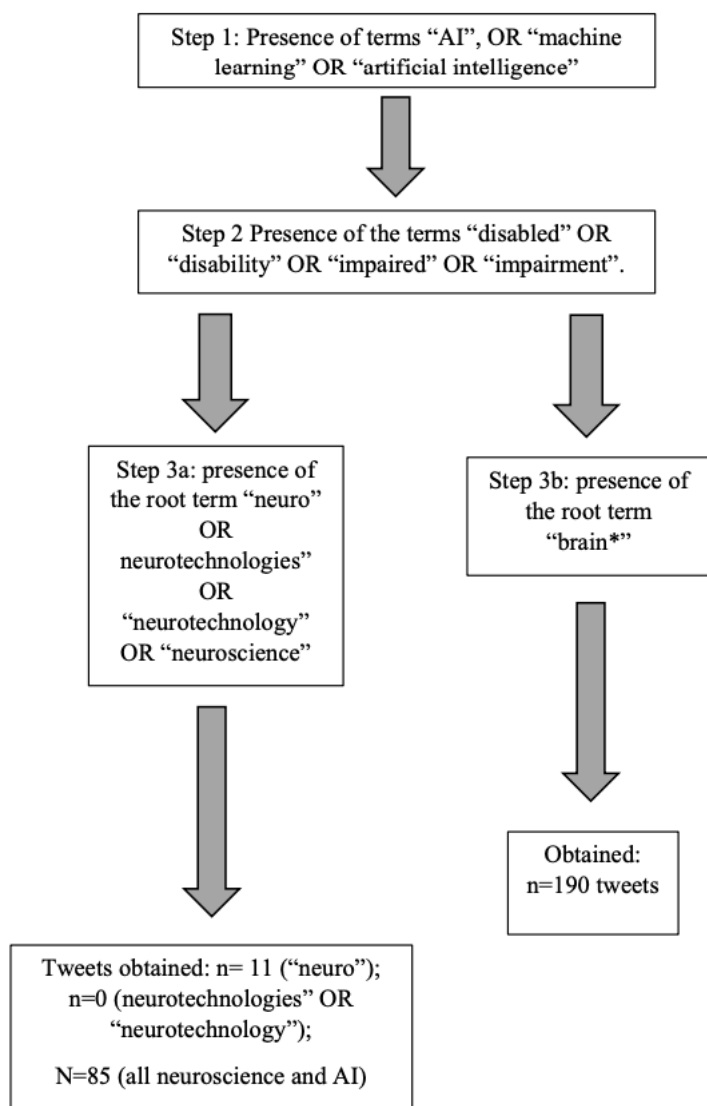
Additional obtained data: We downloaded on March 28, 2019 in Scopus all 73 abstracts from the AIES 2018 - Proceedings of the 2018 AAAI/ACM Conference on AI, Ethics, and Society. Not one abstract contained the terms "disab*" or "impair*" and therefore no new content for

academic abstracts beyond outlined in Figure 1 was added to the data analysed.

Data Analysis:

To answer the research questions, a) a descriptive quantitative analysis approach and b) a thematic qualitative content approach (Hsieh and Shannon, 2005; Edling and Mooney Simmie, 2017) were employed. In this study, manifest coding was used to generate codes based on keywords (Downe-Wamboldt, 1992) such as the words used to describe disabled people or words reflecting neurotechnologies. This includes the 50 neuroterms that were part of the search strategies and other words reflecting AI linked neurotechnologies found by reading the data downloaded. Once a word was identified a frequency of presence of that given word was generated. Latent coding (Hsieh and Shannon, 2005) was used to generate codes reflecting roles of disabled people evident in the content. Every time the same role was identified the same code was added and at the end the frequency of presence of each code was recorded. All authors performed the manifest and latent coding. No difference in results were found between authors performing the manifest coding tasks.

Figure 2: Flow chart of the selection of tweets for qualitative analysis



Furthermore, very few differences existed between authors in identifying roles of disabled people evident in the content read. The few differences were discussed by the authors and resolved. The authors used the Memo and coding functions within ATLAS.Ti 8™ a qualitative content analysis software so that the views of each author were easy to follow.

