Designing Machines with Humanity in Mind | Superintelligence, Relativism, and Simulation with John Borthwick

September 18, 2017   "Reality exists in the human mind and nowhere else." – George Orwell

John Borthwick is CEO and co-founder of Betaworks. Betaworks is an internet studio that builds and invests in companies across the social, data-driven media internet. Companies that betaworks has built include Giphy, Dots, bitly and Chartbeat, betaworks acquired and re-launched Digg and Instapaper. Betaworks investments include: Kickstarter, Tumblr (acquired by Yahoo), Summize (acquired by Twitter as their search engine), IFTTT, OMG Pop (acquired by Zynga), Tweetdeck (acquired by Twitter), along with 100+ others. Prior to betaworks John was Senior Vice President of Alliances and Technology Strategy for Time Warner Inc. John's company, WP-Studio, founded in 1994, was one of the first content studios in New York's Silicon Alley, it was acquired by AOLTW. John holds an MBA from Wharton (1994) and an undergraduate degree BA in Economics from Wesleyan University (1987). He sits on the board of WNYC, Data and Society, and Rhizome at the New Museum.

This awe [of a technological future] is leading to a tilt in our culture. The digital republic of letters is yielding up engineering as the thinking metaphor of our time. In its wake lies the once complacent, now anxious, figure with a more literary, less literal, cast of mind. – Ziyad Marar

