# More-Than-Human research using the ChatGPT tool

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## 1. Introduction

Since the 1980s, design has been based on the approach - or paradigm - Human Centered Design (HCD). This paradigm involves specific methods - focus groups, A/B testing, questionnaires, interviews, and other methods (Tomitsch *et al.*, 2018) - in order to produce products and services designed with an anthropocentric point of view (Norman, 2019a). However, Donald Norman, the father of the discipline himself, questioned whether this approach needs to be broadened with regard to users to be considered during the design phase (Norman, 2022). The goal is to make better products and services, characterized by higher quality in terms of effectiveness, efficiency, and satisfaction, and thus better usability (Gamberini, Chittaro & Paternò, 2012).

Norman is not the only one who has rethought some aspects of HCD; in fact, there are many authors and scholars who, in recent times, are trying to go further, defining a new approach that can move beyond the specifically anthropocentric view, considering species other than our own. The goal of such a new attitude aims to place all species on the planet on an equal level. These theories are based on ideologies for which a balance should exist between humans and the environment, as James Lovelock and Donna Haraway explain (Lovelock, 2020; Haraway, 2020). Such a balance is crucial today to establish and maintain since human beings who live in clean and respectfully treated environments have a better chance of living healthy lives from both mental and physical perspectives (Environment and Health-European Environment Agency, 2023). Moreover, as philosopher Arne Naess' idea, theorized in the concept of Ecosophy, reminds us, it is necessary to understand that the anthropocentric view of nature is wrong. In fact, the human species must pose as part of the whole since human beings are not separate from nature but are connected with it (Naess, 1984).

To understand some aspects of this advancement towards a new approach to design, and thus define a more holistic view in the design field, a study is presented in this contribution that tries to define the methods of such a new approach, with the help of a system equipped with Artificial Intelligence.

## 2. The More-Than-Human Centered Design Approach

This current of thought has given rise to a new paradigm that to date can be found in the literature under different terminologies such as More-Than-Human Centered Design (MTHCD), More-Than-Human Design, Post-Human Centered Design, Post-Anthropocentric Design, and others. This lack of official definition is due to the fact that a paradigm is based on a specifically defined foundation. In fact, the foundation originates the archetype which, in turn, determines the scientifically recognized executive pattern (Kuhn, 2009). For this reason, it is necessary to consider that even this fledgling discipline of MTHCD needs a phase related to the definition of a theory (Braidotti & Hlavajova, 2018). In addition, it was necessary to understand what topics were, nowadays, most relevant to MTHCD. A literature review study (Vacanti *et al.*, 2022) identified some of the fields that belong to more than human design, that is, considering other elements besides the human subject. There were four fields identified and they were tagged, by the authors of the study, with the following tags:

a) Species and nature: involves design from an ecosystem perspective by considering multiple actors - or agencies - belonging to the same domain and not just creating benefits for humans.
b) City making: involves design for cities with a focus for urban spaces by making sustainable choices.
c) Technology: involves design with the goal of potential human capabilities with the use of smart elements.
d) Social minorities: involves a design that considers more of the diversity of the human species with the goal of having a broader view of humans.

Conducting this study (of which data collection took two weeks) involved analyzing a total of 338 papers, searched over the 2010-2022 time period, within the Scopus, Google Scholar and Academia databases, by entering keywords relevant to More-Than-Human.

This study has certainly helped to define some of the main issues addressed in MTHCD perspective, but what remains to be discovered, since, as already mentioned, research regarding this topic is still at a theoretical state, are the methods by which the paradigm can be applied. In fact, as we have seen, while it is possible for Human Centered Design to conduct interviews and ask people what their needs are, the same cannot be put into practice with species other than our own. Therefore, in order to pursue the goal of maintaining a balance between human beings and all other living things around them, it is necessary to understand the needs of all nonhuman creatures, within a scenario involving human and nonhuman actors.