Limitation:

The findings cannot be generalized to the whole academic literature, media, or newspapers in Canada or from other countries. The findings, however, allow for conclusions to be made within the parameters of the searches. For the study, 50 neuroterms beyond the generic terms “neuro*” and “brain*”, “AI”, “artificial intelligence” and “machine learning” and specific terms depicting disabled people were selected for the searches. The search terms do not cover all possible neuro linked terms or all terms that might lead to AI content or all terms depicting disabled people. The findings, however, allow for conclusions to be made within the parameters

of the searches. Furthermore, the methods description gives all required information for others to decide whether they want to apply the keyword searches on other data sources such as grey literature, the AI/Neuro literature in other languages, or whether they want to perform different but related keyword searches.

Results

The result section is divided in four parts. Part 1 covers the neuroapplications mentioned in thre academic literature, newspapers and twitter tweets; part 2 covers the role and portrayal of disabled people in academic abstracts downloaded; ; part 3 covers the role and portrayal of disabled people in the full text newspaper articles downloaded; ; part 4 covers the role and portrayal of disabled people in the twitter tweets downloaded;

Part 1: Neuroapplications mentioned in the literature covered

Firstly, the frequency of neurotechnologies present in the academic and newspaper data downloaded was ascertained. As to newspaper articles, AI/Neuro content was often not mentioned in relation to disabled people and as such we list only incidents where the neurotechnologies are engaged with in relation to disabled people (Refer to Table 1).

Part 2: Academic Literature:

Within this section we report on the findings related to the roles linked to disabled people and the portrayal of disabled people.

Portrayal of disabled people

Table 2: Frequency of terms linked to the medical/body deficiency portrayal of disabled people in academic abstracts:

Term	Frequency of mentioning in neuro/50NT related academic abstracts	Frequency of mentioning in brain related academic abstracts
Patient	898	875
Alzheimer	315	487
Dementia	155	233
Parkinson	52	73
Schizophrenia	52	171
Traumatic Brain Injury	13	38

Table 3: Frequency of terms linked to the use of the term impairment illustrating the medical/body deficiency portrayal in academic abstracts:

Term	Frequency of mentioning in neuro/50NT related academic abstracts	Frequency of mentioning in brain related academic abstracts
Cognitive impairment	256	225
Motor impairment	20	17
Hearing impairment/ impaired	13	9
Memory impairment	11	9
Neurological impairment	10	4
neurocognitive impairment	6	5
functional impairment	5	5
attentional or emotional impairment	4	4
speech or mental or brain impairment	2	1
psychiatric or learning or social or brain or executive or visual impairment	1	1
Visual impairment	0	6

Role of disabled people

As to the role of disab* and impair* related user groups the data presented in Table 5 was found in the academic abstracts.

Part 3 Newspaper articles:

Neuro/50NT related newspaper articles

Of the forty newspaper articles downloaded only n=10 articles had relevant content (Canada NewsWire, 2007; National Post, 2014; Wadhwa, 2016; Canada NewsWire, 2017; Evenson, 2002; Smialek, 2012; Canada NewsWire, 2016; Canadian NewsWire, 2017; Spence, 2017).

Within these ten articles, n=5 used the term “impair*” to define the person and n=4 used the term patient. The terms “the disabled”, “permanently disabled”, “physically disability”, and “physical handicaps” were used once whereby the term “disab*” implied “impair*”.

Not once were the phrases “disabled people” or “people with disabilities” used.

