AUTOMATED JOURNALISM AND ITS RE-ARTICULATION OF DUTCH PROFESSIONAL JOURNALISTIC IDEOLOGY

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Automated journalism, automation, professional ideology, Dutch journalism, Human-Machine Communication

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ABSTRACT

This master thesis investigates the topic of automated journalism in Dutch journalism. Previous research on the topic of automated journalism shows that the entry of algorithms in journalistic production and dissemination processes could serve as a tipping point in the human element of journalism. This research analyses ten semi-structured interviews conducted with national and local journalists who hold both editorial and managerial duties at Dutch news organisations.

By focussing on how the journalists discuss the aspects of automated journalism technology as a communicator instead of a facilitator, how automated journalism technologies and its communicative aspects could be resisted, embraced or rebuild the professional ideology of Dutch journalism and how Dutch journalists articulate their opinions on automated journalism, this thesis provides evidence for viewpoints beyond the "robot-human job loss" paradigm.

The journalists state that automated journalism will change the Dutch journalistic profession as journalism itself. The emerging human–machine communications are defined by the blend of supportive automated systems and (commanding) human agencies, while enabling opportunities for automated and human journalists to collaborate and reap each other's benefits. It will enable opportunities such as the ability of automation to automation to reach out to more experts a human journalist can and the human journalist using his background knowledge to convert the data in order to enhance objective reporting. Therefore leaving human journalists not with a loss of work, but reaping the benefits of this advanced technology.

> 'Alleen kan je niks,
> je moet het samen doen.'
>
> **Johan Cruijff**

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1.0

INTRODUCTION

Automated journalism in The Netherlands is progressing gradually with the first automated journalistic articles being published by NOS and RTL Nieuws. The NOS chose to deploy an automated journalist to cover all local results of the Provincial Elections and RTL Nieuws released ADAM, the "news room robot" that creates local news stories based on large scale data sets.[1] This form of automated or robot journalism ('robotjournalistiek' in Dutch) entails algorithmic processes that convert data into narrative news texts with limited to no human intervention beyond the initial programming.[2] The fast development of Natural Language Generation (NLG) technology, the technology at the base of automated journalism, enables the growth of new application options in newsrooms.[3] With this introduction of so-called robot journalists to the Dutch journalistic landscape, The Netherlands follows a worldwide trend in which automated journalism is on the rise and automated journalists are being deployed to create news articles.[4] Structured data, such as weather data, financial data and sports data, lend itself particularly well for this technology and most automated journalistic experiments take place in these areas.[5] Furthermore, automation in production operations and the use of algorithms lead to the opportunity to transform information and data for journalistic purposes.[6]

The generation of news by algorithmic processes opens theoretical and ontological questions. Both communication and journalism have always been understood as human processes by default.[7] The entry of a machine into the role of communicator of news could serve as a tipping point in the human element of journalism.[8] For example, as production techniques are progressively automated, the precept of "what can be automated will be automated"[9] suggests changes in the journalistic role of humans, who currently predominately shape the knowledge production of millions of citizens. Journalists have nevertheless emphasized their own capacity for linguistic complexity, creativity and personality, seeing automated journalism as an opportunity to "make journalism more human" by leaving them time to focus on in-depth news stories.[10] Dutch surveys, done by the Stimuleringsfonds voor de Journalistiek with around 150 Dutch journalists, show that it remains unknown if and to what

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[1] "Primeur voor Nederland: NOS zet robot in bij verkiezingen," NOS.nl, accessed October 24, 2019, https://over.nos.nl/nieuws/1136/primeur-voor-nederland-nos-zet-robot-in-bij-verkiezingen; Jasper Bunskoek, "RTL Nieuws introduceert redactierobot ADAM," *RTL Nieuws,* last modified November 14, 2019. https://www.rtlnieuws.nl/nieuws/artikel/4914671/adam-robot-nieuws-journalistiek-innovatie-rtl-nieuws-google-dni.

[2] Matt Carlson, "The Robotic Reporter: Automated journalism and the redefinition of labor, compositional forms, and journalistic authority," *Digital Journalism*, 3:3 (2015), 417.

[3] Albert Gatt and Emiel Krahmer, "Survey of the State of the Art in Natural Language Generation: Core tasks, applications and evaluation," *Journal of Artificial Intelligence Research*, 61(1) (2018), 138.

[4] Nicole Martin, "Did A Robot Write This? How AI Is Impacting Journalism," Forbes, accessed October 25, 2019, https://www.forbes.com/sites/nicolemartin1/2019/02/08/did-a-robot-write-this-how-ai-is-impacting-journalism/#31d100de7795.

[5] Gatt and Krahmer, "Survey of the State of the Art in Natural Language Generation," 66-67.

[6] Nicholas Diakopoulos, "Computational News Discovery: Towards Design Considerations for Editorial Orientation Algorithms in Journalism," *Digital Journalism* (2020), 2.

[7] Seth Lewis, Andrea Guzman and Thomas Schmidt, "Automation, Journalism, and Human–Machine Communication: Rethinking Roles and Relationships of Humans and Machines in News," *Digital Journalism* 7:4 (2019), 422.

[8] Ibid.

[9] Arjen van Dalen, "The Algorithms behind the Headlines. How machine-written News redefines the Core Skills of Human Journalists," *Journalism Practice* 6 (5–6) (2012), 651.

[10] Van Dalen, "The Algorithms behind the Headlines," 648.

extent Dutch employed journalists will oppose to this trend and to what degree of accountability it will have to be addressed for the use of journalistic algorithms.[11] However, the entry of technology in a communicative role in the journalistic process also raises questions about possible ways in which the social spaces of journalism (e.g. in news rooms) and relationships within them may be reconfigured.[12] Throughout modern journalistic history, new tools and innovations – from the telegraph to the typewriter and from electronic news gathering on computers to smartphones – have enabled enhanced methods in news gathering and news dissemination.[13] However, considering the active role for automated journalism technologies in the news process could lead to a presentation of the technology in the role of communicator, at a comparable ontological level to human journalists.[14] Given the increased interest and experimentation with automated journalism, press agency Reuters predicts the arrival of Cybernetic Newsrooms, in which robots and human journalists will collaborate intensively.[15]

Within journalism, technological innovations have always been accompanied by discursive processes that have pushed the internal and external boundaries of the profession.[16] Journalists have often tried to resist these new technologies by maintaining a general professional ideology and thus keeping outside forces at bay and sustaining operational closure.[17] This professional ideology is the "social cement"[18] that keeps the professional group together and re-builds the boundaries between journalists and the public as well as among journalists.[19] Deuze defines five values that propagate a journalistic professional ideology: public service, objectivity, autonomy, newsworthiness and ethics.[20] This consensus to what is seen as a shared ideology has been built step by step, both through internal struggles for control within journalism and external struggles for legitimacy in social life.[21] Technological innovations as automation could lead to debates around what journalism is, how it is done and why. How automated journalism technologies and its communicative aspects could be resisted by or be embraced and rebuild the professional ideology of Dutch journalism. How Dutch journalists articulate their opinions on automated journalism has not yet been studied.

In this regard, this thesis's main goal is to examine how the recent arrival of automated journalism in Dutch journalism and its function as a communicator challenges, maintains and possibly rearticulates Dutch journalistic professional ideology. More precisely, by analysing possible ways of

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[11] Ila Kasem, Mark van Waes and Kim Wannet, "Anders nog nieuws: Scenario's voor de toekomst van de journalistiek," Stimuleringsfonds voor de Journalistiek (2015), 16.
[12] Lewis, Guzman & Schmidt, "Automation, Journalism, and Human–Machine Communication," 419.
[13] John Russial, Peter Laufer and Janet Wasko, "Journalism in Crisis?" *Javnost–The Public* 22 (4) (2015), 305-306.
[14] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 413.
[15] Reginald Chua, "The cybernetic newsroom: horses and cars," *Reuters,* last modified March 12, 2018, https://www.reuters.com/article/rpb-cyber/the-cybernetic-newsroom-horses-and-cars-idUSKCN1GO0Z0.
[16] Matt Carlson, "Metajournalistic Discourse and the Meanings of Journalism," *Communication Theory* 26(4) (2016), 358-359.
[17] Mark Deuze, "What is Journalism? Professional Identity and Ideology of Journalists Reconsidered," *Journalism* 6 (4) (2005), 447.
[18] Deuze, "What is Journalism?" 455.
[19] Hanno Hardt, *Interactions: Critical Studies in Communication, Media, and Journalism*, (Oxford: Rowman & Littlefield, 1998), 203–204.
[20] Deuze, "What is Journalism?" 446.
[21] Russial et al., "Journalism in Crisis?" 303.

the reciprocity between technological innovations and re-articulations of journalists' professional ideology in the Dutch journalistic space, this thesis provides a better understanding of a new perception of technology's role in the communication process and possible resistance towards this new ontology of analysing new journalistic technologies. This will be uncovered by answering the following research question:

How can the development of automated journalism and the subsequent introduction of technology as a communicator rearticulate the professional ideology of Dutch journalists?

