

# فهرست منابع

## ادعایی علیه واقعیت

چرا تکامل حقیقت را از نگاه ما پنهان کرد  
نوشته دونالد هافمن / ترجمه معصومه ملکیان

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نکته: مخاطب گرامی برای افزایش جلوگیری از حجم کتاب و قیمت گذاری بهتر، بخش منابع کتابها از این پس در وبسایت بارگذاری خواهد شد. شایان ذکر است، مواردی که نویسنده در بخش منابع و یا یادداشتها توضیحاتی ارائه کرده مستثنا از این قاعده است و ترجمه توضیحات در کتابها آورده شده‌اند. فایل داندودی، صرفاً ارجاعات لاتین به مقاله‌ها و... را دربر می‌گیرد.

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۴۲/	پیوست بلی: حق اشتباه بودن

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2. Plato, *The Republic*, Book VII.
3. بنابراین، فضازمان اصطلاحی است که از فیزیک گرفته شده است. از این اصطلاح زمانی استفاده می‌کنم که بخواهم روی مسائل فنی برگرفته از نظریه اطلاعات و فیزیک تأکید کنم. "فضا" و "زمان" را، هنگام تأکید روی آن‌ها به‌عنوان جنبه‌های مجزای تجربه‌های ادراکی‌مان، جدا از هم به کار می‌برم.
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6. This refers to *The Matrix*, a movie in which the protagonist's choice between a red pill and blue pill alters his fate.

## معما

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۲۳. ممکن است کسی با نظریه اطلاعات یکپارچه تونونی که چنین قوانینی را پیشنهاد می‌کند، مخالف باشد (Oizumi, M., Albantakis, L., and Tononi, G. 2014. "From the phenomenology to the mechanisms of consciousness: Integrated information theory 3.0," *PLOS Computational Biology* 10: e1003588). اما این‌طور نیست. این نظریه هیچ قانونی برای تشخیص تجارب خاص آگاهانه، از قبیل طعم شکلات، مرتبط با انواع خاصی از فعالیت مغز ارائه نمی‌دهد. هیچ قانونی درباره این که چگونه نوع خاصی از تجربه باید با تغییر فعالیت مغز تغییر کند، ارائه نمی‌دهد. همین مسئله در مورد نظریه‌های کارکردگرایی تقلیل‌دهنده ذهن - که حالات ذهنی (از جمله تجارب آگاهانه) مرتبط با فرایندهای کارکردی سیستم‌های محاسباتی را، چه بیولوژیکی و چه غیر بیولوژیکی تعیین می‌کنند - نیز صدق می‌کند. هیچ کارکردگرایی تقلیل‌گرایی، یک هویت خاص بین یک تجربه آگاهانه خاص (با طبقه‌ای از تجارب آگاهانه) و فرایندهای کارکردی خاص ارائه نداده است. طبق قضیه Scrambling، کارکردگرایی تقلیل‌گرا با مسئله دیگری مواجه است، با این مسئله که به شکلی قابل اثبات غلط است (Hoffman, D. D. 2006a. "The scrambling theorem: A simple proof of the logical possibility of spectrum inversion," *Consciousness and Cognition* 15: 31–45; Hoffman, D. D. 2006b. "The Scrambling Theorem unscrambled: A response to commentaries," *Consciousness and Cognition* 15: 51–53). قضیه Scrambling نیز مستلزم آن است که تجارب آگاهانه با کاربرد اطلاعات برای درک ویژگی‌های کارکردی و هدایت رفتار در زمان واقعی، یکسان تلقی نشود. برای مثال، چم رو (در Chemero, A. 2009. *Radical Embodied Cognitive*).