## 3. Research of More-Than-Human Centered Design methods using an Artificial Intelligence

In the wake of new digital computing tools, an AI was queried to see what such methods belonging to MTHCD might be, without assuming that the digital AI system could provide an accurate answer. ChatGPT is the tool that was used to carry out the study and try to see if, by treating the chatbot as a research tool, it had been possible to obtain a concrete help output. This Artificial Intelligence responds on the basis of knowledge no later than the year 2021, and works by training algorithms through reinforcement, i.e., machine learning and supervised by humans (Introducing ChatGPT, 2022). Currently, this powerful tool is already widely used in the world of design research, in fact, it is used to conduct user research, give feedback and generate design solutions ('Talent Garden - ChatGPT and UX Design', 2023). But before sending the main question to the system, namely, what are the methods for a MTHCD design, it was necessary to ask some run-in questions to understand how the system worked. In fact, the AI was asked, in English, what its opinion of the Human Centered approach was.

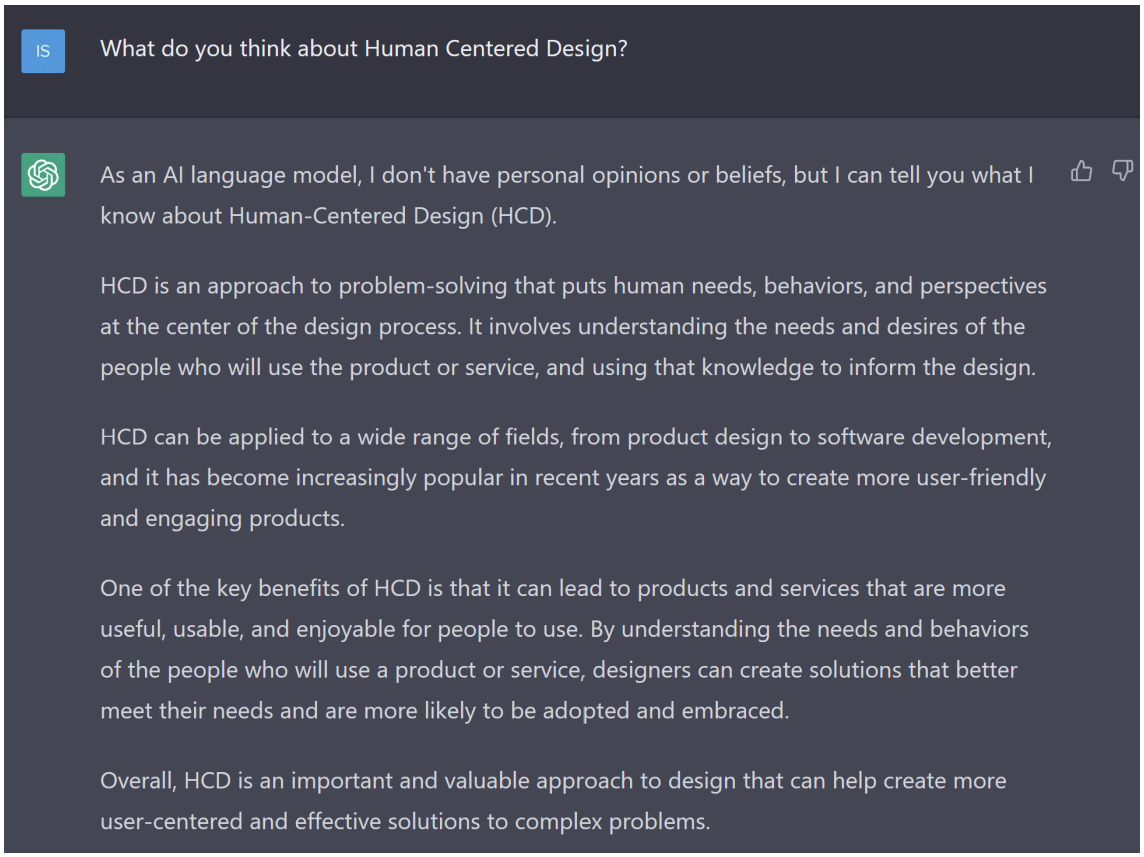

Figure 1

The first observation to be made is that the answer (Fig.1) certainly met the expectations of the Turing test (Turing, 1950), in fact, it seemed for all intents and purposes to be chatting with a human being, except for the first few lines, in which the chatbot explained that it was an artificial writing system. Secondly, it is appreciable that despite the imprecise question, the machine was still able to answer by giving correct information, even explaining HCD principles in a macroscopic way (Norman, 2019b), and defining what such a paradigm is and what it is used for. Then the next question "And what do you know about the new paradigm More Than Human Centered Design" produced another correct and well-articulated answer (Fig.2).