This research question has been answered through the following sub-questions:
How can the emerging field of Human-Machine Communication and their concept of technology as communicator be placed in relation to Dutch automated journalism?
What are the complexities and contradictions in journalism's professional ideology in relation to the emergent automation modes of journalism?

In order to interpret and evaluate the ways in which journalism's professional ideology may be re-articulated, the first part of the theoretical framework (chapter 2.1) describes the way automated journalism alters ways of describing relationships between technologies and humans, mainly focussing on the emerging academic field of Human-Machine Communication. The framework also assesses the ways in which journalism's professional ideology has been positioned in relation to emerging technologies (chapter 2.2) and discusses how its core ideals with respect to automatizing journalistic production (chapter 2.3).

Subsequently, this framework supports analysing semi-structured interviews that have been conducted with Dutch journalists who hold both editorial and managerial duties at both Dutch news organisations. These interviews give further insight into the inner logics, struggles and cultural patterns of technological innovation (in this case automation) in Dutch newsrooms and ways of assessing human-machine relations in news production, in order to provide more professional evidence into development of Dutch automated journalism.[22] Also, this method will deliver a possible step towards thinking about new journalistic values in and readdressing the current values. Also, reshaping professional ideology at the introduction of the new trend of automated journalism could aid its embedding in Dutch journalistic practice.

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[22] Russial et al., "Journalism in Crisis?" 303.

2.0

THEORETICAL FRAMEWORK

Automated journalism is already radically changing the creation of journalistic content and the position of human journalists in this process. In order to understand the theoretical place of journalism in the process of communication and knowledge production, and the value system linked to that, needs to be addressed to grasp the possible changes automated journalism could bring to Dutch journalism.

2.1 Tech as communicator: a new way of assessing human-machine relations

For decades, both communication and journalism have always been understood as human processes by default.[23] A key theoretical constant in this viewpoint is that technology facilitated the activity of sending messages between people one-on-one[24] or in the context of mass media one-to-many.[25] In this sense, the technology of a telephone mediated a conversation between people or an assemblage of technologies that resulted in the newspaper mediated the communication and dissemination of news content.

Attempts to untangle relationships of journalists and technology have traditionally been sought to be described through the lens of Actor-Network Theory, coined by Latour. The theory describes a social world that is formed by connections between the actors, who can be human and non-human and are defined by an ability to act, to perform and participate in the process of making a difference.[26] Latour proposes a horizontal ontology in which there will be no distinction between actors and actants.[27] The "social" is made up of connections between actors and actants and it is only when there are these connections, one can speak of any semblance of the "social". According to Latour, the idea of actant refers to a flattening of modern epistemological classes (subject/object, society/nature) and expresses a reinterpretation of the concept of social, as opposed to the classical sociological concept of social actor. For social action, Latour does not pretend to mean the human action, but fundamentally the combination of action, the combination of actants which can be men, weapons, drawers, or institutions.[28] ANT has aided in the construction of theoretical frameworks for addressing relations between journalists and technologies. For example, the Four A's framework of Lewis and Westlund, which introduced a matrix for visualising relationships between human actors (e.g., journalists, technology specialists, and businesspeople); technological actants (e.g., algorithms, networks, and content management systems); and audiences (e.g., assemblages of audiences distinct to certain platforms, devices, or applications) – which are all potentially intertwined in the activities that constitute modern news work.[29]

However, the ascent of automated journalism has the potential to disrupt the hierarchy in journalism. The entry of a machine into the news production cycle could serve as a tipping point in the human element of journalism, where technologies not only become facilitating entities in the deliverance of news stories but also take an active part in journalistic processes.

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[23] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 422.

[24] Dean C. Barnlund, "A Transactional Model of Communication," In *Language Behavior: A Book of Readings in Communication* eds. Johnnye Akin, Alvin Goldberg, Gail Myers and Joseph Stewart (The Hague: Mouton, 1970), 47.

[25] Wilbur Schramm, "How Communication Works," in *The Process and Effects of Mass Communication*, eds. Wilburr Schramm (Urbana: University of Illinois Press, 1971), 3.

[26] Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge, Massachusetts, Harvard University Press, 2004), 75.

[27] Bruno Latour, "On technical mediation - philosophy, sociology, genealogy," *Common Knowledge*, 3:2 (1994), 63.

[28] Lucia Santaella and Tarcísio Cardoso, "The baffling concept of technical mediation in Bruno Latour," *Matrizes* 9:1 (jan./jun. 2015), 171.

[29] Seth C. Lewis and Oscar Westlund, "Actors, Actants, Audiences, and Activities in Cross-Media News Work," *Digital Journalism*, 3:1 (2015), 20.

These technologies could become actively involved with human beings in the news process and do not mere mediate between humans and the world, but as part of our world.[30] Therefore, using ANT as a theoretical lens for assessing relationships between journalists and technology could not be the best scope to analyse the journalistic field in the future. It is a tool sufficient for identifying unnoticed elements in the assemblage and offering a rich description of the intertwined relationships, but it offers less epistemological explanation.

Also, ANT does not conceptualise what it means to be a communicator in the knowledge profession of journalism or what communication does to an assemblage, something essential to discussions concerning the relationship journalist-robot journalist. It could identify the ways of communication in the automated journalism productions of NOS and RTL Nieuws, as being focused around an communicative input (e.g. a person filling in a domicile) and output (e.g. the algorithm "writing" an article based on the communicated input). [31] However, ANT can only identify this action, it does not make claims about what impact this can have on the act of communication, which is a fundamental component of journalism.
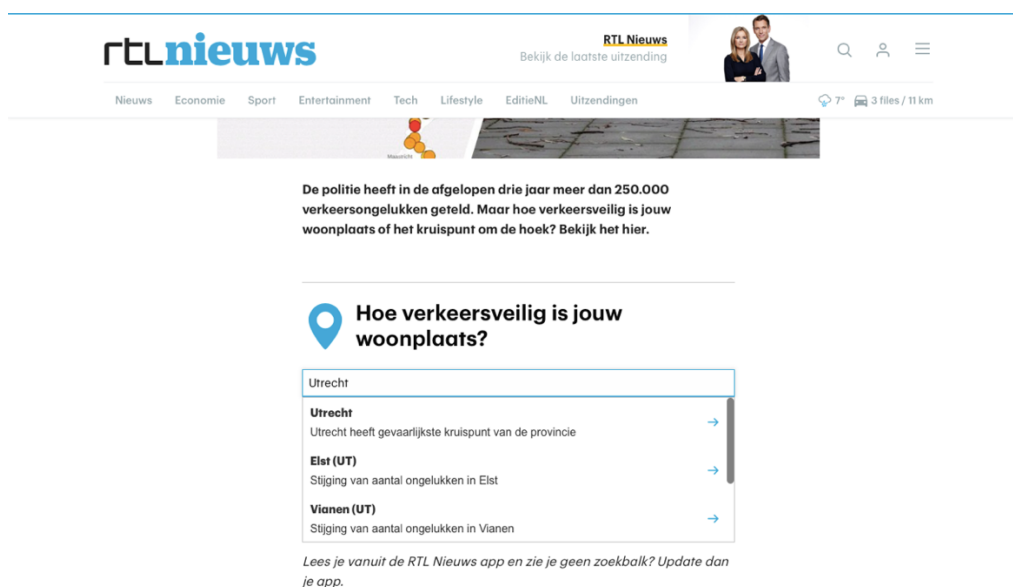

Figure 1 ADAM, the automated journalism algorithm of RTL Nieuws.

Considering the manner in which automated journalism will be embedded in communicative practices, technology could also be conceptualised as a communicator. Lewis, Guzman and Schmidt propose a different way of studying human-machine relationships – the emerging area of communication research called Human-Machine Communication (HMC) – to facilitate this assessment.[32]

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[30] For more theoretical considerations on the conceptualisation of technology as more than a facilitator, I highly recommend: Ciano Aydin, Margot González Woge and Peter-Paul Verbeek, "Technological Environmentality: Conceptualizing Technology as a Mediating Milieu," *Philosophy &Technology* 32 (2018), 321–338.
[31] See Figure 1.
[32] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 413.