شناختی، استفاده از اطلاعات برای درک ویژگی‌های کارکردی و هدایت رفتار در زمان واقعی، داشتن تجربیات آگاهانه محسوب می‌شود. وقتی توضیح بدهیم که حیوانات چگونه از اطلاعات برای درک مستقیم و انجام عملی مناسب جایگاه خودشان استفاده می‌کنند، تجربه آگاهانه آن‌ها را نیز توضیح داده‌ایم. "قضیه *Scrambling* ثابت می‌کند که این هويت ادعا شده نادرست است. علاوه بر این، هیچ‌یک از طرفداران شناخت تجسمی، تاکنون هويت خاصی بین یک تجربه آگاهانه خاص (یا طبقه‌ای از تجربیات آگاهانه) و استفاده خاص از اطلاعات برای درک ویژگی‌های کارکردی و هدایت رفتار در زمان واقعی پیشنهاد نکرده است. هیچ پیشنهادی درباره اصولی که چنین هويت‌هایی را توضیح می‌دهند نیز ارائه نشده است - چرا باید کاربرد خاصی از اطلاعات برای درک ویژگی‌های کارکردی و هدایت رفتار در زمان واقعی، تجربه آگاهانه‌ای از قبیل چشیدن طعم وانیل باشد؟ چرا آن کاربرد خاص اطلاعات برای درک ویژگی‌های کارکردی و هدایت رفتار در زمان واقعی، نمی‌تواند مثلاً طعم شکلات یا احساس ستونی سرد از یخ باشد؟ کدام اصول علمی، سایر تجربیات آگاهانه را رد می‌کنند؟ هیچ‌کدام تا به حال پیشنهاد نشده است. طبق قضیه *Scrambling*، چنین اصولی وجود ندارد. پیشنهادی درباره هیچ‌یک از این‌ها ارائه نشده است. طبق قضیه *Scrambling* چنین اصولی اصلاً وجود ندارد.

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ایده‌های آن‌ها مشابه ایده گیبسون است که معتقد بود ما جنبه‌هایی از محیط را که برای بقا حیاتی است، از قبیل "قابلیت محیط" -تمام امکانات انجام کنش در آن محیط- را مستقیماً و بدون محاسبه درک می‌کنیم.

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## توهم

## بلوف یک دسکتاپ

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۱۴. در این جا مسئله‌ای فنی درباره بازدهی‌های تناسب وجود دارد. در این فصل، در این مورد سخن می‌گویم که تمایز قائل شدن بین دو حس مختلف واقعی مفید است: حسی که وجود دارد و حسی که با وجود درک نشدن، وجود دارد. حس دوم را که واقعی است، واقعیت عینی می‌نامم و استدلال می‌کنم که حواس ما برای ردیابی بازدهی‌های تناسب تکامل یافته‌اند، نه برای دنبال کردن واقعیت عینی. اما بازدهی‌های تناسب، به‌عنوان انتزاع ریاضیاتی، ممکن است وقتی درک نمی‌شوند وجود داشته باشند. برای مثال، فرض کنید که من در خوابی عمیق هستم بدون این که خوابی ببینم و بنابراین، مسلماً چیزی را درک نمی‌کنم. باین حال، منطقی به نظر می‌رسد که ادعا کنم بازدهی‌های تناسب من هنوز وجود دارند، حتی با این که آن‌ها را درک نمی‌کنم. گذشته از این، ممکن است تناسب من وقتی که برای مثال از تخت‌خواب می‌یافتم درحالی که در خواب عمیق هستم، کاهش پیدا کند. بنابراین، بازدهی‌های تناسب من عینی هستند؛ آن‌ها وجود دارند حتی اگر درک نشوند. متقاعدکننده است. اما اگر من وجود نداشته باشم، بازدهی‌های تناسب من وجود نداشت. معنای قوی‌تری از عینی وجود دارد، بیایید آن را "بسیار عینی" بنامیم، که در آن چیزی واقعی است که وجود داشته باشد، حتی اگر هیچ ادراک‌کننده‌ای وجود نداشته باشد. برای مثال، بسیاری از فیزیک‌دانان ادعا می‌کنند که فضا، زمان و اشیاء، قبل از این که ارگانیسمی برای درک آن‌ها وجود داشته باشد، وجود داشته‌اند و بنابراین، فضا، زمان و اشیاء به‌شدت عینی هستند. باین حال، بازدهی‌های تناسب وجود ندارند، مگر این که ارگانیسم‌ها وجود داشته باشند و بنابراین، به‌شدت عینی نیستند. هنگامی که می‌گویم تکامل، موجودات را طوری شکل می‌دهد که ادراکاتشان به دنبال تناسب باشد، نه حقیقت، "حقیقتی" که در ذهن دارم، تصور فیزیک‌دانان از یک واقعیت کاملاً عینی است.



