Originating from the field of cultural geography the term more-than-human (Whatmore, 2006) is increasingly being used to promote a shift from largely anthropocentric perspectives to one that acknowledges our relationships within complex ecological assemblages. This challenge to anthropocentric practices has also emerged in design and while some have used it to explore our relationships with non-human organic actants (Galloway, 2020, Westerlaken, 2021), in this paper we draw from Ian Bogost's proposition of Alien Phenomenology (2012), which is derived from Harmans conception of Object Orientated Ontology (2005), and enables us to broaden the scope of more-than-human to include much wider range of perspectives whereby an actant could be almost anything within such assemblages for instance: humans, birds, soil, algorithms, infrastructures, regulations, business models, values, etc. Whilst this philosophy provides an alternate ontological perspective for considering complex assemblages of human and nonhuman, as designers we primarily want to know how to put this theory into practice. In OOO, ontography is the examination of ontographs or collections of ontological modalities as possible relationships an object(s) may take. Bogost suggests a perspective of ontography as a record of the "things within" (2012). This recording of objects can then be defined further by their "collocation" to not only the things within the ontograph, but also those around it (2012). Here, it is also useful to draw on Karen Barad's consideration of agency not as a property but as something which emerges from how entangled agencies relate to each other (Barad, 2007). Therefore, ontography allows us to map relationships between human and non-human actants and highlight both their interdependent relationships and consider their independent perspectives. For example, tire manufacturer Continental worked with ANYbotics to present a speculative vision of last metre robotic package delivery by combining autonomous legged robots with selfdriving shuttles at the Consumer Electronics Show in 2019¹. Whilst a speculative vision it was based on current and near future technologies and presents a seamless vision of an efficient future. To enable a deeper exploration around its potential we can produce a speculative ontograph of how the system might be built and operated as shown in Figure 1. This enables designers to ask questions that go beyond the surface of the proposition (simply a novel way of delivering packages) and consider the broader viewpoint such as embodied carbon in terms of environmental impact, energy use, consumption of natural resources, and logistics, alternatively it could reveal answers to questions such as what data does it collect, how is the data used, and who has access to the data? And how can we enable citizens to adapt such systems for their own needs? Thus, speculative ontography allows designers to practical shift perspectives from a largely One-World World (Law, 2015) view towards enabling a world of many worlds in which adaption by human and non-human actants could take many forms. This paper goes on to reveal the insights that have been uncovered by the speculative ontograph, describing an interactive and experiential installation that permits users to explore their future relationship with personal data. The installation or mobile research platform, shown in Figure 2, mimics a smart home setting but goes further to make tangible the ordinarily intentionally seamless and obscured interactions that users have with technology, thus the experience imbues users with agency and negotiability regarding their smart technology.

Keywords: more-than-human design, object orientated ontology, design futures,

¹ https://www.anybotics.com/robotic-package-delivery-with-anymal/

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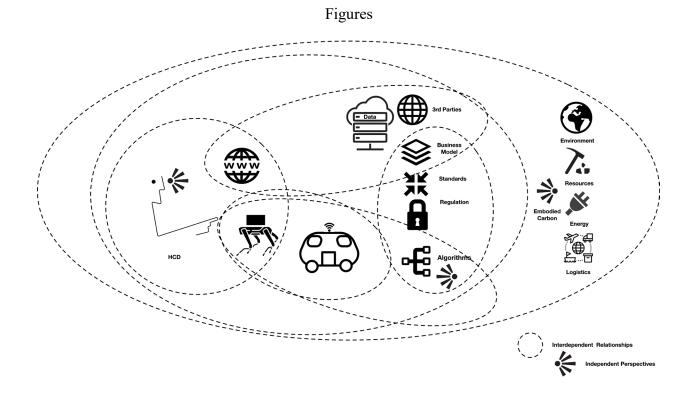


Figure 1. Alternate Ontological Perspectives of Dog Drone Delivery System.



Figure 2. Inside View of Future Mundane Caravan, the Mobile Research Platform.