This new field includes aspects of ANT and of the field of Human-Computer Interaction (HCI). However, it contains a narrower scope than the field of HCI. For example, affordance analysis, one ubiquitously used HCI inspired method, still focuses on how an interface mediates a certain intended emotion or action. Also, HCI often theorises technology as "communicative"[33], while still focussing on its role as mediator as is the case with the mentioned example of the affordance analysis. From the perspective of HMC, devices and programs that enter the role of communicator also require a place within the social world (e.g. the technology as a communicator in the journalism process).[34] Just like human content creators, the automated NLG technologies are inserted into the social position of content creator or "author" with consumers as the audience for their content.[35] Within HMC, the relationship relation of consumer to automated journalistic technology is very different from that of a consumer and a human journalist, although this varies on the ways in which the technology is being employed.[36] For example, an automated news algorithm that responds not only in the specific article (e.g. the example of RTL Nieuws) but also by stating that "Utrecht has the most dangerous crossing in the Utrecht province", shows how it does more than mere mediating a message compared to newspapers or other medium-facilitating technologies and also offers a different way of communicating to its audience than an algorithm that only is programmed to create content.

Assessing automated journalism through HMC could possibly prove problematic, as the programs are not yet intended and designed to be an active part of the newsroom. They lack the ability to engage in interpersonal relationships with other journalists. In news production, journalists exchange questions and ideas with colleagues to shape what counts as news. An automated journalist will not partake in these conversations or take something away from them, something that perceived along the physical presence of colleagues in the newsroom as essential.[37] Currently, news-writing programs also lack the functionality to send and receive interpersonal messages.[38] However, the theoretical viewpoint of technology could prove useful when taking into consideration the automated shift in news production and news dissemination. Dörr and Hollbuchner also identify a "shift in responsibility" in journalism where humans are no longer the only prime moral agents as other actors like algorithms with delegated agency are involved.[39] This possibly requires journalism with novel power dynamics, Milosavljević and Vobič claim.[40]

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[33] Carolyn Marvin, "Reconsidering James Carey: How Many Rituals Does It Take To Make an Artifact?," *American Journalism* 7:4 (1990), 224.

[34] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 419.

[35] Tall Montal, "I Robot. You, Journalist. Who is the Author? Authorship, Bylines and Full Disclosure in Automated Journalism" (Master Thesis, Ben Gurion University of the Negev, 2015), 35.

[36] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 420.

[37] Kees Buijs, "Regiojournalistiek in spagaat. De kwaliteit van het redactieproces in de regionale journalistiek; een case-studie" (PhD diss., Radboud University Nijmegen, 2014), 11.

[38] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 420.

[39] Nicholas Konstantin Dörr and Katharina Hollbuchner, "Ethical Challenges of Algorithmic Journalism," *Digital Journalism* 5 (4) (2017), 411.

[40] Marko Milosavljević and Igor Vobič, "Human Still in the Loop: Editors Reconsider the Ideals of Professional Journalism Through Automation," *Digital Journalism* 7:8 (2019), 1103.

2.2 Professional Ideology: hegemonic journalism and self-legitimisation

Innovations like automated journalism have always challenged existing features of journalism and have pushed the internal and external boundaries of the profession.[41] These developments change the way journalism gets done (through technology, for example), they change the way journalism is received (through fragmentation of the public, for example) and therefore they have the potential to fundamentally change journalism, Deuze claims.[42] However, journalism consists not of one fixed set of professional rules, as Steensen defines journalism as "a dynamic practice that is both the outcome and medium of a professional ideology".[43]

The digital age has changed the monopoly of human journalists on journalistically-grounded activities. What journalists have done for centuries – select, interpret, frame and distribute information to an audience – is in current times no longer limited to their role. Donsbach sees this as an opportunity to rethink the profession, referring to four major challenges in the field: a declining audience for journalism, a declining reputation of the profession, the profession's loss of identity and market pressures impacting news decisions.[44] With this in mind, professional ideology is becoming increasingly important as a defining factor for journalism, Steensen argues.[45] Despite the current challenges, journalists will have the duty to keep the audience informed and journalism can be considered as the "new knowledge profession".[46] If we are to regard journalism accordingly, Donsbach argues that its specific competences need to be defined. Journalists should: 1) possess a keen awareness of relevant history, current affairs and analytical thinking; 2) have expertise in the specific subjects about which he or she reports; 3) have a scientifically based knowledge about the communication process; 4) have mastered journalistic skills; 5) and conduct himself or herself within the norms of professional ethics.[47]

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[41] Carlson, "Metajournalistic Discourse and the Meanings of Journalism," 358-359.
[42] Mark Deuze, *Journalists in the Netherlands: an analysis of the people, the issues and the (inter-)national environment* (Amsterdam: Aksant Academic Publishers, 2002), 19.
[43] Steen Steensen, "Cozy Journalism: The rise of social cohesion as an ideal in online, participatory journalism," *Journalism Practice*, 5:6, (2011), 688.
[44] Wolfgang Donsbach, "Journalists and Their Professional Identities," in *The Routledge Compagnion to News and Journalism Studies*, ed. Stuart Allen (New York: Routledge, 2010), 42-43.
[45] Ibid.
[46] Donsbach, "Journalists and Their Professional Identities," 44.
[47] Donsbach, "Journalists and Their Professional Identities," 45.

These competences may provide a typology of a modern day or future journalist. However, they do not take automated journalism into account. Also, journalists will not be defined by what they do, but increasingly by "the degree to which they choose to adhere to the normative goals of their professional culture".[48] For decades, scholars continuously refined a consensus about who was a "real" journalist, without making explicit what this ideology consists of. For example, Schlesinger conceptualized a "newsmen's occupational ideology", Soloski mentioned an "ideology of professionalism" and Golding and Elliot spoke of "journalism's occupational ideology" when addressing a dominant sense of what is or should be of journalism.[49] Vital in these ideologies were ideas like independence, objectivity and accuracy.[50]

Yet, most of these authors did not make explicit claims to what this ideology consisted of. Deuze was one of the first scholars to operationalise and conceptualise the specific values that make up the professional ideology of journalism. He argues that the ideology of journalism potentially acts as "social cement of the professional group of journalists" in a progressively complicated and variable environment, where journalism can also be defined as a shared occupational ideology among news workers which functions to self-legitimize their position in society.[51] He argues that five fundamental values establish a journalistic ideology: public service, objectivity, autonomy, immediacy and ethics.[52] These values are ideal-typical traits or values and vital to journalism in The Netherlands. Journalists, according to Deuze, feel that these values give legitimacy and credibility to what they do.[53] However, a disconnection could occur where the way editors and journalists actually use these values when performing their jobs can differ from their knowledge of the contents of the values itself. Also, Deuze's five values originate from a time when the internet was changing the mediation of journalism, and do not include considerations concerning automated journalistic technologies that can act as potential communicators in the journalistic practice.

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[48] Jane Singer, "The Socially Responsible Existentialist," *Journalism Studies* 7(1) (2006), 16.
[49] Philip Schlesinger, *Putting 'Reality' Together* (London: Constable, 1978), 83; John Soloski, "News Reporting and Professionalism: Some Constraints on the Reporting of the News," in *Social Meanings of News,* eds. Daniel A. Berkowitz (Thousand Oaks: Sage, 1997), 140; Peter Golding and Philip Elliott, *Making the News* (London: Longman, 1979).
[50] Golding and Elliott, *Making the News*.
[51] Mark Deuze, "What is Journalism? Professional Identity and Ideology of Journalists Reconsidered," *Journalism* 6 (4) (2005), 446; 455.
[52] Mark Deuze, "Understanding Journalism as Newswork: how it changes, and how it remains the same," *Westminster Papers in Communication and Culture* 5(2) (2008), 16; Deuze, "What is Journalism?" 446-447.
[53] Deuze, "What is Journalism?" 446.