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<https://www.cnn.com/2018/04/26/health/colorscope-benefits-of-a-colorful-life/index.html>.

۱۵. تعداد ذرات در جهان قابل رؤیت، که عدد ادینگتون نامیده می‌شود، تقریباً ۱۰۸۰ است، به استثنای ماده تاریک. اگر هر پیکسل در یک تصویر دارای ۲۴ ذره رنگ باشد (۸ بیت برای هر کدام از رنگ‌های قرمز، سبز و آبی)، در آن صورت هر پیکسل ۱۶۷۷۷۲۱۶ رنگ ممکن دارد. در این حالت، یک تکه از پیکسل‌ها، دارای کروماتورهایی ممکن است که عدد ادینگتون را کوچک جلوه می‌دهند.

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## نگاهی موشکافانه

چه در زندگی و چه در تجارت، به هر آنچه نیاز دارید

دست می‌یابید

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## اجتماع

## شبکه‌ای از کنشگران آگاه

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۶. در منطق گزاره‌ای، قاعده نفی تالی نوعی استدلال معتبر است. این قاعده می‌گوید، اگر P بر Q دلالت داشته باشد و اگر P صدق نکند، آن‌گاه Q نیز صدق نمی‌کند. برای مثال، اگر پت ۸۰ سال عمر کرده باشد، پس پت ۳۰ سال عمر کرده است. پت ۳۰ سال عمر نکرده است، پس پت ۸۰ سال عمر نکرده است.
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11. For progress on these issues, see Fields, C., Hoffman, D. D., Prakash, C., and Prentner, R. 2017. "Eigenforms, interfaces and holographic encoding: Toward an evolutionary account of objects and spacetime." *Constructivist Foundations* 12(3): 265–74.

۱۲. برای مطالعه درباره پن‌سایکیسم، به مقاله پن‌سایکیسم در *دائرة المعارف فلسفه استنفورد* مراجعه کنید. گاهی ادعا می‌شود که پن‌سایکیسم، دوگانه‌گرایی نیست. در حمایت از این ادعا، نظریه علمی ریاضیاتی دقیقی درباره پن‌سایکیسم باید مطرح شود که آشکارا غیر دوگانه‌گرا باشد. تا امروز چنین نظریه‌ای وجود نداشته است. نظریه اطلاعات یکپارچه (IIT) اغلب در معنای پن‌سایکیسم برداشت می‌شود. طبق IIT، "تجربه، ساختار مفهومی بیشینه غیر قابل تقلیل (MICS، مجموعه‌ای از مفاهیم در فضای کیفیات ذهنی) است و مجموعه عناصری که آن را ایجاد می‌کنند، یک ترکیب پیچیده را تشکیل می‌دهند. طبق IIT، یک MICS کیفیت یک تجربه را مشخص می‌کند." اما همان‌طور که گفته شد، IIT نتوانسته ترکیب پیچیده مربوط به MICS را، حتی برای یک تجربه خاص مثلاً بوی سیر، مشخص کند. تاکنون نتوانسته پیش‌بینی‌های علمی قابل آزمایشی درباره سیستم‌های خاص و تجربیات خاص متناظر با آن‌ها ارائه دهد. برای مطالعه بیشتر درباره IIT، مراجعه کنید به:

- Oizumi, M., Albantakis, L., and Tononi, G. 2014. "From the phenomenology to the mechanisms of consciousness: Integrated information theory 3.0," *PLOS Computational Biology* 10: e1003588; Hoel, E. P. 2017. "When the map is better than the territory," *Entropy* 19: 188, doi: 10.3390/e19050188.
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بلی

حق اشتباه بودن

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