We are not descending not into chaos, as many believe, but into complexity. At the same time that the Internet connects everything outside of us into a vast, seemingly unmanageable system, we find an almost infinite amount of complexity as we dig deeper inside our own biology. Much as we're convinced that our brains run the show, all while our microbiomes alter our drives, desires, and behaviors to support their own reproduction and evolution, it may never be clear who's in charge — us, or our machines. But maybe we've done more damage by believing that humans are special than we possibly could by embracing a humbler relationship with the other creatures, objects, and machines around us … - Joi Ito
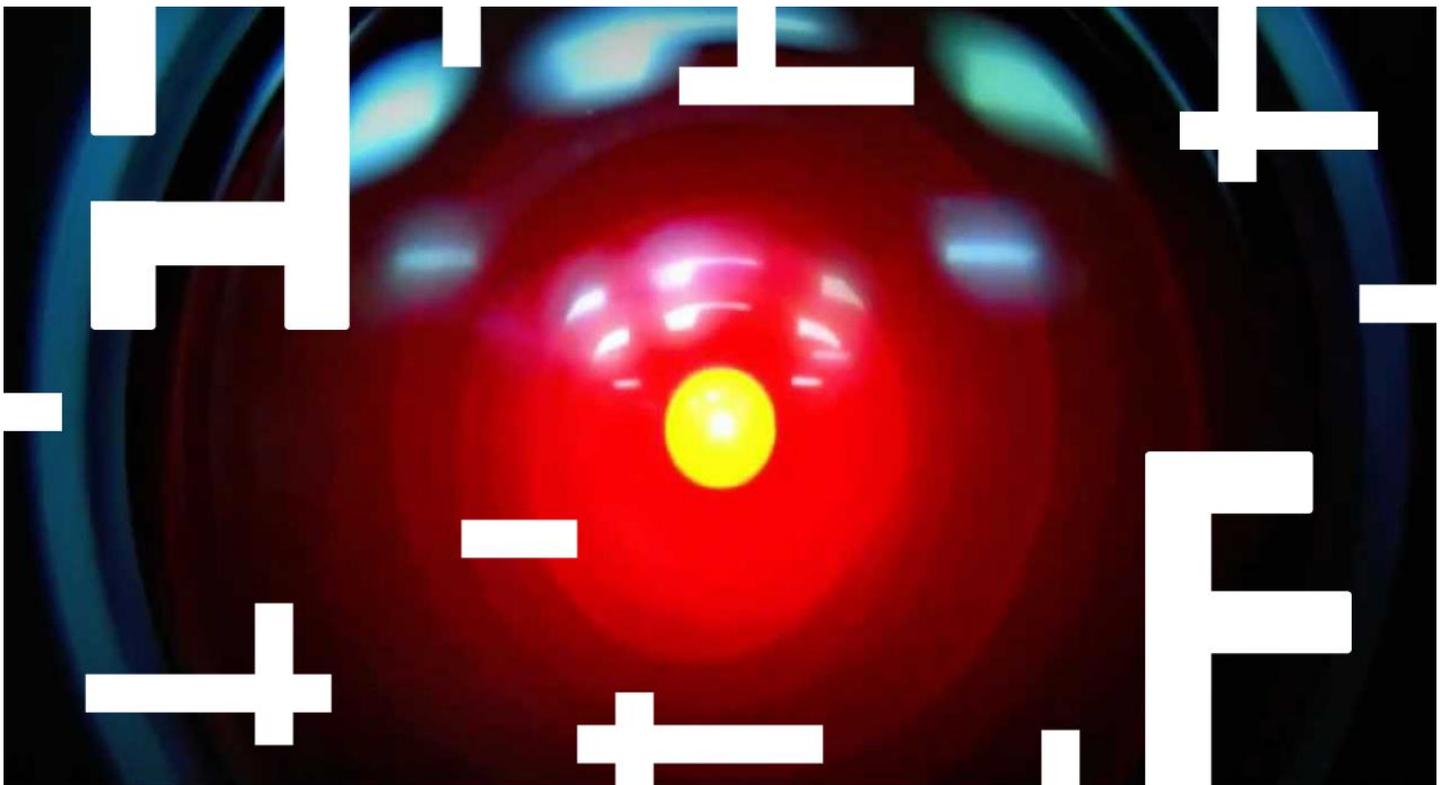
- Future of Humanity in the Digital Age
- Future of the Human Experience - Augmented Reality - Virtual Reality - Haptic Feedback - IoT - Narrow vs. General A.I. - NLP & NLU
- Future of Work - What is the Value of the Human Being?
- Future of News - How do we define Truth in the 21st Century? (Fake and Synthetic News)
- Future of the Human Body (Bionic Revolution)
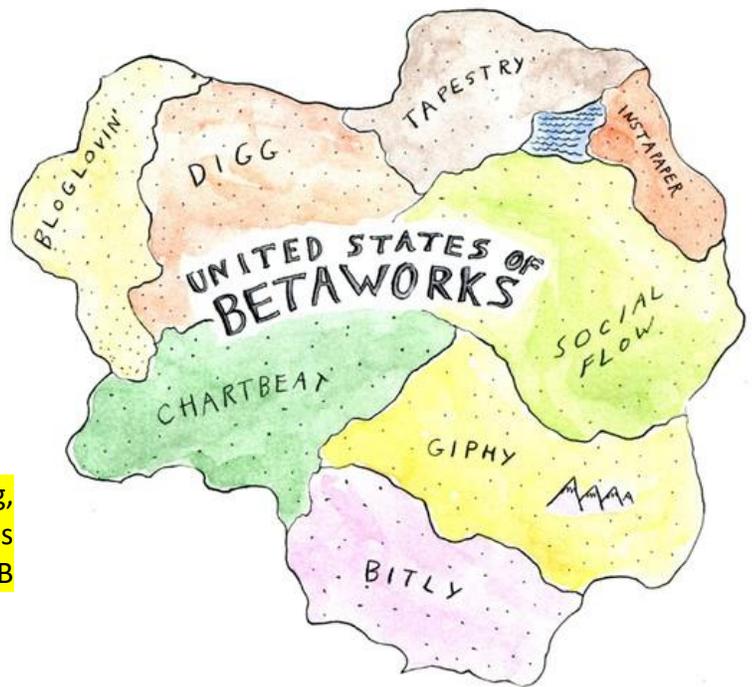
"Computers are no longer that "other" thing, that "other" object. The line between machines and humans is becoming indistinguishable." – JB