2.3 Automated journalism and values reconsidered

Milosavljević and Vobič, who researched automated journalism with editors in Germany and the United Kingdom, find journalism's professional ideology to be "in a state of flux".[54] They claim that attitudes about automation are neither euphoric nor dystopian, and the editors they interviewed appear to tread a fine line between the civic-oriented normative aims of the newsroom and the profit-oriented financial aims of a business side that seeks to reach the largest audience at a minimum cost.[55] Like one interviewee, working at *Financial Times,* claims in regard to delivering a public service:

I mean of course in an extreme case you might end up with just the news that everyone deserves and that would then be a constant feedback loop of stories scraped from Twitter or Facebook, being written by algorithms and given a sexy headline and pushed out. [...] I think there is a danger that you end up in that sort of loop of the most popular stories being the most trivial stories.[56]

Despite the fact that technological innovations, as automated journalism, are, according to Nerone, an important part of a "professionalism project"[57], they also put journalistic values under pressure. Nerone claims that the hegemonic journalism, the dominant journalism of a certain period, often resist when new technologies shape new journalistic approaches and seem to influence the current state of journalistic affairs. Deuze also claims that journalism "continuously reinvents itself – regularly visiting similar debates (for example […] on "new" media technologies) where ideological values can be deployed to sustain operational closure, keeping outside forces at bay".[58] Inserting automation into journalism calls for further reconsideration of contradictions between this dominant belief system that uses values to *defend* itself, Milosavljević and Vobič state.[59] As journalism is progressively being "defined by, embedded in and understood through the particular structural and sociocultural characteristics of technology".[60] This new development also raises questions surrounding the complexities and contradictions in journalism's professional ideology in relation to the emergent automation modes of journalism. Drawing from Deuze's values of professional ideology (public service, objectivity, autonomy, immediacy and ethics), I want to clarify some of these complexities in relation to automated journalism.

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[54] Milosavljević and Vobič, "Human Still in the Loop," 1112.
[55] Neill Thurman and Seth Lewis & Jessica Kunert, "Algorithms, Automation and News," *Digital Journalism* 7:8 (2019), 984-985.
[56] Milosavljević and Vobič, "Human Still in the Loop," 1109.
[57] John Nerone, "The Historical Roots of the Normative Model of Journalism," *Journalism* 14 (4) (2013), 452.
[58] Deuze, "What is Journalism?" 447.
[59] Milosavljević and Vobič, "Human Still in the Loop," 1101.
[60] Seth C. Lewis and Oscar Westlund, "Mapping the Human-Machine Divide," In *The Sage Handbook of Digital Journalism*, eds. Tamara Witschge, C. W. Anderson, David Domingo and Alfred Hermida (London: Sage, 2016), 362.

2.3.1 Public Service

In the public service value, journalists share a sense of "doing it for the public", of working as some kind of representative watchdog of the status quo in the name of people.[61] Automated journalism could present an opportunity to focus on human aspects of journalism as human journalists are freed from labouring tasks to focus on in-depth news stories, leaving their automated counterparts generating short news stories.[62] In this sense, this evolution could strengthen journalism's capacity to make social institutions more understandable to the public and help journalists claim social responsibility in the face of commercial and political pressures.[63] However, the possibility the technology possesses to strive for pluralized personalisation where news can be personalised and understandings of news audiences could be moved from information needs of groups to individual needs.[64] The question of "what deserves attention?" at the heart of the professional judgment of journalism could shift to a different, personalized query of "what does this person want?" This could limit the news consumer's access to a variety of subjects and other opinions.[65] This points to traditional debates on the fragmentation of the public sphere. Also, the promise that algorithms can create thousands of news stories possibly also impacts how decisions of inclusion and exclusion are made, what styles of reasoning are employed, whose values are embedded into the technology, and how they affect public understanding of complex issues.[66] News consumers may not be aware of this pluralized personalisation.

2.3.2 Objectivity

For Deuze, journalistic objectivity requires a journalist to act impartial, neutral, objective, fair and credible.[67] However, the human interpretation of this concept is paradoxical since the journalist attempts to give an impartial representation of the world but often creates a reproduction of the existing social order through his/her background. Other research has shown that this ambition should be portrayed as something to strive for by journalistic practitioners.[68]

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[61] Deuze, "What is Journalism?" 447.

[62] Ibid.

[63] This is visible in Mark Coddington, "Clarifying Journalism's Quantitative Turn," *Digital Journalism* 3 (3) (2015).

[64] For a deeper dive into automated journalism and its perceived impact on personalisation, I recommend reading: Matt Carlson, "Automated Journalism," In *The Routledge Companion to Digital Journalism Studies,* eds. Bob Franklin and Scott A. Eldridge II. (London: Routledge, 2017) and Christopher Anderson, "Between creative and quantified audiences: web metrics and changing patterns of newswork in local US newsrooms," *Journalism* 12(5) (2011).

[65] Matt Carlson, "Automating Judgment? Algorithmic Judgment, News Knowledge, and Journalistic Professionalism." *New Media & Society* 20, no. 5 (May 2018), 1768.

[66] Mary Lynn Young and Alfred Hermida, "From Mr. And Mrs. Outlier To Central Tendencies," *Digital Journalism,* 3:3 (2015), 384.

[67] Deuze, "What is Journalism?" 447.

[68] From this this thesis' literature, I recommend reading: Deuze, *Journalists in the Netherlands,*" 12; Milosavljević and Vobič, "Human Still in the Loop," 1102. Or, for the origins of objectivity in American journalism, I suggest reading: Richard Kaplan, "The Origins of Objectivity in American Journalism," in *The Routledge Compagnion to News and Journalism Studies*, ed. Stuart Allen (New York: Routledge, 2010), 25-37.

Moreover, according to Broersma, objectivity is to be viewed as "a strategy for acquiring the legitimacy to control power in the name of the citizen [...] and to make statements with authority about a rapidly changing reality".[69] By only extracting factual information from databases, automated journalism could stand for the value of objectivity powered by algorithms. This could raise questions about the importance of human bias in journalistic accounts, but also quickly passes by the subjectify of algorithms, as these algorithms are a function of social processes. According to Gillespie, the underlying, coded assumptions in this technology are questionable and the effects the non-neutral human coding has on information dissemination.[70]

2.3.3 Autonomy

Emphasis on the public service role of journalists assigns journalists with the value to perform their work "free and independent". [71] The crux of automated journalism is that the algorithms are creating content with less or without human-intervention. This "autonomous decision-making" consists of rules that may either be defined by programmers or be dynamic, based on machine-learning data.[72] Also, the autonomy value within journalistic ideology may be limited by the increasing intervention of machines within the journalistic process, which should teach journalists to collaborate with robotic journalistic technology.[73] Dörr and Hollbuchner see this as a "shift of responsibility" in journalism.[74] After all, the human journalist will no longer be the main moral agent and journalists will have to at least learn to share autonomy with the other agents. Numerous other actors (journalism and non-journalism) will play a role in news production, such as algorithms with a specific subject, internal and external programmers, data collectors and data miners.

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[69] Marcel Broersma, "Objectiviteit als professionele strategie: Nut en functie van een omstreden begrip," in *Journalistieke Cultuur in Nederland*, eds. Jo Bardoel & Huub Wijfjes (Amsterdam: Amsterdam University Press, 2015), 163.
[70] Tarleton Gillespie, "The relevance of algorithms," in *Media Technologies*, eds. Tarleton Gillespie, Pablo Boczkowski and Kirstin Foot (Cambridge, MA: MIT Press, 2014), 178.
[71] Deuze, "What is Journalism?" 448-449.
[72] Nicholas Diakopoulos, "Algorithmic Accountability," *Digital Journalism* 3 (3) (2015), 400.
[73] Deuze, "What is Journalism?" 456.
[74] Dörr and Hollbuchner, "Ethical Challenges of Algorithmic Journalism," 411.

2.3.4 Immediacy

Professional journalism is based on and builds its vitality through the construction of the news of the day which requires journalistic content to contain an aura of instantaneity and immediatism, as "news" stresses the novelty of information as its defining principle.[75] However, this notion of speed can be managed as both an essentialized value and a problematized side effect of news work. Especially in the 24-hour news cycle, in which a reduced human journalistic staff is required to increase their production to be relevant along multiple platforms.[76] It is mentioned multiple times in literature that automating journalism provides the promise of faster journalistic creation as well as the contextualisation of news events and algorithms save time in news production as they can scan and structure large amounts of data, enabling journalists to focus on analytic or investigative work.[77]

2.3.5 Ethics

Journalists possess a shared codes of ethics and a sense of which practices are appropriate or not.[78] These codes of ethics include acting "aboveboard" (straightforward, transparent), "avoiding harm", "completeness", "freedom, independence, and self-esteem", acting "fairness, just and with respect of privacy and honour and truth".[79] For example, these ethical traits were already included in 1956 in the Code of Bordeaux of the International Federation of Journalists. However, there is a call for a reconsideration of the meaning of ethical behaviour in journalism, with respect to algorithmic transparency, as algorithms are shaped by humans and contain underlying assumptions of this technology.[80] Also, algorithms gain greater prominence in the process of information prioritization, classification, association and filtering, while the underlying mechanisms are not transparent. This transparency is needed and may provide a valuable check of the power of news algorithms within the information environment.[81]

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[75] Deuze, "What is Journalism?" 449.

