

I do not understand the physics behind it, but I understand what I must do.¹

The proposal is to construct a formalisation of a large part of ordinary everyday knowledge of the physical world.²

Interfaces as Pets. Computer-human interface (moving from computers to humans) is difficult to bring off. Better to go the other way: start with humans. Begin with what people want around them: "nurturing," "fun." Remember that 80 percent of communication is non-verbal. Don't try to make interfaces friendly. Instead, start with friendly things and make them smart!

- 1 Søren Qvist Jensen, Andreas Fender, and Jörg Müller, "Inpher: Inferring Physical Properties of Virtual Objects from Mid-Air Interaction," lecture, Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, Montreal QC, Canada, April 21-26, 2018.
- 2 Patrick J. Hayes,
 "The Naive Physics
 Manifesto," Université de Genève,
 Institut pour les
 études sémantiques
 et cognitives,
 Working Paper 34,
 1978, 2.
- 3 Michael Harris et al., "Natural and invisible human interfaces," SIGGRAPH Conference Abstracts and Applications 1999, 127-129, 128.
- 4 Otto Lipmann and Hellmuth Bogen, Naive Physik. Arbeiten aus dem Institut für angewandte Psychologie in Berlin. Theoretische und experimentelle Untersuchungen Über die Fähigkeit zu intelligentem Handeℓn (Leipzig: J.A. Barth, 1923). See also the short overview by Rudolf Arnheim, "Rezension zu Lipmann, Otto und Hellmuth Bogen: Naive Physik, Leipzig: J.A. Barth 1923," Psychologische Forschung. Zeitschrift für Psychologie und ihre Grenzwissenschaften vol. 9, (1927): 194, and on Bogen, Walter Benjamin, "Karussell der Berufe," in Walter Benjamin Gesammelte Schriften, vol. II.2 (Frankfurt am Main: Suhrkamp, 1980), 667-676.

Naive Physics. Gestures of Intuition

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1 'Naive Physics'

The formula Naive Physik is a quotation—it originated from a discussion of the term 'intuition' as it was framed in classical modernism. In 1923, two psychologists, Otto Lipmann and Hellmuth Bogen, published a monograph with a title that combined naivety with physics, of all things.4 The book has two subtitles. The first links the project to the Institut für angewandte Psychologie in Berlin (Institute of Applied Psychology in Berlin), which Lipmann co-directed with differential psychologist William Stern; the second, Theoretische und experimentelle Untersuchungen Über die Fähigkeit zu intelligentem Handeln (Theoretical and Experimental Studies on the Ability for Intelligent Action), reveals their genuine focus.