Table 4: Frequency of terms linked to “disabled” or “with disabilities” or “disability” and some other terms covering disabled people in academic abstracts:

Term	Frequency of mentioning in neuro/50NT related academic abstracts	Frequency of mentioning in brain related academic abstracts
Autism	63	63
ADHD	26	6
Disabled people	12	22
intellectual disability	11	1
disabled subject*	6	5
disabled person	3	5
Learning disability	1	45
learning disabled	1	17
people with disabilities	1	7
physically disabled	1	4
disabled population	1	1
cognitive disability	1	1
mentally disabled	1	0
deaf humans	1	0
athletes with disabilities	1	0
the disabled	0	43
neurodiver*	0	0

Within these ten articles, the role of disabled people was framed as therapeutic users (n=7 times), changing abilities linked to the body and non-therapeutic users (n=3 times) and providing companionship and services to “assist people in all stages of life” (Canada NewsWire, 2007). Only one article covering the late physicist Stephen Hawking, and his warning on the disastrous consequences of full AI indicates the role of a disabled person as an expert (National Post, 2014).

Brain related newspaper articles

Of the n=168 articles downloaded, only n=5 were relevant articles that allowed to answer the research questions (Struzik, 1998; Stonehouse, 2002; M. Fox, 2008; Smialek, 2012; Canada NewsWire, 2018). In many cases, the term brain was not used in conjunction with neuroadvancements, and if it was, artificial intelligence terms were either not linked to the content or the coverage did not include disabled people. Of the five relevant articles the first article used the term disabled

and covered brainwaves and BCI as a way to control the environment (Struzik, 1998).

Table 5: Frequency of role of user group

Role	Frequency of mentioning in neuro/50NT related academic abstracts	Frequency of mentioning in brain related academic abstracts
Groups linked to impairment		
Research on impairment covering diagnostics/ prediction/ classification but no active role as group or individual	132	108
Medical research on impairment not involving humans often animal research	25	21
User of device	17	8
Research subject in medical research	12	20
Co-designer/designer of device	1	1
Philosophical paper covering in parts the group to make an argument	0	2
Disability as part of term such as intellectual disability		
Disability but Medical research focus but no active role as group or individual	23	21
All medical research, research subject	20 (mostly on disability of MS patients)	12
Research subject non-medical research	2	0
Research on social aspect of disability not involving people	2	0
Research subject on usability of device	1	0
Role of disabled people/people with disabilities		
User	20	8 (indicates disabled people as users but no active role)
Medical topic related research subject including diagnosis	16	0

Research subject/ Tester	5	0
Social topic related research subject	2	0
Being fixed	1	0
Social topic related research subject	1	0
Medical animal model of autism	1	0

A second article used the term “severely disabled” and also covered BCI to improve the quality of life of “the disabled” (Stonehouse, 2002). The same article raised the question of non-therapeutic enhancement stating that he “...agrees that it will be possible -- at least in theory -- for the human brain and computers to link on a wide scale, that the technology will grow beyond helping people with disabilities” (Stonehouse, 2002). A third article reported on a research study where a computer was trained to “read” people’s minds by looking at scans of their brains as they think about specific words, which the article indicates might help in the future with learning disability (M. Fox, 2008). A fourth article covered vision impaired people and looked at animal research indicating the potential for better visual prosthetics (Smialek, 2012). The final article simply indicated “Cognetivity’s Integrated Cognitive Assessment tool that uses AI and ML techniques to help detect the earliest signs of impairment by testing the performance of large areas of the brain, potentially allowing early diagnosis of dementia” (Canada NewsWire, 2018).

Part 4: Twitter tweets

In twitter a total of 286 tweets were found, of which 96 were linked to neuroterms and 190 to the term “brain”. 75 tweets were false positives and the majority of the remaining tweets covered disabled people within a therapeutic and/or deficiency context. Brain controlled cars and brain computer interface enabled speech were the two main applications mentioned.

“Helps” as a term was used three times in conjunction with a non-medical/therapeutic mentioning of disabled people; for example, “Next-generation wheelchairs could incorporate #brain-controlled robotic arms and rentable add-on motors in order to help people with #disabilities more easily carry out daily tasks or get around a city”(Web Surfer [@WebSurfology], 2019). One tweet simply highlighted an ability added that was lost (g^a| jP€³μ [galipeau], 2016). “Empower people with disabilities” was used once as a phrase in relation to the use of BCI (Marcello Ienca [@MarcelloIenca], 2018). One tweet rewording the main message of a wired article stated that “CEO @satyanadella thinks its possible to eliminate bias from #AI, expects advances in brain-machine interfacing to open up new possibilities for the disabled”(AutomationNews [@NewsAutomation], 2018). Another tweet indicated that not allowing for AI based services that for example allow people with hearing and speech disabilities to make phonecalls is ableist (Dana