[76] Bregtje van der Haak, Michael Parks and Manuel Castells, "The Future of Journalism: Networked Journalism," *International Journal of Communication*, 6 (2012), 2924 – 2925.

[77] Van Dalen, "The Algorithms behind the Headlines," 648; Seth C. Lewis, "Journalism in an Era of Big Data: Cases, concepts, and critiques," *Digital Journalism* 3:3 (2015), 321-322 ; Christopher Anderson, "Towards a Sociology of Computational and Algorithmic Journalism," *New Media & Society* 15 (7) (2013), 1005.

[78] Thomas Hanitzsch, "Deconstructing journalism culture: toward a universal theory," *Communication Theory* 17(4) (2007), 378-379; Deuze, "What is Journalism?" 449-450.

[79] Roberto Herrscher, "A universal code of journalism ethics: Problems, limitations, and proposals," *Journal of Mass Media Ethics*, 17 (2002), 280-281.

[80] Nicholas Diakopoulos and Michael Koliska, "Algorithmic Transparency in the News Media," *Digital Journalism* 5 (7) (2017), 812; Gillespie, "The relevance of algorithms," 182.

[81] Carlson, "Automating Judgment?, 1768.

3.0

METHODOLOGY

To better understand how the professional ideology of Dutch journalists could be maintained or re-articulated during the development of automated journalism, I am to explore the main question:

How can the development of automated journalism and the subsequent introduction of technology as a communicator rearticulate the professional ideology of Dutch journalists?

To address the main question of this research, I have used the method of semi-structured interviews with national and local journalists who hold both editorial and managerial duties at Dutch news organisations. Two reasons underlie the interviewee selection. Firstly, I aimed to collect perspectives from both types of journalism, also to make a comparative analysis as automated journalism is developing at a faster pace on a national level. Secondly, I targeted to grasp the analyses and perceptions of journalists who have a mixed role of both editor and decision-maker. Some of the interviewees were selected as they, in their work, were vocal about technological developments or automated journalism.

3.1 How to select Dutch journalists to talk about automation

The interviewees were overall selected in order to represent as many levels and types of Dutch journalism: from small hyperlocals to national broadcasters and from the national press agency ANP to DPG Media, the largest newspaper organisation in The Netherlands. Later in the interview process, it was decided to add more women to the corpus. The reason for this was to create a real reflection of the gender relations at management level in Dutch journalism. The way in which the interview selection was not randomised, possibly might limits this thesis' findings. A study like this, that focuses on interviews alone, will have to handle with a danger of a disconnection between how editors and journalists talk about their work and how they actually perform their jobs. Also, I am a journalist in The Netherlands myself, a role that enabled me to relate with the interviewees and easily get access to the interviewees and aided me both in assessing the claims made by interviewees and the selection of interviewees. However, being a journalist myself also comes with a bias as this thesis research focused on the future of my profession based on an ethnographic approach. Some interviewees were selected based on their work or experience with (discussions on) automated journalism, others without were contacted based on the position of their place in Dutch journalism as the goal of this thesis was to make claims on as many levels and types of Dutch journalism. Mainly, the interviewees were arranged via a mailed invitation and due to the corona virus held via telephone or Skype or Google Hangouts calls. However, the fact that the interviews could not be held face-to-face could possibly limit this thesis' findings as not all non-verbal reactions could be identified.

3.2 Talking points on automated journalism in The Netherlands

The interviews have been conducted as semi-structured interviews, structured by an interview guide. This guide was created following McCrackens' questionnaire principles and accordingly divided into themes around the central problem matter.[82] The talking points involved in the questionnaire can be found in Appendix 2, but focused on the use of Deuze's values in their current journalistic activities, the scope of use of algorithm-generated news in their news organisation(s) and viewpoints on automated journalism (in their newsrooms). Also relations between automated journalism and the core values of Deuze and the interviewees' opinions on the role of communicative automated journalists within these key values. These talking points were focused around the above-mentioned theory on professional ideology, alterations to the journalistic sphere made by automated journalism and automated news technologies as mediators or communicators. The interviews started structurally, but drifted to a more flexible conversation focussing on "what is said in relation to how, where, when, and by whom experiential information is conveyed and to what end".[83] Each interview was concentrated on the interviewees' understanding of the core ideals of the professional ideology of journalism and their re-articulation in the context of adopting or assessing automation journalism.

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[82] Grant McCracken, "The Four-Step Method of Inquiry," In *The Long Interview,* ed. Grant McCracken (London: SAGE, 1988), 34-37.
[83] James Holbstein and Jaber Gubrium, *The Active Interview* (Thousand Oaks, CA: SAGE, 1995), 158.

3.3 Interviewee overview

(Editorial) position, organisation	Date and Time	Interview type	In-test reference
Editor data desk RTL Nieuws	March 26, 2020. 52 minutes	Skype	IntRTL
Web coordinator HP/De Tijd	March 31, 2020. 44 minutes	Skype	IntHP
Editor in Chief BN/ De Stem	April 1, 2020. 27 minutes	Google Hangouts	IntBN
Editor in Chief De Utrechtse Internet Courant (DUIC)	April 10, 2020. 22 minutes	Telephone	IntDUIC
Editor and publisher Innovation Origins and Professor of Journalism & Media Studies at the University of Groningen	April 10, 2020. 42 minutes	Google Hangouts	IntIO
Freelance journalist and founder of NOS Lab	April 15, 2020. 54 minutes	Skype	IntFREE
Senior Editor De Eendrachtbode	April 16, 2020. 31 minutes	Whatsapp Videocall	IntEEN
Editor in Chief ANP	April 20, 2020. 29 minutes	Telephone	IntANP
Editor in Chief De Limburger	April 21, 2020. 26 minutes	Skype	IntLIM
Project manager DPG Media	May 6, 2020. 42 minutes	Telephone	IntDPG

Table 1. Interviewees

3.4 McCracken's multistep process of qualitative interview analysis

The analysis of the interviews has been concluded using McCracken's multistep process of qualitative interview analysis, which consists of five stages.[84] The first stage treated every remark in the interview transcript in its own terms, ignoring its relationship to other aspects of the text, which will create an observation. This step resulted in each possible noteworthy remark in a transcript being tagged for later use. The second level took the observations and developed them, first, by themselves, second, according to the evidence in the transcript, and, third, according to the previous literature review. This resulted in each bookmarked observation being placed in relation to other observations from the transcript. For example, the observation that journalists should debunk disinformation was linked to the observation that all information generated from automated journalistic systems should always be right. The third stage examined the interconnection of the second-level observations, resorting once again to the previous acts of literature review. The focus of attention had now shifted away from the transcript and toward the observations themselves, and lead to the links in observations being held to this thesis' literature, like the place of automation in objective and factual reporting. Reference to the transcript was now made only to check ideas as they emerge from the process of observation comparison. The fourth stage took the observations generated at previous levels and subjects them, in this collective form, to collective scrutiny. The object of analysis was the determination of patterns of intertheme consistency and contradiction. For example, by assessing how all interviewees assessed the role of communicative automated journalism in regard to certain values of journalism's professional ideology. The fifth stage took these patterns and themes, as they appeared in the several interviews that made up the project, and subjected them to a final process of analysis.[85] Then, by examining these patterns and themes, I have identified connections and patterns in the narratives and identify them accordingly. Afterwards, I made use of the interviewee transcript review (ITR) model of Hagens et al.. ITR can aid researchers in limiting errors in the transcript phase, as it may include requests for interviewees to identify and correct transcription errors or omissions and in some cases, to clarify or provide additional information and insights directly linked to interview responses.[86]

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[84] McCracken, "The Four-Step Method of Inquiry," 41.

[85] McCracken, "The Four-Step Method of Inquiry," 41-42.

[86] Victoria Hagens, Mark Dobrow and Roger Chafe, "Interviewee Transcript Review: assessing the impact on qualitative research," *BMC Medical Research Methodology* (2009), 9; 48.

4.0

RESULTS AND ANALYSIS

The interviews showed that automated journalism technologies are being considered as "part of the newsroom staff" (IntRTL), "an opportunity to make journalistic work easier" (IntFREE), something that "hasn't been rolled out yet" (IntBN), "out of the question" (IntHP), "dreamed about" but "no concrete steps have been taken" (IntIO) or "no priority, but something to believe in" (IntANP). As previously mentioned, only RTL Nieuws and NOS have – at the moment of writing – actively published automatically created articles, however for most interviewed editors it's clear that at "some point, we're going to do something with it" (IntBN). The interviewed editors with no automation in place claimed that "an investment in a robot is too expensive" (IntEEN), considering "the guiding principle of journalistic added value" (IntANP) of the current data and template driven forms of Dutch automated journalism.