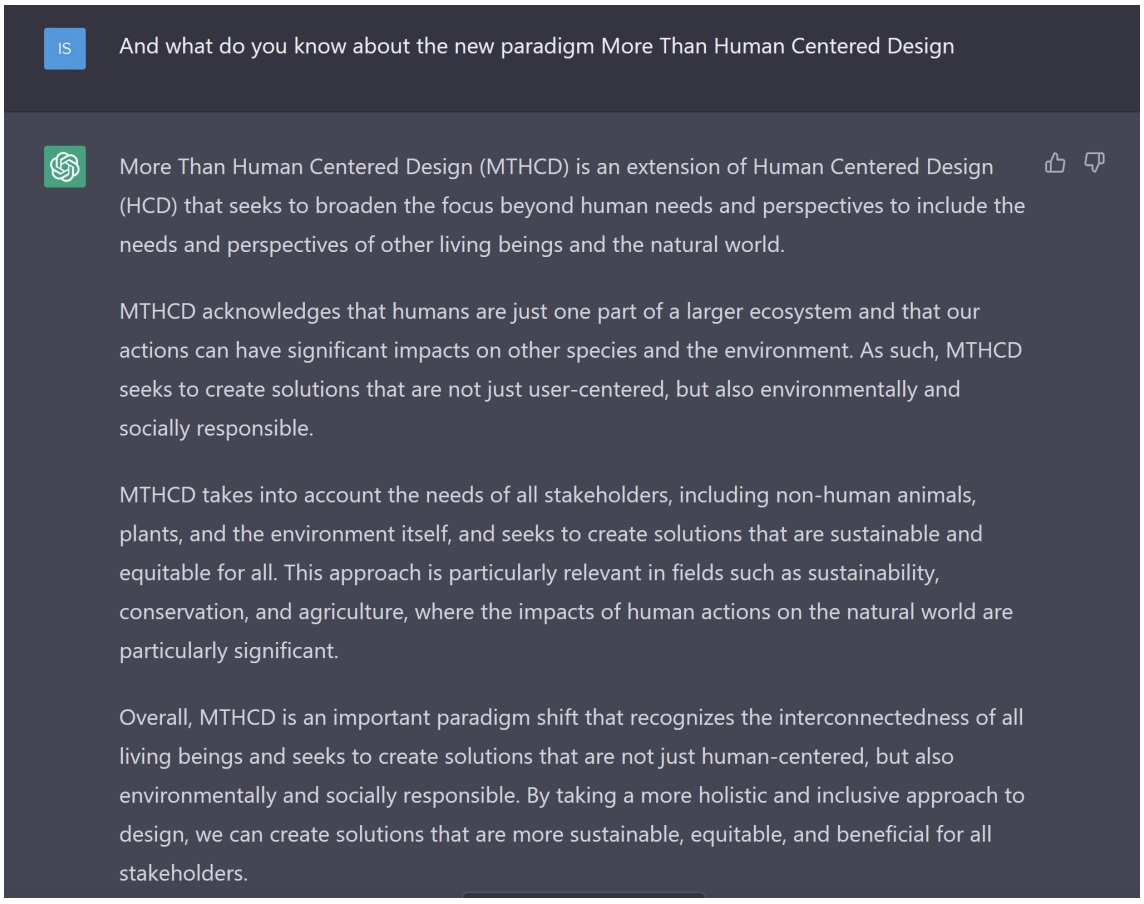

Figure 2

Having carried out these initial tests, in order to become familiar with the tool, it was finally asked, again in English, what are the methods for applying More-Than-Human Centered Design. The answer was very interesting, although not correct (Fig. 3). The output did not describe

methods by which data can be collected for understanding the needs of other species, but, in some cases, more or less specifically defined what were identified as themes within the literature review mentioned earlier. Item 5 in Figure 3, for example, fits perfectly with the theme regarding Social Minorities. Moreover, the issued list defines additional items that the chatbot also calls "approaches" and consequently cannot be defined as methods. Although item 1 and item 2, also from Figure 3, could be considered as methodologies that are based on empathy and observation of living elements, complete information on how to carry out such processes on a practical level is still not provided.