BETAWORKS DOES 3 THINGS:

1. Build companies from ground-up (1–3 per year)
2. Accelerate companies in specific thematic areas (8–20 per year)
3. Make seed & pre-seed stage investments (12–15 per year).

Betaworks Ventures is a venture capital fund that they launched last year, which invests across all of these areas.

Conversational interfaces, which includes voice first products. and text-based computing, chatbots, AI, messaging-as-a-platform and NLP; Examples the fund has invested in are Shine, Poncho, Dexter, Hugging Face and Dirty Lemon.

The reason they are able to work in this manner with 30+ companies per year is that they dive deep into specific theses and themes, and then build, accelerate, and invest around those categories. They did this with early social media, mobile apps, and more recently with conversational software, voice/audio-first products, and AR/VR. What ties these categories together is their deep interest in improving how technology affects human interactions.

Spatial computing, which includes virtual reality, augmented reality, computer vision, and camera-first applications and services; Examples include Rec Room (Against Gravity) and Viro.

Native media, which includes podcasting and social audio; Examples include Gimlet Media, Me.me, and Anchor.

Playable media, which includes eSports and game streaming; Examples include Boom.tv and CHKN

Emergent Behavior in Legacy Ecosystems, which includes innovation within more mature markets such as social, mobile, and real-time data. Examples include Remote Year, Workflow, and Pingboard

QUESTIONS:

1. **Background Story** — What is your story? What's the story of John Borthwick before Betaworks?
2. **Silicon Alley** — How has NYC changed since you started Betaworks ten years ago?
3. **Breakdown Betaworks** — So, what is Betaworks? What is it that you want to achieve and how is that reflected in Betaworks' mission? How are you executing on that mission?
4. **The Future** — Few can envision the future. Fewer still can influence the form it will take or make accurate predictions about what it will look like. You admitted to drastically overestimating the innovation cycle during the early Internet. Do you think you can do a better job anticipating the next 10 or 20? I imagine that VR/AR (perception altering technologies that convert information into something altogether, experientially new), A.I., sensory technologies that expand the data set, bionics, genomics & big data, flexible manufacturing, will play a dominant role.
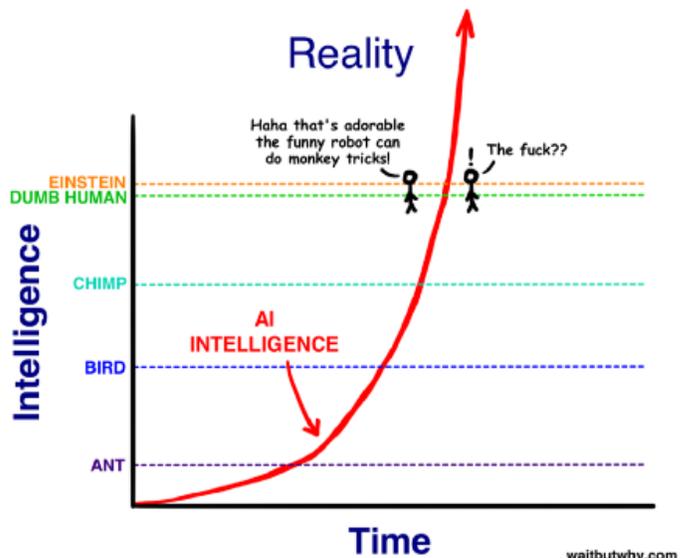
Natural language processing (**NLP**) is a field of computer science, artificial intelligence, and computational linguistics concerned with the interactions between computers and human (**natural**) languages.

a. **Free Will:** What will happen to human autonomy? There is much debate in the philosophical community about whether or not we even have free will to begin with.

These victories have lulled people into assuming that thinking machines are around the corner or inevitable. I don't believe that. It's not a matter of degrees between processing data and symbols to understanding meaning. - JB

   i. **Authority and Freedom:** This leads to the question of freedom and where authority lies. How important are technologies built off of peer-to-peer consensus algorithms and protocols like blockchain and other types of permissionless database architectures in promoting and protecting individual freedom? There are those who argue that "the individual" is a fiction, and that therefore, we should not be too concerned about protecting the vestigial architecture of the human mind (i.e. the ego)

   ii. **Memory and Trust:** As human memory is augmented by the network, what do memories and trust mean? Watch the "Entire History of You" episode of Black Mirror to see what "perfect" memory can look like.

   iii. **Self:** How will our sense of self evolve, assuming we can protect the integrity of self from a technological perspective?

   iv. **Truth:** What is truth? How do we define truth in an age of algorithms? Will truth lose all meaning, to the point that it won't matter to most people what truth is? (the complete cooption of sensory experience)

Natural language understanding (**NLU**) is a subtopic of natural language processing in artificial intelligence that deals with machine reading comprehension. NLU is considered an AI-hard problem.

b. **Morality:** How do we bound decision making and construct a moral framework for autonomous machines? If you go back to Asimov's Laws of Robotics, autonomous drones are already in violation of Law 0 & 1.

c. **Machine Ethics:** What is your perspective on the proverbial hard problem of consciousness first coined by Chalmers? What do you consider to be the nature of reality? Do you think we need a theory of mind? Do you believe one is even possible? Some think we need to know if machines can develop consciousness and are concerned with "machine ethics."

Reality

Haha that's adorable the funny robot can do monkey tricks!

The fuck??

EINSTEIN
DUMB HUMAN

CHIMP

AI INTELLIGENCE

BIRD

ANT

Intelligence

Time

waitbutwhy.com

d. **Language & Complexity:** I've heard you talk about these two in philosophical terms.
e. **The Humanities:** You have said that you believe "it's vital to bring the humanities into the discussion and the design of technology," and that, "while the humanities have often led to the evolution of culture, today they trail it." What is the role for the humanities? How have the fallen behind? Where do you see technology impacting culture in ways that are altogether new? Seems to me we saw this with the Industrial Revolution as well.

***What do you think the goal should be for these new, most powerful technologies like AR/VR and AI? The goal *for us*, that is. *Not* the goal for the machines.