Fried [@leftoblique], 2018). One tweet responding to the head of Microsoft and another in general agreed that brain computer interfaces should be used to help disabled people but questions the use for healthy people or the military (R.E.A.L Human Rights [@realhumanrights], 2018; Richard Green [@RichardGreenFX], 2018). One tweet sees a bias in AI against neurodiverse people (nv/White Book Agency [@whitebookagency], 2019).

Discussion

Only 786 academic abstracts, 16 relevant newspaper articles and 286 tweets were found. For neuroterms the newspapers only covered 12 (mostly once), and the academic abstracts contained 31 neuroterms with only 10 being present in 10 or more abstracts (Table 1). The portrayal of disabled people was predominantly medically grounded, or implied deficiency (Table 2-4, newspaper and twitter section). The roles of medical users and subjects for medical research were the most prevalent ones for disabled people. Being a victim (being negatively impacted by) or being an advocate for disabled people in AI/Neuro discourses including ethics and governance discourses, and the role of educator were absent (Table 5, newspaper and twitter section).

Given the ethical and social issues and goals identified in AI/Neuro governance/ethics literature, the findings suggest a gap that needs to be filled. In the remainder of the section the findings are discussed through the lens of some key AI policy documents and concerns mentioned in AI/Neuro covering academic articles.

The *Ethical Framework for a Good AI Society* an initiative by the AI4People Europe's first Global forum on AI ethics was launched at the European Parliament in February 2018 (Floridi et al., 2018). The premise of the ethical framework document is that the question is not whether AI impacts society but "by whom, how, where, and when "positive or negative impact will be felt" (Floridi et al., 2018: 2). The question is very likely generating the wrong answers in relation to disabled people given the narrow role and imagery narrative around disabled people found in the study. It is essential that disabled people are present in their role of being negatively impacted by AI/Neuroadvancements (victim), expert, educator, knowledge producer and advocate for disabled people not just as a medical consumer and that disabled people are portrayed beyond the medical and deficiency imagery. According to the AI4People Scientific Committee, there are four main opportunities for society that AI offers for humans to flourish: "who we can become (autonomous self-realization); what we can do (human agency); what we can achieve (individual and societal capabilities); and how we can interact with each other and the world (societal cohesion)" (Floridi et al., 2018: 3). How these opportunities are filled with content in relation to disabled people depends on the role and portrayal of disabled people in the AI/Neuro discourses, and the study findings suggest that the content will be rather one sided and miss many aspects. For example according to the AI4People Scientific Committee, the risk is not the obsolescence of old skills and the expectation

of new ones, but the pace of the change (Floridi et al., 2018).

Given that one has already a problem to obtain a job as a disabled person (Bureau of Labor Statistics United States Department of Labor, 2018; Wolbring, 2016), the obsolescence of their skills is an important aspect. However, this aspect might have been missed by the AI4People Scientific Committee because of the one-sided role and portrayal of disabled people revealed by the study. According to AI4People Scientific Committee, "Human intelligence augmented by AI could find new solutions to old and new problems, from a fairer or more efficient distribution of resources to a more sustainable approach to consumption" (Floridi et al., 2018: 5). For the fairer to happen to disabled people, they must be on the radar and be present to make sure they do not face problems under the 'efficient' argument. The AI4People Scientific Committee states that "global problems increasingly have high degrees of coordination complexity, meaning that they can be tackled successfully only if all stakeholders co-design and co-own the solutions and cooperate to bring them about" (Floridi et al., 2018: 6). However, when, to what extent and linked to what role and imagery are disabled people seen as stakeholders? According to the AI4People Scientific Committee "ethics enables organizations to take advantage of the social value that AI enables" (Floridi et al., 2018: 7). However, which social values will AI enable and how do disabled people fit?

