ARTICLE

Posthumanism and posthuman
systematic review on scientific bases

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ABSTRACT

To reflect on the concepts related to the "post-humanism" theme and its approaches by Information Science (CI) and other areas of Science. This paper analyzed the articles on post-humanism indexed on the Web of Science, Scopus, Scielo, Library, Information Science and Technology Abstracts (LIST), Information Science and Technology Abstracts (ISTA), Emerald, the Referential Database of Scientific Journals Articles were analyzed of Information (BRAPCI) and Base of the National Research Meeting in Information Science (BENANCIB) in the period from 2010 to 2020. It has exploratory and descriptive objectives. A bibliometric study with data collection and analysis and systematic review using the Preferred Reporting Items for Systematic Reviews and Meta-Analyze (PRISMA). The results present a section of the literature on the subject and had 33 texts analyzed, gathered in 11 areas, indexed by 108 keywords, with 45 authors of the respective texts and 1124 references, of which eight are recurrent researchers. Post-humanism points to a perspective where the human loses its role as the dominant being of the universe and starts to develop partnerships with machines, animals and the environment. At CI, studies indicate the concern to understand how the human is preparing to reframe the analysis of information considering that he is no longer able to store everything. The results indicate that we are in a historical period in which it is not valid to raise questions about what we will do when people become post-human, because we have already experienced this reality, and therefore, studies should be based on what we can do now to meet consumption patterns and requirements of these individuals.

Pós-humanismo e pós-humano
revisão sistemática em bases científicas

RESUMO

Refletir sobre os conceitos relacionados ao tema "pós-humanismo" e suas abordagens pela Ciência da Informação (CI) e demais áreas da Ciência. Foram analisados os trabalhos sobre pós-humanismo indexados na Web of Science, Scopus, Scielo, Library, Information Science and Technology Abstracts (LISTA), Information Science and Technology Abstracts (ISTA), Emerald, Base de Dados Referencial de Artigos de Periódicos em Ciência da Informação (BRAPCI) e Base do Encontro Nacional de Pesquisa em Ciência da Informação (BENANCIB) no período de 2010 a 2020. Possui objetivos exploratórios e descritivos. Um estudo bibliométrico com coleta e análise dos dados a revisão sistemática com aplicação do Preferred Reporting Items for Systematic Reviews and Meta-Analyse (PRISMA). Os resultados apresentam um recorte da literatura sobre o tema e teve 33 textos analisados, reunidos em 11 áreas, indexados por 108 palavras-chave, com 45 autores dos respectivos textos e 1124 referências,

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sendo oito pesquisadores recorrentes. O pós-humanismo aponta para uma perspectiva onde o humano perde seu protagonismo como ser dominante do universo e passa a desenvolver parcerias com as máquinas, os animais e o meio ambiente. Na CI os estudos indicam a preocupação para entender como o humano está se preparando para ressignificar a análise de informações considerando-se que ele não é mais capaz de armazenar tudo. Os resultados indicam que estamos em um período histórico em que não é válido levantar questões sobre o que faremos quando as pessoas se tornarem pós-humanas, porque já vivenciamos esta realidade, e portanto, os estudos devem ser pautados naquilo que podemos fazer agora para atender aos padrões e exigências de consumo desses indivíduos.

PALAVRAS-CHAVE
Pós-humanismo. Pós-humano. Ciência da Informação. Tecnologia da informação e comunicação.

JITA: AC Relationship ofLIS with other fields

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1 INITIAL CONSIDERATIONS

There is a consensus among post-humanism researchers that studies in this area suggested in 1960 with the publication of the article "Cyborgs and space" by Manfred E. Clynes and Nathan S. Kline. In it, the authors indicate the need to create a cybernetic organism (or just cyborg) that integrates the vital functions of the human being and the practicality of technological devices in order to give the possibility for astronauts to survive when they were on space missions. It is worth highlighting the prospective character of the authors, which refers to the best novels and cinematographic productions in science fiction.

This thought of coexistence between machine and human generator of the term cyborg, received development and improvement by Donna Jeanne Haraway in 1985, in order to mean any hybridization between man and machine. Still, in a prophetic climate, he stated that from the 20th century, all humans, in some way, would become chimeras or theorized hybrids, in short, cyborgs.