The interviewed editors showed a diverse range of opinions on the current goals of Dutch automated journalism and reflected on innovation processes as procedures bound to complex professional, financial and institutional contexts. Commonly noted in the interviews was the opportunity that automated journalism could hypothetically enhance certain phases of the news production process. Below, the editors' positions on automated journalistic technologies as communicators will be analysed and discussed as well as their stances on the relationship between journalisms' professional values and automated journalism technologies.

4.1 Considering the communicative aspects of automated journalism

Across the interviews, the communicative aspects of the automated journalistic algorithms are addressed with consideration to the editors' different stances towards the position of the technology in the news room. As previously mentioned, automated journalism programs are not yet intended and designed to be an active part of this newsroom, but it can have an effect on the news consumption of the news consumer. Three streams of thought among the interviewees emerged concerning the place of automated journalism in the communication and dissemination process in Dutch journalism.

First, some used RTL Nieuws' ADAM and its teaser-like mode of communication to describe modes to escort the news consumer to the automatically generated news article. The technology seems to take on an appropriate mediating form here. Yet ADAM was not designed purely for this feature. The purpose of ADAM was to create location-specific news stories based on datasets that the news room staff of RTL Nieuws would use for national news stories. ADAM unlocks the local data from the national file and "creates news stories that would not otherwise be created" (IntRTL), it creates stories for all 2.600 domiciles in The Netherlands. RTL's newsroom uses the technology "to translate that dataset into messages for people" (IntRTL). A key goal of RTL Nieuws is to bring news close to its readers. It can be identified from that journalistic algorithms pose a contribution to the pace of news dissemination. It seems "to me that you can never beat a robot in speed" (IntANP).

For news, there is the belief at RTL Nieuws that its news consumers also want to customize their news. There is also the belief that if a news consumer enters their domicile into ADAM, they can exactly get the news that interests them like the amount of accidents in and around their home. In this sense, the interface of ADAM can be viewed as "a guide" (IntBN) that engages the news consumer by filling in their domicile through an "assumed smooth interaction" (IntFREE) and triggering them into desiring to read the automatically generated news article based on their filled-in location.

It works the same way as a headline. It's the headline that can pull a story in. There's a conclusion in there that you think: I want to read more of this. We could also have said: "The reader fills in 'Utrecht', then he clicks on 'Utrecht', and gets the story presented." But you also want to reveal something that might trigger people to think 'Oh, I want to know more about this and I click through to the story'. It's a journalistic mechanism, so to speak, like the headline hunter at De Telegraaf *or* De Volkskrant *also makes the headlines. (IntRTL)*

In this sense, the communicative aspect of ADAM is different than the "technology as a mediator" viewpoint in the deliverance of news stories, that is common when describing the role of technology in the *human process* of journalism.[87] It is programmed and framed as a short segment of interaction with the news consumer, one where the user consciously chooses to interact. ADAM's algorithm *responds* to the input by combining the data from the filled-in location with a created template in order to present a news article to the news consumer. This is a role in the communicative process where it could be considered as the author of the article and all articles are portrayed to be written by ADAM of RTL Nieuws, where it is being considered as a participant in the social space of the news room, as Lewis, Guzman and Schmidt would argue.[88]

Whether this way of interaction of the user with ADAM is due to the automatically aspects of the technology or just a consequence of a consumer need for personalisation where the robot aids better service cannot be concluded from the interviews. However, the interviews show that there is a growing sense of public-minded news production and that technologies as ADAM, where one automated journalist can create thousands of specific news stories, aid in this process. That technologies as ADAM currently lack elaborate ways to communicate with news consumers is partly due to a lack of knowledge surrounding communicative aspects of automated journalism technology and the element that of yet only the first Dutch automated journalism technologies are produced. However, "this type of application can help in the future" (IntRTL).

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[87] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 422.

[88] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 419.

Secondly, in relation to this, the interviewed editors express the expectation that a layer of communication can be added to automated journalism technologies in the form of a "chatbot function" (IntIO) where the news room robot can communicate with news room staffers or news consumers. This feature is as of yet not developed or not in use in The Netherlands. However, the notion was raised that you can also "template that as chatbots are often just decision trees" (IntFREE) and that the probable communication would have been programmed. The prospect of automated chatbots in Dutch journalistic production could add an extension in data collection. Here, the technology of a chatbot could be approached as being designed to function as a message source, instead of a message channel, according to Lewis, Guzman and Schmidt.[89]

The average journalistic principle is: you call an advocate and an opponent and you have a story. Suppose, you can let an automated chatbot send the same question to a thousand people. If you draw the opinion of a thousand people instead of two – assuming they are all comparable experts, for example chairmen of a football club – then you can get a lot more out of it. (IntDPG)

Still, it was concluded that these technologies are in "the first phase" of automated journalism development and that these were not used in news room situations.

Thirdly, the editors not only perceived a role for automated journalists in the process of news dissemination (IntDUIC; IntIO; IntFREE) or "the production of articles that present dry facts, so to speak, in a slightly more convenient and readable format than a dataset with 60 rows and 40 columns" (IntRTL). Journalistic algorithms can also aid the news production process in different ways, as large parts of journalists' work can be automated.

I really don't understand how someone still has to transcribe an interview manually. Surely, that should also be possible automatically. I do understand that it's not possible in The Netherlands. I've tested Dutch transcription tools and they are horrible. (IntFREE)

Also, journalistic algorithms can be programmed to create a list of photography suggestions based on keyword-detection of written articles. Furthermore, journalistic algorithms can be tools in the verification process on multiple levels, where "the machine can determine whether the facts displayed in a particular message (whether it is a video or a journalistic article) is traceable, to claim that it has a foundation" (IntIO) or to advice news consumers a news source in an article is "trustworthy" (IntIO). These claims can be communicated to the news consumer and aid in authenticating news content. Also, a/b-testing of headlines or the automatically tagging process of keywords to an article were named to be in place as "NLG techniques already in place in our systems" (IntDPG).

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[89] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 409.

However, currently most automated journalism projects in Dutch journalism are project-based or perceived as "experiments" (IntFREE) which does not enable the unlocking of these functions of journalistic algorithms.

4.1.1 Terminology of "robotjournalistiek"

To ascribe automated journalistic systems communicative functions in journalism, which has been understood as human processes by default, could be illustrative of its potential new role in journalistic practice in line with Human-Machine Communication principles.[90] It should be noted, in that regard, that throughout the interview data automated journalism algorithms are described as "the system" and "the robot, although we know it's more subtle" (IntANP), "the robot" (IntEEN), "automated journalism" (IntIO), or "AI Generated Texts" (IntFREE), but mainly through the Dutch term "robotjournalistiek":

Robotjournalistiek *sounds a bit childish, as if it originates from a 1940s science fiction book.(IntHP)*

Throughout the interviews, the importance of the Dutch terminology for automated journalism weighs through on the wider beliefs among news room staff, the editors acknowledged, as the technology changes journalism and may "cause my job to fall apart" (IntHP) and that there will be "fear" (IntBN) to roll our automated journalism". The Dutch term "robotjournalistiek" (which illuminates the "robot" part out of journalism) could possibly be the source of the juxtapose that the arrival of journalistic algorithms will lead to human job loss. However, the interviews also show that the requirements for journalistic productions of human and automated/robot journalists are seen as similar. Both types of articles should "offer an insight" (IntRTL), be "flawless", should contain "correct Dutch" and should always be corrected by an editor-in-chief (IntDUIC; IntDPG). From this viewpoint, the role of automated journalist in news communication is not taken for granted, but is more or less equated with the human journalist, whose articles mostly need correcting and checking by editors. A flaw by an automated journalism technology is still is seen as a "human error" (IntRTL):

You have to design the robots in such a way that no flaw should occur. If anything goes wrong, it's a programming error or an error in not checking the data properly. So that's a human, journalistic error. (IntRTL)

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[90] Lewis, Guzman and Schmidt, "Automation, Journalism, and Human–Machine Communication," 422.

To conclude the analysis of communicative aspects of Dutch automated journalism, it should be noted that automated journalism algorithms carry opportunities for Dutch journalism in its personalisation, speed, labour shifting and communicating prospects. Also, the way they are currently viewed as participants or future participants in the news communication sphere poses opportunities for the Cybernetic Newsroom of the future.

4.2 Clashing values and Dutch automated journalism

The automated journalistic algorithms can contribute to journalistic communication flows in various ways and, as the interviews show, can also participate in this profession at various levels. This does not indicate that, according to the interviewees, there are no complexities concerning the role or place in the journalistic professional ideology.

