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探索与过程

科技的人性化演进

专栏编辑

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在《为人的设计》一书中，亨利·德雷夫斯写道：“当产品与人之间的接触点成为摩擦点时，‘设计师’就失败了。反之，当人们通过使用产品而感到更加安全、舒适，对产品更有购买欲，工作和生活更加高效——或仅仅更加快乐——那么设计师便成功了。”^[1] 德雷夫斯认为，设计师的目标是指出存在于人类-技术关系中的“摩擦点”，以便重新设计二者的交互模式，并改善用户的产品体验。因此，设计师必须既了解技术系统的复杂性，也懂得用户在身体、智力和情感方面的诉求。尽管书写于第二次世界大战后技术飞速发展对社会产生巨大影响的背景之下，德雷夫斯这一60余年前的论著对于探讨当代人与技术之间的关系仍具借鉴意义。二者之间的关系不再被视为一方施控于另一方的“侍奉与主宰”的关系，而更多的是一种双方相互依存、转化和增强的共生关系。在设计和技术领域，关注人的需求成为了一个重要趋势。其强调人的作用，将技术视为回应人类需求的手段，并试图催生诸如人工智能等技术与人类之间的协同关系，譬如将技术所具有的即时收集和分析信息的能力与人类所具有的整体而抽象的本能智慧相结合。^[2] 在本期的两个项目中，设计师致力于在新兴技术的应用潜力和利用这一潜力造福人类的能力之间搭建桥梁，以使设计成为弥合技术与人类价值的媒介。

在《坦桑尼亚农用无人机》一文中，WeRobotics联合创始人、创业总监索尼娅·贝查尔特分享了她通过数字技术和设计思维方法促进创新的努力。WeRobotics是一家总部位于美国和瑞士的非政府组织，其致力于为发展中国家以及多灾国家的当地社区创造可利用机器人技术实现社会效益的未来，进而加速和扩大救援、医疗、开发以及环境治理工作的积极影响。WeRobotics的第一个无人机农业项目位

于坦桑尼亚，并与国际食物政策研究所（IFPRI）和美国马里兰大学开展合作。该项目试图利用多光谱无人机数据对卫星数据进行地面实况普查，以帮助小型农场实现更为有效的收获前农作物损失评估。无人机操控员能够采集到卫星难于甄别及获取的本地环境特征。在与当地利益相关方接触的过程中，项目团队能够更加了解他们的需求，并利用高清空中数据探寻相关问题的解决方法。

在《推进沉浸式数据交互的虚拟现实技术》一文中，来自芬兰阿尔托大学景观设计与都市主义计算方法研究室的皮娅·弗里克教授介绍了她尝试在设计过程中建立视觉传达与数据分析之间联系的努力。弗里克指出，在智能建筑行业中，虽然混合现实工具在检验设计决策的过程中得到愈来愈多的应用，但目前仍缺乏将该技术应用于以人为中心的数据交互和空间感知的相关研究。与那些关注于优化虚拟现实（VR）3D可视化和VR导航的研究者不同，弗里克及其团队致力于开发一个基于VR和增强现实的创新性多学科平台。该平台可使景观、城市和规划项目的设计者以及未来使用者积极理解虚拟环境中的隐藏层（数据集），并与之进行交互，使他们以一种更加互动的方式介入设计过程，从而创造更美好的现实环境。

透过公益创业的视角，贝查尔特倡导机器人技术的本土化，以更好地开展基于社区的人道主义工作；透过设计教学的视角，弗里克将人置于数字环境的中心，以开辟新的参与式设计过程。这两个项目并非致力于开发更为先进的技术，而是将关注点集中在协调人与技术之间的关系，以寻求更加人性化的未来。

EXPERIMENTS & PROCESSES

THE HUMANIZATION OF TECHNOLOGY

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In *Designing for People*, Henry Dreyfuss wrote “when the point of contact between the product and the people becomes a point of friction, then the ‘designer’ has failed. On the other hand, if people are made safer, more comfortable, more eager to purchase, more efficient — or just plain happier — by contact with the product, then the designer has succeeded.”^[1] Dreyfuss posits that the designers’ goal is to identify points of “friction” within any given human-technology relationship with a view to refashion their interaction and improve the user’s experience with the product. The designer must understand both the complexity of the technological system, and the physical, intellectual, and emotional requirements of the users. Written some 60 years ago in the context of rapid post-war technological change and its impacts on society, Dreyfuss’ writing is surprisingly relevant to today’s conversation about our contemporary human-technology relationship. This is no longer regarded so much as a “servant and master” relationship where one element imposes on the other, rather it is increasingly seen as symbiotic, where both elements live together interdependently, and are transformed and enhanced by one another. One important trend in the design and technology field is the humanization of technological design, which centralizes the role of people and regards technology as a means of addressing human needs. Such an approach aims to create a synergistic relationship between technologies such as Artificial Intelligence and humans, for example by combining technology’s ability to instantly collect and analyze information, with our human intelligence that can apply a holistic, abstract, and intuitive approach to problem solving.^[2] As designers strive to bridge the gap between the potential of emerging technologies and our ability to harness that potential for the good of humanity, two projects in this issue point the way for design to serve as a mediator between technology and human values.

In *Drones for Agriculture in Tanzania*, Sonja Betschart, co-founder and chief entrepreneurship officer of WeRobotics, shares her efforts in facilitating innovation through digital technologies and design thinking methods. WeRobotics is a U.S. / Swiss based NGO that strives to create a future where local communities in developing and at-risk countries can use robotics for social good, accelerating and scaling the positive impact on aid, health, development, and environmental initiatives. In collaboration with the International Food Policy Research Institute and University of Maryland, WeRobotics’ first drone agriculture project in Tanzania showcases a joint

effort in using multispectral drone data to ground-truth satellite data for pre-harvest loss assessment of smallholder farms. Drone operators are able to capture the local context along with local idiosyncrasies that cannot be registered by satellite. Engagement with local stakeholders allows the project team to learn more about their needs, and develop ways to address problems using high-resolution aerial data.

In *Virtual Reality for Immersive Data Interaction*, Pia Fricker, Professor for Computational Methodologies in Landscape Architecture and Urbanism at Aalto University, Finland, introduces her initiative to bridge the gap between visual representation and data analysis in the design process. Fricker points out that although mixed reality tools are increasingly used to review design decisions within the smart building industry, there is a lack of research on human-centered data interaction and spatial perception. Instead of focusing on optimizing 3D visualization and navigation in Virtual Reality (VR), Fricker and her team devote their efforts to the development of an innovative multi-disciplinary platform in VR and Augmented Reality. This enables both the designers and future users of landscape architecture, urban design, and planning projects to actively understand and interact with the hidden layers (datasets) of the site, empowering them to play a more interactive role in the design process and enhancing our future wellbeing.

Through the lens of social entrepreneurship, Betschart advocates the localization of robotics technologies to support community-based humanitarian efforts. Through the lens of design pedagogy, Fricker positions human elements at the center of the digital environment to open up new participatory design processes. Rather than simply developing ever more advanced technologies, both projects address how to facilitate relationships between people and technologies, in the quest for a more humane future.

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