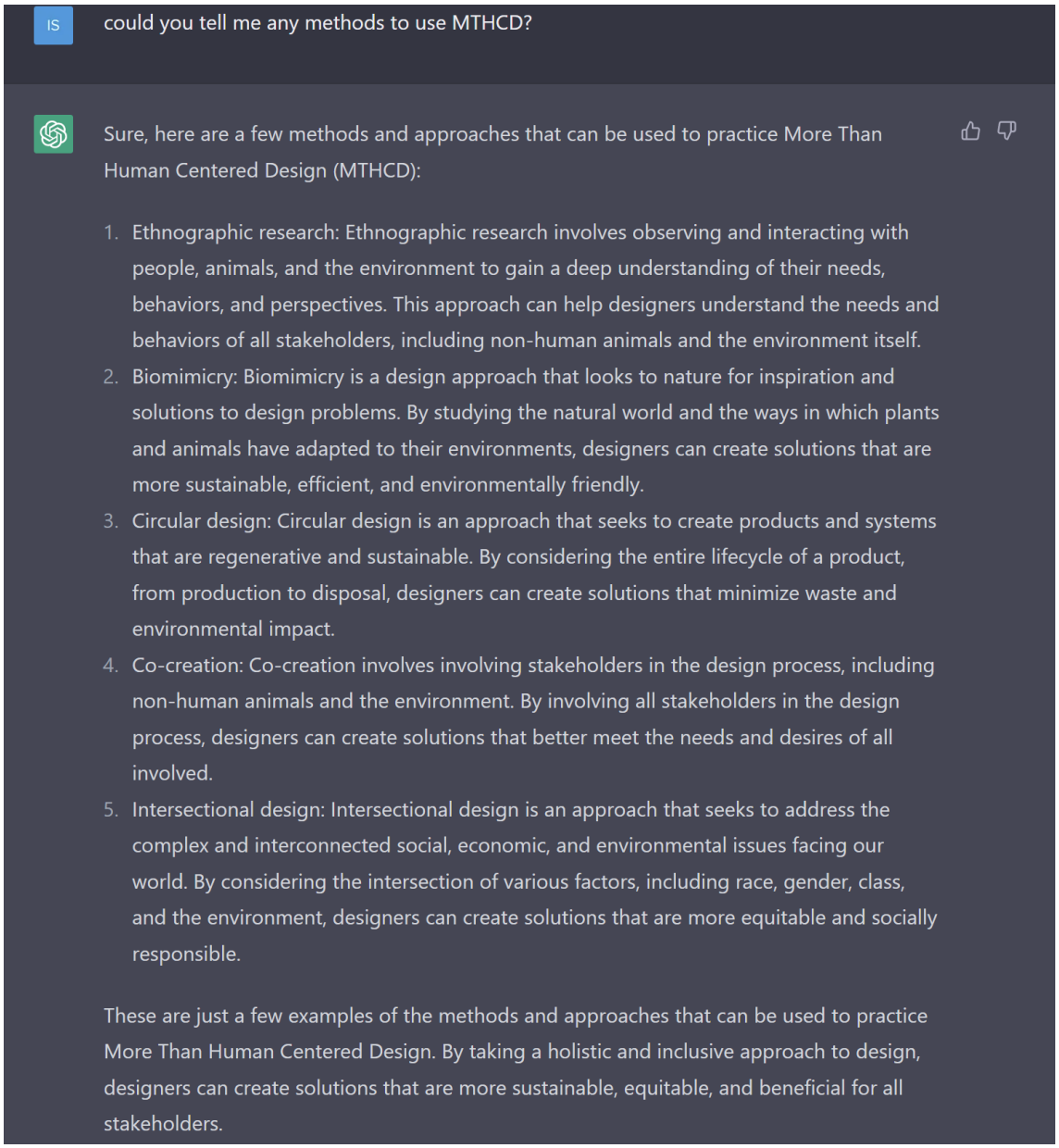


Figure 3

Although output was generated, the latter was not satisfactory because it did not perfectly answer what was asked. Therefore, it was experimented with by requesting the same thing, but in Italian "can you tell me the methods for using MTHCD?" (*puoi dirmi i metodi per usare il MTHCD?*) to the AI. Again the response was vague, in fact, there are no methods, but it is nevertheless interesting that the response, issued in Italian, did not produce a simple translation from English, but rather a series of key points like the first answer, with more or less different content (Fig. 4). In fact, again, we could argue that the points listed are principles, rather than methods, on which the MTHCD is based. Continuing the interaction in Italian, it was asked if the AI had been able to provide other methods, generating a new response with a new list (Fig. 5).