4.2.1 Dynamic Dutch professional ideology

It should be noted that some interviewees (IntBN; IntHP; IntANP) lacked a certain vocabulary to indicate their opinions concerning the fundamental adaptations of automation on journalistic practices and values.

I don't know what Mark Deuze describes as newsworthy. I don't know why that has to be the question. Can't it otherwise be grasped in computer language? (IntANP)

This could be indicative of the lack of priority given to automated journalism or of a deficiency in knowledge of the normative aims of journalism.[91] However, the interview data also shows these interviewees are able to relate Deuze's values to their day-to-day journalistic work. For example, when discussing ethical values assessments concerning the "privacy of criminals" (IntBN) or journalistic autonomy with a diverse set of new journalistic professionals as podcast makers enter the journalistic field (IntANP). These journalistically-grounded activities seem, based on the interview data, to be easily relatable to the core of ideal-type values central to Dutch journalism.

The interview data showed three ways in which this value system was used to address automated journalism, that also show three approaches concerning automation in the dynamic practice that journalism is. Firstly, it was raised that in the programming process of ADAM journalistic considerations "led to the final product" (IntRTL). The value of ethics also involves the concept of "completeness"[92] and this was not only addressed in the programming of ADAM, but also in its presentation. These consideration were based from the journalistic value system. This focused on the

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[91] Thurman et al., "Algorithms, Automation and News," 984-985.
[92] Herrscher, "A universal code of journalism ethics," 280-281.

ethics value with questions such as "To what extent do you need to check and correct things?" and "What data do you use or not use?" (IntRTL) were central.

The difference is that it is not written by a human hand on a keyboard, but by a robot, but before that robot can do its job, we have already made these considerations. (IntRTL)

Each article that ADAM produces is accompanied with a special section that addresses that the articles have been written by ADAM and that the story is based on data collected, analysed and edited by a journalist but written by editorial robot ADAM.

Secondly, it was argued – particularly by the editor-in-chief of ANP – that human assessment in the creation or adaptation of the journalistic value system is essential. The fact that automation enters the journalistic production and dissemination process would not lead to a change of the fundamental courses. It may be questioned how the human role within this process changes and if elements will be taken care of by algorithms, however the decision to change or adapt values should be human-driven and not technology-driven.

The computer doesn't decide it. We have starting points that we find journalism, what we find newsworthiness, Does man or computer take care of that? And not: we are going to adjust what news value is because the computer cannot handle it. (IntANP)

Also, it was noted that the "essential questions" (IntDUIC) the public needs to be answered in journalistic articles remain. From this perspective, automated journalism is seen as a means to spread journalistic articles in an enhanced manner and an enrichment to production, which can be performed within the current value framework (IntBN; IntDUIC).

Thirdly, some editors (IntIO; IntFREE; IntBN) argued the dynamic practice[93] of journalism contains values that "are not absolute" (IntIO), which could make those values adaptable and the insertion of automated algorithms in the journalistic workflow could probably lead an approach of taking "the values less strictly" (IntBN) or adjusting them to make the role and place of automation "more concrete" (IntFREE). It was argued by the editor and publisher of Innovation Origins that this poses the opportunity to "make clear that automated journalism can be functional within the frameworks, that it can be an instrument to support these values" (IntIO).

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[93] Steensen, "Cozy Journalism," 688.

4.2.2 Considering Dutch automated journalism technologies and Deuze's values

The interview data also showed extensive understandings on the manner in which automated journalism was perceived to add to Deuze's values for professional journalism. Automated journalism can be seen as an extension of human journalism, but it also comes with frictions, reconsiderations and re-articulations of these values. Below, these views per value will be analysed.

4.2.2.1 Public Service: where is the journalistic independence?

The value of public service is perceived as of journalists being on a public mission of working as a representative watchdog of the status quo in the name of people.[94] This public service ideal can be seen as a powerful component of journalisms' ideology, Deuze claims.[95] The interview data shows that some editors believe automated journalism can influence this ideal, whether it is because the technology cannot yet critically question inputted data (IntRTL) or whether the technology enables personalisation up to domicile level (IntRTL; IntBN; IntDUIC) and thus not performing its watchdog function nor its function of serving a large public. This second instance suggests a juxtapose between the public service ideal with personalisation of content, however to aid this process by using automated techniques was not deemed a "bad development" (IntBN). The journalistic agency of human journalists herein was perceived to be important in the social process of creating the journalistic algorithm, as "automated journalism is not in itself the problem, but the choice made by its creator or processor […] when you make selections, you don't need the technology for that" (IntIO). The editor-in-chief of BN/De Stem called for the creation of a framework on automatically journalistic personalisation that could be addressed by humans in order to possibly maintain the public mission of Dutch journalism.

It is especially important what you provide the robot, within which frameworks he can process data and what he can write. What is he allowed to do once it is clear where you are from? Can he bring personalised information right away or can he only personalise content where we offer a general article as well? (IntBN)

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[94] Deuze, *Journalists in the Netherlands,* 11-12.
[95] Deuze, *Journalists in the Netherlands,* 11.

4.2.2.2 Objectivity: no algorithm nor human can be 100% objective, but…

Deuze states that journalistic objectivity requires a journalist to act impartial, neutral, objective, fair and credible and that this notion is problematic, given humans' inability to act value-neutral.[96] Throughout the interviews, the editors showed the belief that algorithms are written by humans and humans take the decisions what data is to be included in the automated article generation process (IntRTL; IntDPG) Therefore their output needs to be scrutinised in order to uphold journalistic neutrality as well as possible. Also, the risk of the algorithms being "hackable" (IntHP) needs to be taken into account, as this consideration could be a reminder of the non-neutrality of algorithms. However, the interview data also showed a considerable hope that journalistic algorithms have the opportunity to make journalism more objective (IntHP; IntIO; IntDPG). For example, automated journalism algorithms have the "power to help people to expand their own scope" (IntDPG) by reaching out to thousands of comparable sources (directors of football clubs e.g.). This could be done by a chatbot with the goal of drawing an opinion of a large corpus of people and form an informed opinion based on more than the "average journalistic principle of an advocate and an opponent" (IntDPG). Also, journalistic algorithms could aid the online journalistic objectivity by making in-article claims about the traceability of presented claims.

We should wonder how we can ensure that the machine can determine whether the facts displayed in a particular message (whether it is video or text) are true and traceable. Not to make claims about its truthfulness, but to claim that it has a foundation. (IntIO)

These algorithmic approaches are currently to be viewed as hypothetical ways in which automated journalism algorithms could aid in humans' striving for value-neutral reporting.

4.2.2.3 Autonomy: shared responsibility and institutional context

The autonomy value claims that journalists must be able to do their work "free and independent" from state censorship and/or marketeer influence and not serve as their editors' "lackeys" [97] In previous sub-chapters, you have read that the interviewed editors showed a sense of shared principles with automated journalism algorithms when speaking about their roles in the communication process. When focusing on the autonomy value, some interviewed editors (IntRTL; IntHP; IntBN) focused on differences between human autonomy and algorithmic autonomy, for example, by highlighting human agency when talking about choosing follow-up stories based on algorithmic assessment of reader figures. Also, human surplus value was stipulated by zooming in on different human qualities.

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[96] Deuze, "What is Journalism?" 447; Deuze, *Journalists in the Netherlands,* 12.
[97] Deuze, "What is Journalism?" 448-449; Deuze, *Journalists in the Netherlands,* 13-14.

But for revealing wrongs and lighting tiles, I see robots mainly as an extension of the journalist. For example, I don't see a robot communicating directly with an anonymous source at the level of an investigative journalist. (IntRTL)

However, it should also be noted that some interviewed editors expressed that the current state of the Dutch media landscape with large media organisations directing a large portion of Dutch national and local newspapers intervenes with the principle of journalistic autonomy. Editors expressed that it is difficult for local titles to work completely autonomous and start automated journalistic projects by themselves or choose what national news to write about. This is not perceived by the editors as a negative side-effect of the state of the media landscape, but it could be placed as institutional context to Dutch journalism and innovation.

4.2.2.4 Immediacy: conflict of news and "computers"

The work of journalists is reporting the news, which, argues Deuze, provides journalists with an aura of immediatism but also a focus on what is to be deemed as news.[98] According to the interview data, a common belief held by the editors was that automation has the potential to "never be beaten in speed by a human" (IntANP), make human journalistic life "easier" (IntHP) and "play a role in informing people" (IntRTL). It was also noted that it was deemed harder to "learn a computer what news is" (IntANP). This form of deeming a car burglary, for example, newsworthy or journalistically relevant, because "last year a mayor said that less police would be put on surveillance" (IntANP) was not yet identified in Dutch automated journalism technologies. This step, however, was seen by the interviewees as helpful in creating added value for Dutch journalism.