With the exponential use of technologies, it is possible to claim that Haraway's prophecy has been confirmed. We have smart homes, we use smartphones and wearable devices as extensions of our bodies, we need the placement of pacemakers, glasses and hearing aids to improve our quality of life, we travel with cars, airplanes and other transport, we feed on transgenics and ultra-processed, and even when the product is considered natural, it was harvested, separated, packaged and transported by machines and, when we get sick, our lives depend on machines that pump air for us, check the beats and inject us with drugs so that we can survive, among so many other facilities and needs provided by technology. Given this, are we still considered human or have we become post-human?

The concept of human is adapted from the area to which it is linked: for religion it is the image and likeness of the divine and its heir on planet earth, for biology a vertebrate mammal that evolved from a primate to the species homo sapiens, for law, to be endowed with reason and conscience that has freedom and equality in dignity and rights, for Information Science the main emitter and receiver of information, while for social models of culture it has been changing over time, in early period women, blacks, the disabled and other minorities were considered to be inferior to humans, that is, white men and possessions. (SALDANHA, 2012; FERREIRA, 2017; BITTAR, 2019)

Broadly speaking, according to Campbell, O'Driscoll and Saren (2010), the concept of the post-human is used to describe anything that expands human capacity, so something as ubiquitous, banal, ancient and human as use of tools could be described as post-human. Some authors even add this concept to the biological aspect, taking into consideration that the human body did not come with a speech device, the evolutionary capacity to produce that later became in language as we know it, is considered a post-human skill or that characterizes this being as a "digital human". (HAVLÍK, 2019)

In this perspective, there is an explanation about the differences between post-humanism and digital humanity. While the first proposes to encompass studies involving the hybridization between human and technology, the second is an interdisciplinary field focusing on the intersection between computing and the humanities, studying how information affects most of the disciplines and what these have to contribute to our knowledge in computational format. (KIRSCHENBAUM, 2010)

In the meantime, the following question arises: How is the topic addressed in the available literature on post-humanism on the Web of Science, Scopus, Scielo, Library, Information Science and Technology Abstracts (LIST), Information Science and Technology Abstracts (ISTA), Emerald, Referential Database of Journal Articles in Information Science

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(BRAPCI) and Base of the National Research Meeting in Information Science (BENANCIB)? We seek to answer this question by bringing quantitative analyzes about the databases, in addition to graphically developing a keyword cloud and a network of authorship and co-authorship, among other data characterization techniques. This study is justified by the emergence of the theme and its connections with research in the area of Information Science, it was developed with the careful use of the systematic review method with the Preferred Reporting Items for Systematic Reviews and Meta-Analyzes (PRISMA), addresses a current subject, since the adoption of technologies on a daily basis is becoming more and more recurrent. The aim of this study was: To analyze qualitative and quantitative elements in works on post-humanism indexed in BENANCIB, BRAPCI, Emerald, ISTA, LISTA, Scielo, Scopus and Web of Science in the period from 2010 to 2020.

2 METHODOLOGICAL ROUTE

This is a study with exploratory and descriptive objectives, which used the bibliography as the main source of data, this being indicated by Marconi and Lakatos (2017) as a type of indirect documentary research that allows the critical interpretation of certain material. In line with this source, we use Bibliometric collection as a technique that allows us to statistically infer the scientific bibliography on a given topic.

Therefore, this work has a qualitative and quantitative approach. The first because it allows exploring the phenomena in depth and extracting the meanings from the data through an inductive and recurring process; while the second enables sequential and deductive processing of data, in order to provide supporting evidence for the inferences that arise from the cause-effect analysis (SAMPIERE, COLLADO, LÚCIO, 2013). Both methods were used in order to maximize the benefits, reducing the uncertainties and expanding the methodological rigor of this study.

The main instrument for data collection and analysis was PRISMA or in free translation the main report items for systematic reviews and meta-analyzes. The PRISMA recommendation consists of a checklist with 27 items that the more followed, the greater methodological reliability adds to the research. Those who use systematic review will benefit from contacting research that is less subject to bias and may present estimates that are closer to the truth.

In general, nine steps are followed for the elaboration of a systematic review, they are: elaboration of the research question, outline of the search strategy, effective search in the literature, selection of the relevant studies, data extraction, evaluation of the methodological quality of the studies included, synthesis of data, assessment of the quality of evidence and writing and publication of results (GALVÃO; PANSANI, 2015). Regarding the selection of works, we present IT in Table 1.