According to the IEEE document, respect for human rights as set out in the UN Convention on the Rights of Persons with Disabilities is an important goal of autonomous and intelligence systems (The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, 2018). indicating that the role narrative and portrayal around disabled people that this study revealed has to change.

Justice is mentioned in many documents linked to AI governance (Floridi et al., 2018; Participants in the Forum on the Socially Responsible Development of AI, 2017; Asilomar and AI conference participants, 2017; European Group on Ethics in Science and New Technologies, 2018; The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, 2018), neurotechnology governance (Garden and Winickoff, 2018) and AI/Neuro products such as brain computer interfaces (Burwell et al., 2017).

However, how can justice be engaged with in relation to disabled people given the role narrative and portrayal found in the study? Justice aspects discussed in relation to patients and medical interventions are different from justice issues linked to a social impact on disabled people.

Solidarity mentioned by (European Group on Ethics in Science and New Technologies, 2018; The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, 2018) and equity or equality by (European Group on Ethics in Science and New Technologies, 2018; The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, 2018; Partnership on AI, 2018; Garden and Winickoff, 2018; Yuste et al., 2017) also

demand a differentiated engagement with disabled people beyond the role and portrayal found in the study.

Identity of the person is a topic discussed widely (Yuste et al., 2017; Burwell et al., 2017; Garden and Winickoff, 2018; Floridi et al., 2018; The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, 2018)(European Group on Ethics in Science and New Technologies, 2018). The question arising for disabled people is who programs AI with which identity of disabled people in mind, or in the AI self-learning mode which identity does the AI entity attach to disabled people given that the debate is still ongoing around the identity of disabled people (Wolbring and Djebrouni, 2018). The findings of this study suggest that if AI technologies use the literature covered in this study for its learning, one can expect the AI entity will obtain a biased, one sided understanding of the identity of disabled people.

Furthermore, in order to deal with other concerns mentioned around AI/Neuro such as privacy, identity, agency equality, morality, cognitive control and capacity for consent personhood, stigma, autonomy, responsibility, and justice (Yuste et al., 2017; Garden and Winickoff, 2018; Burwell et al., 2017), a more diverse role narrative and portrayal of disabled people is needed.

Stakeholder/public engagement is discussed in many AI and Neuro ethics/governance documents. It is seen as important to ascertain the values that societies wants to incorporate into AI development and governance (European Group on Ethics in Science and New Technologies, 2018). It is also important for AI advancements to promote critical thinking, informed participation in public life, cooperation and democratic debate (Participants in the Forum on the Socially Responsible Development of AI, 2017). However, the findings of this study suggest that AI advancements increase the participation barriers disabled people face (Diep, 2017) of which their medical imagery is one (Wolbring et al., 2013). It is doubtful that such engagements and proposed societal values reflect the views of the diversity of disabled people and promotes critical thinking in relation to how AI/Neuro impacts disabled people. For that to happen a more diverse narrative around disabled people role and imagery has to be present.

Conclusion and Future Research

The findings of this study indicate a limited role narrative and limited scope of portrayal of disabled people within the literature covered. The literature covered favored the role of disabled people as passive therapeutic recipients of AI/Neuro advancements and a medical portrayal of disabled people. Many other roles of and portrayals of disabled people were missed, which disempowers disabled people.

Sherwin, a leading ethicist, concluded that “we [ethicists] lack the appropriate intellectual tools for promoting deep moral change in our society” (Sherwin, 2011: 80). The findings of this study suggest that the literature covered did not indicate a deep moral change needed in how AI/Neuro advancements deal with

disabled people and the literature did not cover disabled people as agents of moral change.

More research on role and portrayal of disabled people is warranted to answer questions such as: Why are certain roles and portrayals missing from the narrative in relation to disabled people?

Given that role narratives and portrayals are also important for other social groups, the role narratives and portrayal of other groups in AI/Neuro discourses such as health professionals, women, and indigenous people could also be investigated. Finally, one could investigate whether there are differences in role narratives based on culture, geographical location, and other parameters.

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Further paper are welcome to the editor, Dr. Darryl Macer, Email: darryl@eubios.info

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