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[98] Deuze, "What is Journalism?" 449.

4.2.2.5 Ethics: between data discrimination and responsibility

Journalists ought to have a sense of ethical legitimacy when being a journalists, Deuze claims.[99] This does entail weighing journalistic decisions against their position as being "free and fair watchdogs of society".[100] In this sense, a common belief among the interviewees can be identified – that the development and use of automated journalistic systems should be questioned extensively. These questions could involve queries about the use of AI and the impact that may have on human/algorithm relationships or what data can or cannot be used in automated journalistic projects (IntRTL). However, editors also claimed that the accessibility to or lack of data could lead to ethical considerations on the public service of information dissemination and trustworthiness of journalistic production.

You could publish more about topics where data can be found, which means you can discriminate. For example, there is a lot of data about sports and economics, so will news consumers suddenly read more economic and sport reports? Or, suppose that you have the data about failures of NS and not about Arriva failures. If you publish only NS data, readers might get a distorted picture of reality.
(IntFREE)

From the interview data, a diverse set of ways arises to address (currently hypothetical) instances like the one mentioned above – from the common idea that journalists should ask themselves in every step of the algorithm programming process questions about the implications use of AI, use of certain algorithmic modes of personalisation or use of chatbots.

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[99] Deuze, "What is Journalism?" 449-450.
[100] Ibid.

5.0
CONCLUSION

This master thesis has investigated the views of Dutch journalists concerning automated journalism in Dutch journalism. There has been a specific focus on the role of algorithms in the communication process from journalist to reader and journalists among themselves and implications this role might have on the professional ideology of Dutch journalism. This conclusion chapter summarizes the findings on the thesis' sub-questions in order of answering the main question: How can the development of automated journalism and the subsequent introduction of technology as a communicator rearticulate the professional ideology of Dutch journalists?

The interviews showed that by assessing Dutch automated journalism through the spectrum of Human-Machine Communication can unlock added value for journalistic algorithms within communicative aspects and their place in newsrooms. Here, the conceptual lens of the HCM concept proved vital in moving past human-machine contrasts, assessing how the automated journalistic systems fit into journalism and in unlocking multiple other trajectories in which communicative automated journalistic systems could be active parts of Dutch journalism. The conversations showed a wide use of terminology concerning "robotjournalistiek", but also provided evidence for viewpoints beyond the "robot-human job loss" paradigm. The interviewed editors in the corpus talk about the opportunity automated newsroom bots like ADAM carry in making large datasets relatable to people by making them personalisable to location, interacting with the reader and acting as a communicative extension of human journalists. They also notice the opportunity of chatbots to communicate with multiple source which could enhance journalistic objectivity. Also, by assessing automated journalism technology as a communicator, the editors showed the fundamental belief that there should be no difference in assessment of automatically generated articles and that automated journalistic algorithms are currently not to be taken for granted viewed as participants or future participants in the news communication sphere.

The way the emergent automation modes in Dutch journalism could relate to the notion of professional ideology has been addressed from various viewpoints. The editors showed different opinions on the incorporation of automated journalism within the fundamental value system of journalism. This displays the dynamic and diverse nature of the profession with all-inclusive and defensive arguments at stake, but also demonstrates journalists' nature to use their professional ideology as defence mechanism to distinguish their own place. This could complexify fundamental discussions about the place and role of automated journalism within the Dutch professional ideology. Additionally, the interviews show frictions, reconsiderations and re-articulations of these values concerning automated journalistic techniques. Multiple journalists discuss the prospect of possible data discrimination and the loss of journalistic independence as well as institutional autonomy complexities impacting the introduction of the automation techniques, while also providing examples where automated journalism could add layers to professional values, for example by aid in humans' striving for value-neutral reporting.

When taking all results of the interviews in this research into consideration, the development of automated journalism in Dutch journalism and the subsequent introduction of technology as a communicator result in a possible reassessment of Dutch professional values where the introduction of algorithmic techniques re-emphasizes and re-addresses Deuze's notions of journalistic public service, objectivity, autonomy, immediacy and ethics. According to the interviews, usually the emerging human–machine communications are defined by the blend of supportive automated systems and (commanding) human agencies but this research shows that there are promises of collaboration and observations of communicative automated aspects that aid the validation of professional values. Also, technological innovations such as automation in Dutch journalism add to tensions around fundamental questions on what journalism is, how it is done, and why and provide a dynamic set of consequences and chances for the profession. The interviews show that there is the opportunity for automated and human journalists to collaborate and reap each other's benefits. However, there is no overall consensus on how to approach automation in relation to Dutch professional journalistic ideology, which also shows the dynamism and diversity of Dutch journalism. What is worrisome is the observation that some editors, who play an essential role in editorial decision-making, show a deficiency in knowledge of the normative aims of journalism and fundamental values discussed in this master thesis, which aim to serve as part of the social cement that distinguishes professional journalism and that are supposed to act as a cement that binds professional journalists. This could be a point for further deliberation as Deuze's values were operationalised in the beginning of this millennium, where there were no considerations taken about the place of communicative automated journalism systems in journalism. Also, this can be considered as a limitation of this master thesis as with the method of interviews alone a disconnection can occur where the way editors and journalists talk about the values can differ from how they actually use these values when performing their jobs.

5.1 Discussion: towards AI policy in news media

This thesis extends scholarship on automation in Dutch newsrooms, Dutch automation's place within the scholarly field of Human-Machine Communication (HMC) and on professional foundations and motivations behind it. Its HMC scope highlighted ways and views on automated journalism in the journalistic communication process, however the interviews also showed that most Dutch automated journalism projects are project-based or perceived as experiments. This project-based scope conceivably limits the unlocking of a fundamental view on journalistic algorithms or possibly only enables assessment at the end of the automated journalism project. At this instance, there seems to be no clear guidelines at news organisation level, nor at union level or government level how to automatize certain journalistic jobs or operations. This is in line with the Dutch government not publishing a national strategy for developing and applying artificial intelligence (AI).[101] This is objectionable, according to one of the interviewees:

You should have a basic policy to test the experiments on, because then decisions are easier and you protect all the journalistic conditions you set for journalism better, because you have thought about it beforehand. The journalistic values are usually not concrete enough to test afterwards. (IntFREE)

This does not imply that there should be governmental policy over the development of automation in Dutch journalism, which does not stroke with regard to the role of journalism as society's watchdog of government. However, AI policy organised per media organisation can add to Dutch journalistic diversity and could also aid news consumers in choosing to follow a news medium based on its strategy on AI in Dutch journalism. This opens up discussion and possible further research on the way AI policy at Dutch news organisations can be contributory to placing automated journalism technologies in the communication process and how these plans can aid fundamental discussions and enhance value vocabulary of Dutch journalists and editors.

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[101] Bennie Mols, "Internationaal AI-beleid: Domme data, slimme computers en wijze mensen," working paper Wetenschappelijke Raad voor Regeringsbeleid (2019), 13.

6.0

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7.0
APPENDIX

7.1 Figure 1 of RTL Nieuws' ADAM

7.2 Questions used in interviews

Topic: Automated journalism within the newsroom

What is the scope of the use of algorithm-generated news in the news organization in question? What is the motivation to use it or not? Were there discussions within the editorial staff or within the news organization about automated journalism policy? If so, what were the main points of view and the underlying arguments? How do you see or feel how working in the newsrooms is changing or could change with the implementation of automated journalism on your editorial staff?

Topic: Position automated journalist

ADAM, the editorial robot of RTL News, communicates in its own way with the news consumer; how does the interviewee view the communication skills of automated journalism algorithms? What is the influence on relations within the editorial staff? How do you observe or feel how working in newsrooms alter or might alter when automated journalism is working and how may relationships within these newsrooms may be reconfigured? In your view, can these eventually be seen as equal, both as participants in the dissemination of news? Or will the technology continue to serve human journalists and play a mediating role?

Topic: Automated journalist and professional values

How does automated journalism in the eyes of the interviewee relate to Deuze's core values? How does the use of automated journalism alter journalistic values? Does a communicative automated journalist fit within those core values? Or should the values be reformulated? Who has the responsibility in this? What about journalistic autonomy, if this technology can only be adapted by ICT professionals?

What technical and ethical knowledge and skills are needed at editorial boards to work with NLG systems? But also: what do you think, for example, about possible regulation of robot journalism? In what timeframe do you think we might consider the judgement of an automated journalism algorithm to be more valuable than the judgement of a human journalist (if this is going to happen in your opinion)? How do you think we can reshape our values in order to incorporate communication by automated journalists?