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Table 1. Results in the databases

Databases	Search terms	Results				Exclusion (time)	Exclusion (metadata)	Exclusion (eligible)	Exclusion (duplicate)	Selection
		Posthumanism (in Portuguese)	Posthuman (in Portuguese)	Posthumanism	Posthuman					
BENANCIB	Posthumanism (in Portuguese) Posthuman (in Portuguese) Posthumanism Posthuman	7	7	0	0	2254	579	68	37	**33**
BRAPCI		235	262	2	1					
Emerald		0	2	77	111					
ISTA		0	0	4	2					
LISTA		0	0	8	18					
Scielo		34	286	57	50					
Scopus		8	122	482	589					
Web of Science		0	0	302	758					
Total		3424								

Source: Research data (2020).

The searches indicated in Table 1, occurred in the period between March 28 to April 7, 2020 in the following databases: Web of Science, Scopus, Scielo, LISTA, ISTA, Emerald, BRAPCI and BENANCIB. These were chosen in view of the relevance of each to Information Science (CI), in addition to covering other related areas of knowledge, having an extensive collection and being linked to the CAPES Journal Platform, which facilitated access to relevant articles.

The search terms used to start the systematic search were Posthumanism and Posthuman in Brazilian Portuguese, and Posthumanism and Posthuman, in English. These four were used in quotation marks to give more precision to the results. Judging from the multiplicity of languages that the respective databases index, we use the terms in Portuguese and English. A necessary constraint was temporality, therefore, after the initial search we redefined the recovery for works published from 2010 to 2020, an exclusion criterion applied was that one of the referred terms should be present in the metadata of the work such as title, abstract or keywords and also, only articles from journals and events were eligible, considering that these are the formats most used by researchers due to the speed of dissemination with peers. (MARCONI; LAKATOS, 2017)

Initially, 3,424 works were recovered, after the application of the temporality filters (2,254, excluded) and 579 that did not meet the metadata criterion, it was identified that 68 of these were relevant to the scope of this work. When analyzing the references, we observed that there were 31 duplicate papers, which were excluded in order to leave an incidence per title, obtaining 37 documents. Therefore, the results presented in this article are a clipping of the literature on the subject.

When starting to read the works in full, it was noticed that four were not possible to be accessed, either because they are no longer available in journals and event websites or because the Digital Object Identifier (DOI) is not valid. In view of this path, the bibliographic selection that formed this work corresponds to 33 journal articles and events published in the period from 2010 to 2020 and indexed by the eight bases indicated.

3 RESULTS AND ANALYSIS

Among the 33 articles relevant to this research, five had high citation rates, according to Google Scholar on April 17, 2020, and are shown in Table 2. As for the others, three had between three and seven citations, four had two citations, nine had one and 12 still had no citation at the end of the collection for this article.

Table 2. Description of the most cited articles

Document title	Journal	Year	Number of citations
The posthuman: The end and the beginning of the human	Journal of Consumer Behaviour	2010	39
The posthuman way of war	Security Dialogue	2015	24
Jamais fomos humanos (We were never human)	Liinc em Revista	2010	13
Transumanismo e o futuro (pós-) humano (Transhumanism and the (post) human future	Physis: Revista de Saúde Coletiva	2014	10
Consideraciones bioéticas y biopolíticas acerca del Transhumanismo: El debate en torno a una posible experiencia posthumana	Revista de Filosofía	2015	10

Source: Google Academic (2020).

Considering the research data and the time delimitation from 2010 to 2020, 46% (or 15) of the relevant articles were published in 2019, 9% (or 3) in the years 2018, 2015 and 2014 each, 6% (or 2) in 2017, 2012 and 2010 each, while 3% (or 1) was published in 2020, 2016 and 2013. The value for the year 2020 is understandable considering that during data collection we were in the first half of the respective year and there is a hope that more works will be published in the current year.