***Hubris vs. Complacency - Your interpretation of the story of Icarus and the advice his father Daedalus (Δαίδαλος) gave him about not flying too low or too high. How does this dilemma present itself in your work and thinking, and what do you believe the dangers are of both of these with our development and adoption of technology as a whole?
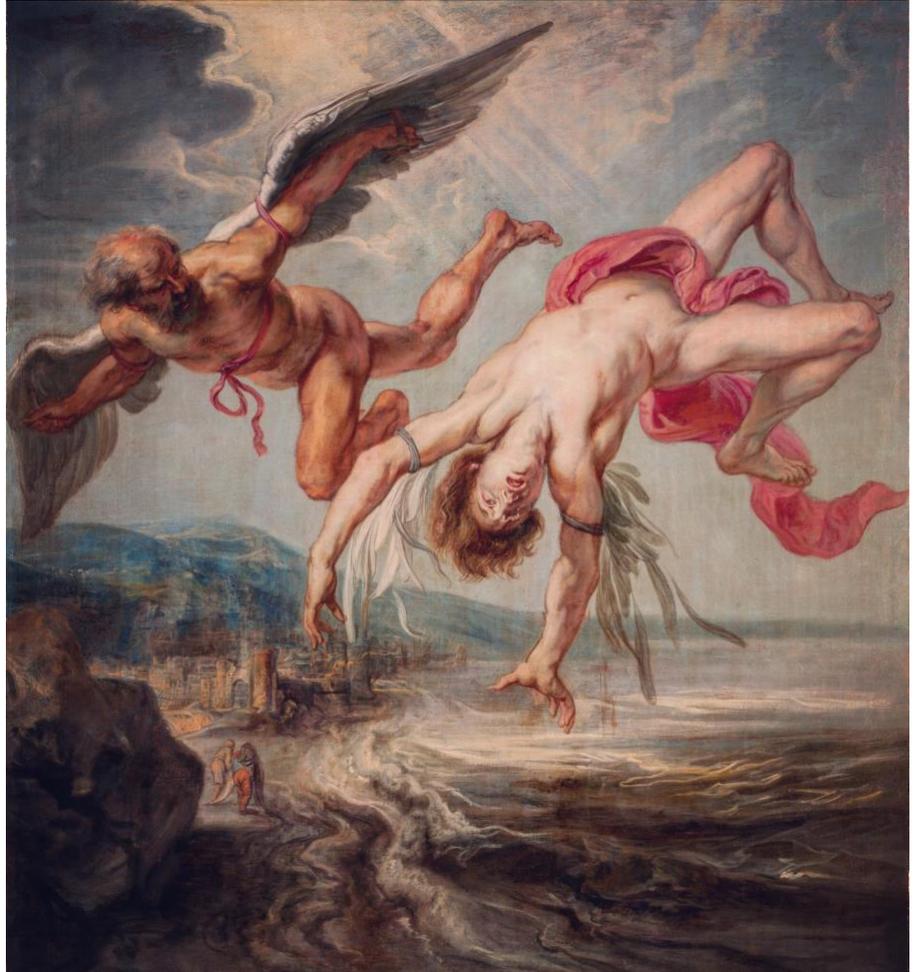
5. **Future of News —** Are there any companies or initiative that excite you? What do you think the opportunity is?
    a. **Business Model —** Innovating on the business model – role for subscription? Any other interesting business models for news? Is there a place for non-profits?
    b. **Content —** Innovation on the narrative and learning side?
    c. **Technology —** Is there an opportunity at the intersection of unscripted content, educational and data visualization technologies that can accelerate learning?
    d. **Disruption —** What is the place of the platforms in all of this? Might complacency on their part lead to newcomers in the space who may disrupt a company like Facebook?
6. **VR Companies & Initiatives —** Are there any VR initiatives or companies that really excite you? Is anyone doing anything really groundbreaking that you've taken particular notice of? What are the really great opportunities for company's and entrepreneurs to harness this technology (example of Rosetta Stone).
7. **Autonomous Driving Vehicles —** Is it going to take much longer for people, processes, laws, regulations and infrastructure to catch up to the opportunity? Question of moral framework comes back in this case. How much is a human life worth? How

"We can either control our experiences and our relationship to our devices, or those devices will control us." – JB

(a man in middle age is worth more than a child in law suits)

8. **The Singularity** — Let's get into all the Bostrom stuff. Goal setting, for sure…
9. **Bionics** — Let's talk about it!
10. **Bots** — You've expressed an interest in Bots. Can you explain to our audience what a bot is, because there are many types of bots, and where they are having and will have, the largest impact?
11. **Net Neutrality** — What's the state of Net Neutrality? Do you think the Trump administration is serious in its efforts to reverse Title II, which protects net neutrality by regulating against paid prioritization?
12. **VC Model** — What is right or wrong with the current model? Are there solutions to major societal problems out there that can't get adequate attention or funding within the current paradigm?
13. **Apple** — What do you think of what Apple has done in the last five years? What do you think of the Apple Watch and what about the latest Apple X? There is a great deal of excitement in the medical community around the data that some of these wearables are creating and how it may help with what computational biologist and mathematicians are doing in Big Data Medicine.