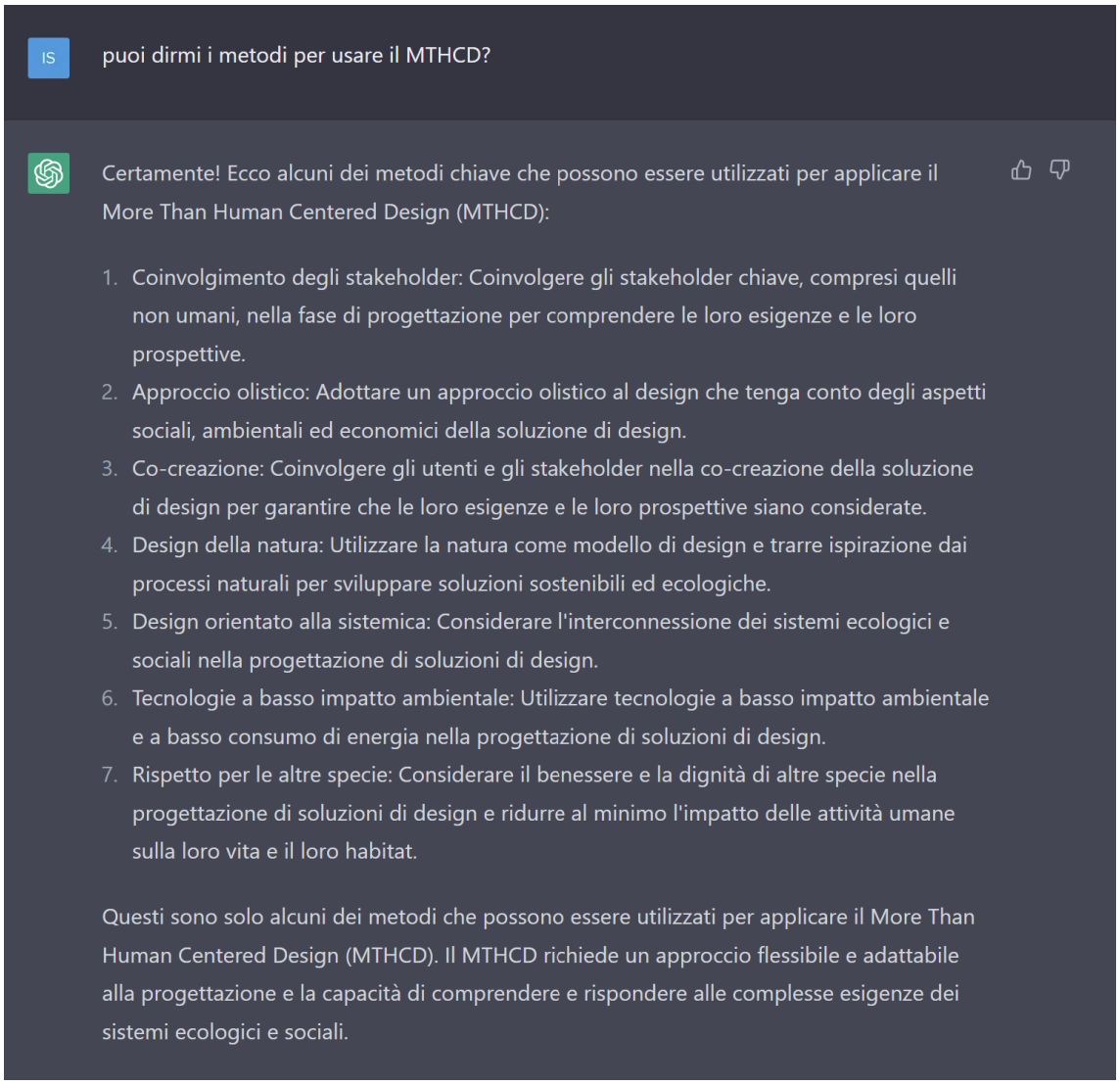


Figure 4

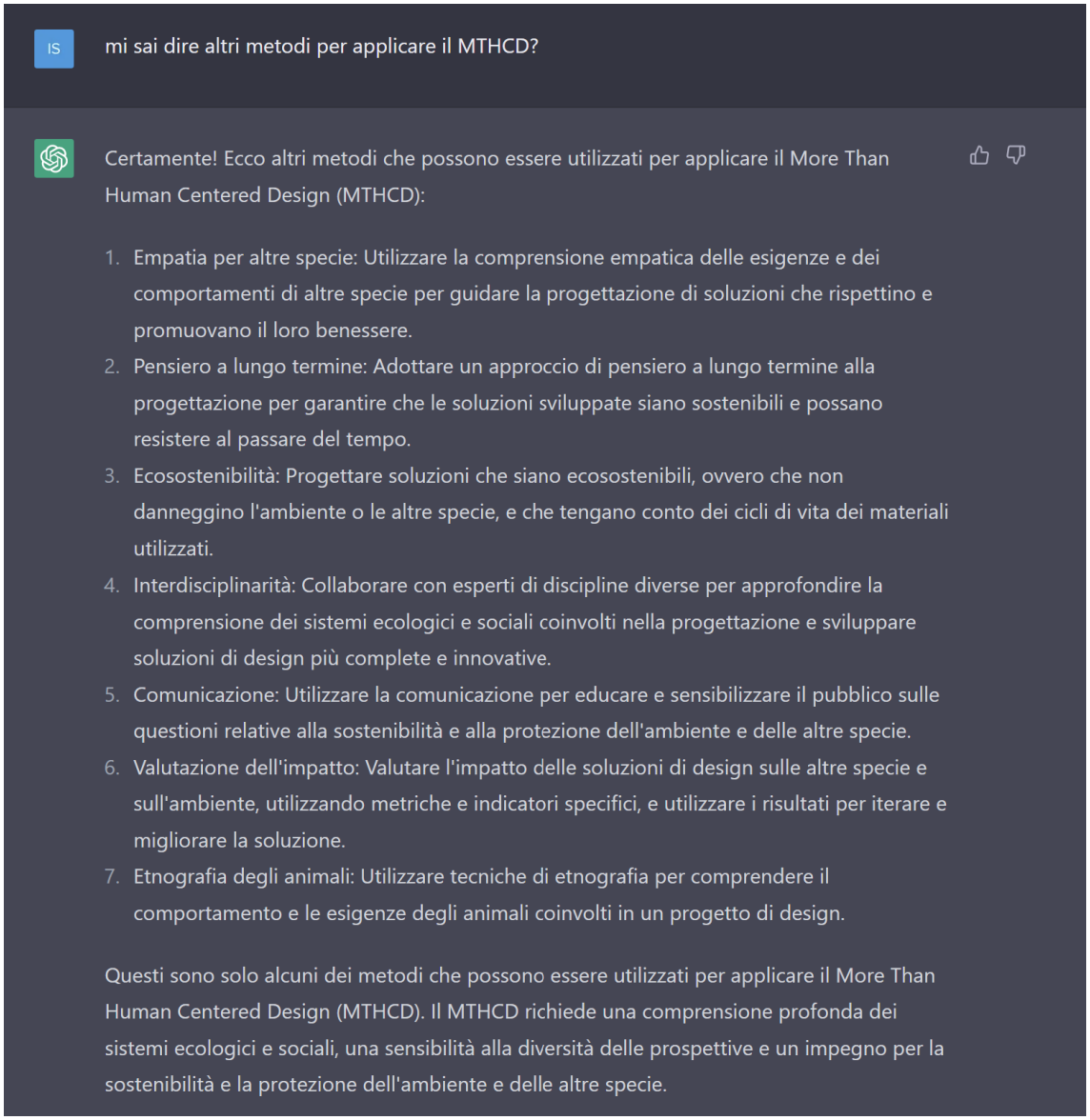


Figure 5

The result, this time, appeared even less specific, as if the system was running out of answers because the requesting user was not satisfied with the previous ones. This case study, supported by ChatGPT, continued with a question that could bring all these "methods" together. So the final and concluding question was, in Italian, "Can you tell me all the MTHCD methods that you know of?" (*Puoi dirmi tutti i metodi MTHCD che conosci?*). The list provided in response (Fig. 6) generated as many as 25 points, this time without explanation of each one as in previous responses, but defining a complete list of what the chatbot knows. To be sure that this answer was complete with all the "methods" known to the chatbot, the same question was asked again in Italian, producing the exact same result as in Figure 6. A further test was made, asking the machine if it

knew any other methods besides the 25 on the list, and the answer (Fig. 7) made it clear that knowledge on the subject was exhausted.