With regard to the languages in which the articles are published, 16 (or 48%) have Portuguese as their original language, while 14 (or 42%) were found in English and 3 (or 10%) were fully prepared. in Spanish. We thus glimpse the interest in the theme on the part of the Lusophone and Anglophone journals, taking into account that the main language for science is English, the provision of so many articles in Portuguese and Spanish on the subject was relevant.
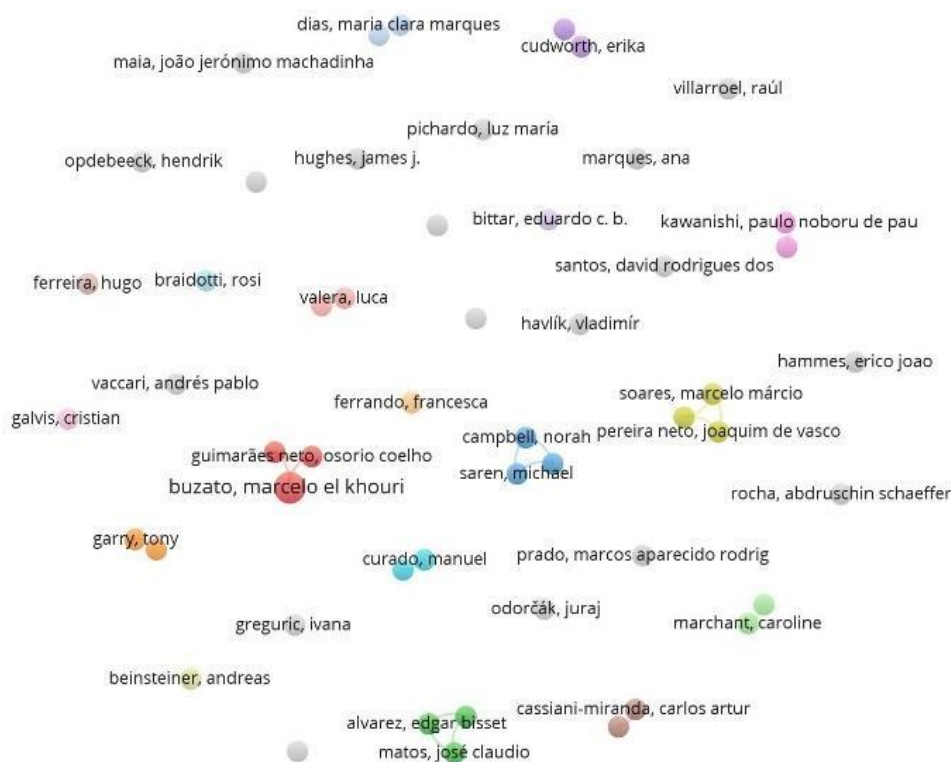
3.1 Researchers in posthumanism

The 33 articles that served as input for this study, had 45 authors and only one author returned to work on the subject. Marcelo El Khouri Buzato (State University of Campinas, Brazil) authored articles published in 2019 "The posthuman is now: a presentation" and "Posthumanism and assistive technologies: on the social inclusion / exclusion of low-tech cyborgs", the latter in partnership with Elizabeth Kath and Osorio Guimarães Neto (both from the Royal Melbourne Institute of Technology, Australia).

As for the origin of these 45 authors, we extracted from the curricula present in the works that 13 (30%) are from Brazil, seven (16%) from the United Kingdom, four (9%) from Portugal, three (7%) from Australia, Colombia and United States of America each, two (4%) from Ireland and one (2%) from Germany, Austria, Chile, Croatia, Slovakia, Spain, Japan, Mexico, New Zealand and the Czech Republic each.

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Regarding the institutions that these 45 authors are linked to, among the most incident we have three (6%) are from the Federal University of Santa Catarina (UFSC) and Federal University of Rio de Janeiro each, and two (4%) from Royal Melbourne Institute of Technology, State University of Campinas (Unicamp), University of Coimbra, University of East London and University of Edinburgh each, while the other institutions had only one impact. Taking as a basic parameter the frequency of publication and the partnership relationships in co-authorship of the texts, we created Figure 1 using the VOSviewer application, which illustrates the relationships between the authors of a text and between them with the other authors on the topic.

Figure 1. Co-authored publications

Source: Research data (2020).

Analyzing Figure 1, we realize that there are researchers in the post-humanist theme, but that in this show they do not form groups with other scientists in order to create cooperation networks for the development of research in the area. What happens are co-authored partnerships for the publication of up to two articles on the topic, and then this partnership is dissolved and/or the researchers continue their efforts in other scientific fields. The result shown in figure 1 is a common phenomenon, observed when analyzing co-authoring networks, however when analyzing a larger sample, such relationships possibly present different configurations.

Considering that the number of authors who published again on posthumanism is insufficient to carry out in-depth analyzes, we searched the references of the 33 articles for the most recurrent authors and works. This proved to be a useful source of data, because the more an author is cited, the greater the relevance of his studies to the field.

1,124 works referenced in the sample articles were verified, using the altimetric data from the social network ResearchGate, we elaborated Table 3. The altimetric indices indicate the relevance of the works published by the author and the level of acceptance by peers.

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ResearchGate presents the RG score, number of citations and readings of the texts published by the most recurring authors, as well as the recommendation index of the researches of the referred author to the other users of the network. The altimetric data of this platform were selected for this work because it is the most used in the West, it promotes contact between researchers and the sharing of information and scientific documents, between the authors and those interested in their research. Academic social networks present themselves as a promising channel for scientific communication.

Table 3. Authors and their altimetry

Author	Score RG	Citation	Reading	Recommendation
1. Yoshihiro Francis Fukuyama	29.98	20084	53958	26
2. Rosi Braidotti	23.35	4503	10823	12
3. James J. Hughes	22.57	1078	13159	7
4. Donna Jeanne Haraway	15.60	11788	8670	15
5. Bruno Latour	11.84	3326	4242	14
6. Marcelo El Khouri Buzato	8.48	156	1693	6

Source: Academic Google and ResearchGate (2020).

Fukuyama is a researcher at Stanford University (United States) and has the highest RG score of the eight authors. There were nine citations by the authors of the articles relevant to this study, among them the most frequent was the book published in Brazil in 2003 entitled "Our posthuman future: consequences of the biotechnology revolution". Which according to Google Scholar has about 3476 citations. The author indicates in his profile at ResearchGate that he works with themes related to international relations, public policies and public administration.

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Braidotti, on the other hand, works for Utrecht University (Netherlands) on topics related to gender studies, especially the feminist movement, social and political philosophy, ethics and culture. Among the 17 citations that his works had, the most frequent are the books "The Posthuman" published in 2013 and "The Posthuman Glossary" of 2018. The latter being of high relevance, because the author in partnership with Maria Hlavajova, edited a dictionary of almost 600 pages with the main terms related to Post-humanism, indicating a brief historical context for the creation of terms, related areas and other terms that may be synonymous or complementary.

While the researcher at the University of Massachusetts Boston (United States), Hughes, works in the areas of social policy, political and social philosophy, philosophy of science and ethics. It has been cited 10 times in multiple works, within the main document is the book "Citizen cyborg: why democratic societies must respond to the redesigned human of the future" published in 2004.

Researcher Donna Haraway of the University of California, Santa Cruz (United States), is considered one of the pioneers of post-humanism studies with the publication of her article "Manifesto for cyborgs: science, technology and socialist feminism in the 1980's" in 1985 , which was reviewed by the author in 1991 and gave rise to the chapter "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century" published in the book "Simians, Cyborgs, and Women". Haraway, in her profile at ResearchGate, indicates working in the areas of social and cultural anthropology, sociological theory and gender studies, especially the feminist theory and movement.

Latour works in the areas of the history of philosophy, science and art, innovation and scientific technology, being a researcher at Sciences Po Paris (France). Among the 11 references found in the articles relevant to this study, three were the most recurrent, they are:

"We have never been modern" from 1991, which was translated and published in Brazil in 1994 as "We were never modern: symmetric anthropology essay" , "Science in action: how to follow scientists and engineers across society" in 2000 and "Reassembling the social: an introduction to Actor-Network-Theory" in 2005.

And still Buzato, who did not have high levels of references in other works, but was the only author who returned to research the theme of Post-humanism. He indicated in his profile at ResearchGate that he works in the areas of semiotics, digital literacy, posthumanism, critical data studies and datafiction.

The authors Michel Foucault (in memorian) and Niklas Boström were also used as references frequently, however, they do not have their profiles registered in ResearchGate and, therefore, it was not possible to measure their altimetry. To complement the data, Google Scholar was used, which allowed to verify the citation indexes that indicate Foucault with the highest value among the eight authors focusing on his most cited work "The History of Sexuality" of 1978, while, Boström is thirdly, regarding this index and his most cited work is "In defense of posthuman dignity" from 2005.

3.2 Areas that have published on posthumanism

All 33 documents analyzed for this systematic review are articles published in journals and scientific events, indexed by the indicated bases. One of the criteria for inclusion was that the documents had keywords indicated by the authors as terms that characterize their work.

Twelve of 108 keywords found were repeated, they are: posthumanism (or its synonyms in other languages and spellings such as post-human, post-humanism, and posthumanity) with 20 recurrences (18%) with nine or 8% transhumanism (synonymous with transhuman), with five or 4% biotechnology (synonymous with biotechnologies), and cyborg with four or 3% technology and Humanism each, with three or 2% biopolitics, human enhancement and human nature each, and with two recurrences or 1% each we had bioethics, Information Science and personal identity. The remaining 96 keywords only had one impact, all are shown in Figure 2, this one created with the aid of the VOSviewer application.