The fact remains that the output did not generate methods, but concepts that could define the basis for such methods of application of the paradigm under consideration.

Figure 6

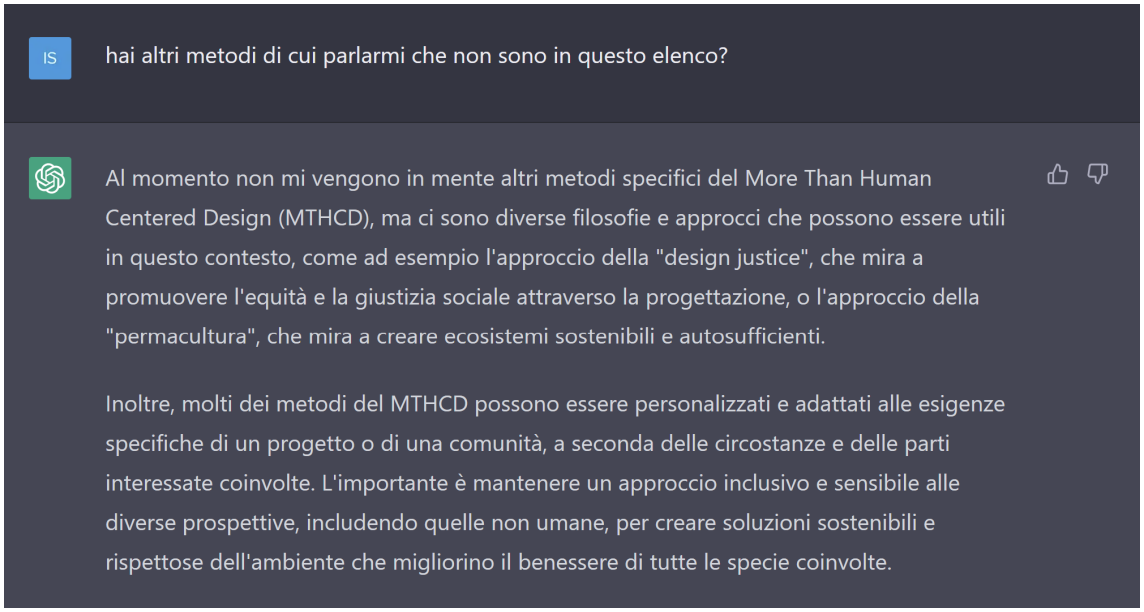

Figure 7

## 4. Conclusions

Following such a "chat" with the AI, it would be interesting to understand how many times it is necessary to ask the same question to the system, in order to get an identical answer at least once, with the aim of also understanding the limitations of the bot as a search support tool.

Also, following the next ChatGPT update regarding the corpus of data on which it is based, it will prove important to understand whether asking the same questions, will generate the same answers asked during the month of March 2023. This comparison will help in understanding the difference between what the system defines as the MTHCD "method" today and what will be defined as such at the next release. This information will help and support the scientific community that wants to keep abreast of this vast and unexplored topic. In addition, it is remarkable how similar results to those produced by a multi-day literature review were generated in a few hours, seeking, however, different answers. In fact, the purpose of the literature review was to catalog those scientific contributions that were available online, creating numerical values in order to quantify and get an idea of the most widely discussed topics in More-Than-Human Centered Design.

In the case of using the ChatGPT tool, instead, the goal was to identify the methods with which to apply the paradigm. An additional important result is surely the fact that the AI tool used can be supportive in understanding the as-yet-unknown methods, but not in knowing them specifically, as it

should be. The dialogue established between a living human being and a non-living machine, but one that is able to respond because of the body of scientific information it relies on, is of considerable interest in stimulating the research of the scholar who decides to use the AI system to pursue research in science. Thus, it emerges that the ChatGPT chatbot cannot replace the research carried out by a human being, but can, however, be considered as a very useful supporting technological tool.

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