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Figure 2. Incident keywords
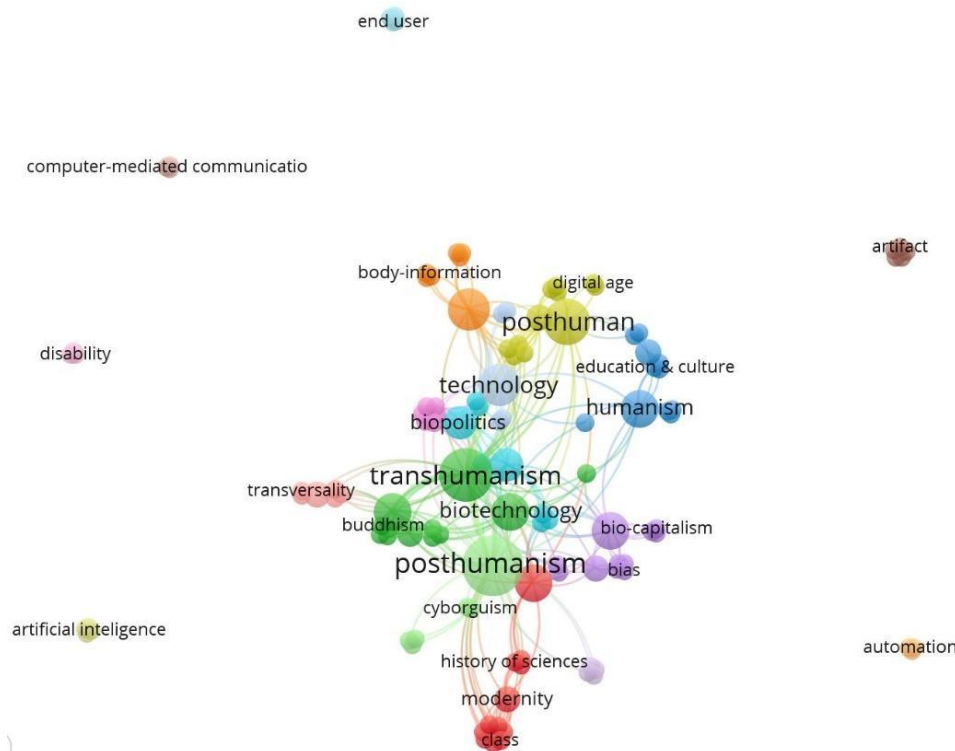
Source: Research data (2020).

Figure 2 was developed based on the link between keywords, generating 123 connections. It is possible to perceive a central relationship between the terms posthumanism, transhumanism and posthuman, indicating that these are the keywords relevant to the theme and have strong connections between themselves and with the others. On the other hand, we have the keywords "artificial intelligence", "automation", "disability", "artifact", "end user" and "computer-mediated communication" that do not have links with the three central terms and, therefore, we can infer that they were the results of isolated studies within the studied sample.

After the collection and analysis of bibliometric and altimetric data, the 33 articles that make up the scope of this work were read in full. During the development of this activity, we realized that the authors, when writing the papers, relate to 11 areas of scientific knowledge, and that, therefore, suggests that these areas are more influenced by post-humanism in their studies, they are: Bioethics and Health, Philosophy, Linguistics, Theology, Information Science, Sociology, Technology, Work, Administration, Arts and Law.

1ª Bioethics and Health: ethical issues of human improvement technologies, bioethical guidelines for post-human evolution, biohacking, assistive technologies and cyborgization of people with disabilities, nursing and care with the use of machines, bioethics and human characteristics, empirical rivalry between transhumanists and bioconservatives, biotechnology and the Post-Human Benefit Argument (PBA) were topics addressed by: Galvis (2013); Greguric (2014); Kath, Guimarães Neto, Buzato (2019); Kawanishi, Lourenção (2019); Monteiro, Curado (2016); Pichardo (2018); Vaccari (2019); Vilaça, Dias (2014).

2ª Philosophy: production, administration and biopolitical control of subjectivity, technoscience and philosophical theory, benefits and disadvantages of a post-humanist ontology for the field of inheritance, technocratic solutions to the climate crisis, immortality and science, the duality between natural and artificial for creativity , philosophical, cultural and critical post-humanism, anti-humanism, meta-humanism and the boundaries between the concepts of humanism, transhumanism and post-humanism were topics addressed by: Beinsteiner (2019); Ferrando (2019); Havlík (2019); Maia (2017); Odorčák (2020); Sterling (2020); Villaroel (2015).

3ª Linguistics: the language generated by computational devices, especially poetic texts, from the perspective of literary studies, the intelligence demonstrated by animals (other than primates) according to the language developed by each species, and how text mining with the use of artificial intelligence shapes and is shaped by the new linguistic behavior of the human subjects, were themes addressed by: Buzato (2019); Ferreira (2017); Marques (2019); Matos, Jacinto, Alvarez (2019).

4ª Theology: the understanding of human beings by traditional religions such as Buddhism and Christianity in the face of new technologies, the question of the integrity of the being, the promotion of life and behavioral change, and ethics, from the theological point of view, for improvement and increase human capacities were addressed by: Hammes (2018); Hughes (2019); Rocha (2018).

5ª Information Science: how the human is preparing to reframe the analysis of information considering that he is no longer able to store everything and needs the help of technologies for this and the philosophy of information as a theoretical input for debate and analysis of the current post-humanist society were topics addressed by: Prado (2014); Saldanha (2012).

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6ª Sociology: the project for human improvement that has a wide and profound influence on contemporary culture and society and the relations between machine, life and the human promoted by industrial capitalism that modify social relations were topics addressed by: Herazo-Bustos, Cassiani-Miranda (2015); Vandenberghe (2010)

7ª Technology: how the use of robots in a war situation can change the way wars occur around the globe and the relationship of dependence that currently occurs between humans and their mobile devices such as smartphones were topics addressed by: Cudworth, Hobden (2015); Marchant, O'Donohoe (2019).

8ª Labor: opportunities and inequalities in the labor market due to the reality of post-humanist technologies, future trends in the area, some human attributes that can be improved through cyborgization and some services that can be performed by this type of professional were topics addressed by: Garry, Harwood (2019); Ozkazanc-Pan (2019).

9ª Administration: Campbell, O'Driscoll, Saren (2010) proposes to analyze theoretically how consumption patterns can change through the process of transhumanism with a focus on a post-humanist future.

10ª Artes: Santos (2012) draws a practical comparison between audiovisual productions with a focus on the human and those that focus on the post-human, with analysis in the 2009 film production "Avatar" by director James Cameron.

11ª Law: Bittar (2019) looks into the topic of the social impact of the body modified by post-humanist technologies in the face of the theory of law, in order to try to answer the question:

if the human goes through a cyborgization process, what rights and duties should they be rewritten to comply with this new reality?

There is also a dichotomy frequently addressed by the authors between bioconservatives and transhumanists. For Ferrando (2019), transhumanity corresponds to the historical period between humanity, where the human is understood as the driving force of studies and its condition must be preserved, a concept widely researched and defended by Habermas (2004), and the post- humanist, where the human will already be going through the process of symbiosis with technology. This human to post-human process has a community in favor of these changes, the transhumanists and another that believes that the preservation of man's naturalness is the best option for the population, these are called bioconservatives. (VILAÇA, DIAS, 2014)

As for the methodological approach of the articles, we have that 85% (28) of them are theoretical, that is, they developed their research in order to draw epistemological comparisons between posthumanism and their respective areas, among those that most published in this type are Philosophy, Law and Information Science. While five (15%) articles have a practical approach, that is, they bring applicability to posthumanism in their respective areas, they are: Ferreira (2017) and Marques (2019) of Linguistics, Garry, Harwood (2019) of Labor, Marchant, O'Donohoe (2019) of Technology, and Santos (2012) of Arts.

4 FINAL CONSIDERATIONS

The development of this work helps in the perception of the multidisciplinarity that post-humanism adds to scientific knowledge. We had as a result a perception of the affinity of subjects among the 33 pertinent articles, and we gathered them in 11 areas, they are: Administration, Arts, Bioethics and Health, Information Science, Law, Philosophy, Linguistics, Sociology, Technology, Theology and Labor.

The areas converge on the concept of the posthuman as a modern being, capable of incredible feats from surviving chronic illness (with drugs, prostheses and other technologies) to populating other planets. And posthumanism as a series of studies in order to improve and adapt the posthuman to the reality experienced on a daily basis, in addition to exploring the weaknesses that this being may have and supply these needs.

Among the concepts of posthumanism and posthuman presented in the relevant articles, we highlight those in Chart 1 as the most recurrent in the literature.

Chart 1. Posthuman and posthumanism concepts

Posthumanism		
Authorship	**Concept**	**Our translation**
Greguric (2014, p.140)	"Is an emerging field within medicine and bioengineering that aims to develop technologies and techniques for overcoming current limitations of human cognitive and physical abilities"	É um campo emergente na medicina e na bioengenharia que visa desenvolver tecnologias e técnicas para superar as limitações atuais das habilidades cognitivas e físicas humanas
Cudwoth, Hobden (2015, p.524)	"is to develop tools for developing an understanding of human embeddedness in non-human animate and inanimate systems."	É criar ferramentas para desenvolver uma compreensão da incorporação humana em sistemas não-humanos animados e inanimados.

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RDBCI: Rev. Dig. Bibliotec e Ci. Info. / RDBCI: Dig. J. of Lib. and Info. Sci.**|** Campinas, SP **|** v.18**|** e020033 **|** 2020

Monteiro, Curado (2016, p.144)	"The condition in which humans and intelligent technology irreversibly interpenetrate, in a fusion between humanity and machines and in the emergence of an undifferentiated hybridism, a new categorization of the Human."	
Kath, Guimarães Neto, Buzato (2019, p.681)	"A worldview and moral position that no longer regards the human as at the center of the universe and as the dominant and determining being. Derived from moral philosophy, applied ethics, and technoscience, posthumanism stresses the interrelation between human, machine, animal, and environment."	Uma visão de mundo e posição moral que não mais considera o humano como o centro do universo e o ser dominante e determinante. Derivado da filosofia moral, ética aplicada e tecnociência, o pós-humanismo enfatiza a inter-relação entre humano, máquina, animal e meio ambiente.
Sterling (2020, p.2)	"Matters to critical heritage studies not because the themes and concepts emerging under this banner are especially new or radical, but because the challenges facing the subject can no longer be adequately addressed by theories and methods that take 'the human' to be the center of all heritage meaning."	É importante para os estudos críticos do patrimônio, não porque os temas e conceitos emergentes sob essa bandeira sejam especialmente novos ou radicais, mas porque os desafios que o sujeito enfrenta não podem mais ser adequadamente abordados por teorias e métodos que tomam o 'humano' como o centro do mundo.
Posthuman		
Santos (2012, p.404)	"It implies not only the idea of establishing dangerous connections with machines, but the possibility of establishing connections with a broader and more multifaceted series where, in the short term, it becomes impossible to distinguish between biological organisms and integrated circuits."	
Galvis (2013, p.59)	"Ser inter-comunicativo, expandible, sujeto transitivo y versátil, en medio del despliegue infinito de las redes digitales, recompuesto a sí mismo por la bio-ingeniería, dotado de inusitado poder, sí que estaría obligado a asumir el riesgo como valor prevaleciente."	Intercommunicable, expandable, transitive and versatile subject, amid the infinite implantation of digital networks, recomposed by bioengineering, endowed with unusual power, he would be obliged to assume the risk as the predominant value.
Herazo-Bustos, Cassiani-Miranda (2015, p.399)	"Se ha utilizado con una significación más amplia para señalar un mundo natural ya modificado, no solo el cuerpo humano sino los alimentos (transgénicos), los animales (nuevas especies, experimentación) etc."	It has been used with a broader meaning that points to a natural world already modified, not only the human body, but also food (transgenic), animals (new species, experimentation) etc.
Monteiro, Curado (2016, p.143)	It represents, at the heart of the articulation between biological and technical evolution, a trend that allows us to foresee not only an ontological transmutation of the human condition, but also the development of new forms of life beyond the traditional boundaries between the natural and the artificial.	
Vandenverghe (2010, p.220)	"Silicas, pebbles and bones made and transformed man (...). Today, it is glasses, pacemakers and laptops that make homo sapiens. We were never human. Having alienated the human, nothing human is foreign to the post-humanist. Once we understand that we are made by the technologies we make and that we become human through our implants, transplants and prostheses. "	

Source: Research data (2020).

In line with the above, Campbell, O'Driscoll, Saren (2010) emphasize that we have already reached a historical period in which it is useless to raise questions about what we will do when people become posthuman, because we have already experienced this reality, and therefore, studies must be guided by what we can do now to meet the consumption patterns and demands of these individuals, in order to take the greatest possible benefits from the technologies, which are both a driving force for these new patterns as a result of them.

As a limitation of the work, it is important to indicate that the time frame left almost two thirds of the texts recovered initially outside this analysis, however we understand that the

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most recent articles incorporate part of the content of older publications, as could be seen in the analysis of references. Older publications tend to have more problems with metadata and access to full content.

We conclude this article with the conviction that the proposed objective was achieved and the problem answered, without, however, with the intention of exhausting the topic, but rather, bringing to light science that will enable new research, in order to indicate to the reader, the main authors and texts available in the scientific literature on posthumanism.

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