



## Externalism and Internalism in the Philosophy of Mind

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### Introduction

Across different areas of philosophy, “internalism” and “externalism” designate distinctly opposed positions. In the philosophy of mind, the debate between internalists and externalists arose in the 1970s with a focus on meaning and mental representation and the nature of mental states. Internalists or individualists hold that the nature of an individual’s mental states depends metaphysically just on facts about that individual, facts intrinsic to that individual, rather than her social or physical environment. A common way to express internalism is to say that an individual’s mental states are fixed or determined by the intrinsic, physical properties of that individual, where this relation of determination has typically been understood in terms of the notion of supervenience. For an individualist, two molecule-for-molecule identical individuals also must have the same mental states. Externalists or anti-individualists deny this. The two seminal papers here—Hilary Putnam’s “The Meaning of ‘Meaning’” (Putnam 1975, cited under Classic and Early Work) and Tyler Burge’s “Individualism and the Mental” (Burge 1979, cited under Classic and Early Work)—both launched attacks on taken-for-granted internalist or individualist views of meaning and mind. They did so in part by introducing thought experiments in which so-called *doppelgängers* (those molecule-for-molecule identical individuals), located in distinct physical and social environments, had thoughts with different mental contents. In addition, Burge published a large number of papers over the next two decades systematically drawing out the scope and implications of his anti-individualistic views for central topics in the metaphysics and epistemology of mind and cognitive science, including mental causation and psychological explanation, self-knowledge, and computational accounts of cognitive processing. Shifting from the initial focus on meaning and mental content in the 1980s to the idea that cognition is embodied and extends into the environment—the extended mind thesis—the debate over externalism in the philosophy of mind has infused much work on core topics in the field, such as the nature of intentionality, computational psychology, consciousness, perception, experience, functionalism, and materialism. The sections General Background, Classic and Early Work, Philosophy of Language/Mind Interface, and the Extended Mind and Cognition below provide background and fundamental readings on internalism and externalism in the philosophy of mind. Sections from Mental Causation and Explanation I to Knowledge and Self-Knowledge give coverage to particular topics, such as intentionality and consciousness. Sections Other Cognitive Science and Philosophy of Science: Articles and Other Cognitive Science and Philosophy of Science: Books cover miscellaneous books and articles that focus primarily on cognitive science and the philosophy of science. Some sectional divisions are artifacts of the ten entries-per-section constraint, together with finding no more meaningful way to categorize these entries. Other *Oxford Bibliographies* articles with complementary content include “Epistemology and Active Externalism,” “The Extended Mind Thesis,” “Self-Knowledge,” and “Supervenience.”

### General Background

As mentioned in the introduction, work by Hilary Putnam and Tyler Burge in the 1970s posed the initial challenges to internalism or individualism about the mind. The collection of important essays in Fodor 1981 and the commissioned review Burge 1992, in distinct ways, provide a sense of the broader context in which those challenges were issued, while Wilson 2003 offers a more focused introduction to individualism itself. Readers who want a better sense of where the debate between externalists and internalists was located in traditional philosophy of mind can turn to textbooks and anthologies. Two differently oriented textbooks, Heil 1992 and Sterelny 1990, give solid introductions to the state of play of the philosophy of mind in the early 1990s, by which time the externalist challenge and alternative to individualism, particularly about intentionality, representation, and mental content, had won over much of the field. McCulloch 1995 is likewise accessible and has two chapters explicitly on the issue, and the anthology Block, et al. 1997 indicates how the shift to externalist

views had filtered into the emerging work on consciousness by the late 1990s. Stich 1996 is an influential monograph that relies on internalism or individualism to defend an eliminativist view of our commonsense folk psychology, developing the ideas in Stich 1978 (cited under Classic and Early Work). Wilson 1995 is a sustained critique of individualism that draws on and develops several of the author's earlier publications, while Wilson 2004 develops externalist perspectives that reflect the rise of the idea of extended cognition in the early 2000s.

**Block, Ned, Owen Flanagan, and Güven Güzeldere, eds. *The Nature of Consciousness: Philosophical Debates*. Cambridge, MA: MIT, 1997.**

A comprehensive anthology on consciousness, containing many classic and recent papers, including Ned Block's "Inverted Earth" and Martin Davies's "Externalism and Experience" (Block 1990 and Davies 1995, cited under Consciousness, Phenomenology, and Experience: Articles).

**Burge, Tyler. "Philosophy of Language and Mind, 1950–1990." *Philosophical Review* 100 (1992): 3–51.**

A valuable general review of some dominant trends in philosophy of mind and language since 1950 that includes not only individualism in the philosophy of mind but also competing theories of reference, naturalism, and the relationship between mind and language.

**Fodor, Jerry. *RePresentations*. Cambridge, MA: MIT, 1981.**

A collection of Fodor's essays that contains many influential papers, including "Propositional Attitudes" and "Methodological Solipsism Considered as a Research Strategy in Cognitive Psychology." His introduction to this volume is also informative as an introduction to philosophy and cognitive science circa 1981.

**Heil, John. *The Nature of True Minds*. New York: Cambridge University Press, 1992.**

A solid, advanced introduction to core topics in the philosophy of mind, including supervenience, individualism, and intentionality.

**McCulloch, Gregory. *The Mind and Its World*. London: Routledge, 1995.**

Belongs to a series that introduces contemporary themes throughout the history of philosophy. Chapter 7, "Twin Earth," and Chapter 8, "Internalism and Externalism," provide clear introductions to key issues in debates over internalism and externalism.

**Sterelny, Kim. *The Representational Theory of Mind: An Introduction*. Oxford: Basil Blackwell, 1990.**

One of the best introductions to contemporary philosophy of mind; has chapters on Marr's theory of vision (chapter 4) and individualism (chapter 5); opinionated in the author's usual style.

**Stich, Stephen. *From Folk Psychology to Cognitive Science: The Case against Belief*. Cambridge, MA: MIT, 1996.**

A defense of eliminativism that explores some alternatives to folk psychology, including what Stich calls "the syntactic theory of the mind,"

**Wilson, Robert A. *Cartesian Psychology and Physical Minds: Individualism and the Sciences of the Mind*. New York: Cambridge University Press, 1995.**

Extended critique of individualism and discussion of its relation to intentionality, mental causation, folk psychology, and cognitive science.

**Wilson, Robert A. "Individualism." In *The Blackwell Guide to Philosophy of Mind*. Edited by Stephen Stich and Ted A. Warfield, 256–287. Malden, MA: Blackwell, 2003.**

A brief overview of individualism in the philosophy of mind.

**Wilson, Robert A. *Boundaries of the Mind: The Individual in the Fragile Sciences; Cognition*. Cambridge, UK: Cambridge University Press, 2004.**

An externalist response to the question "Where does the mind begin and end?" that develops accounts of realization and consciousness and discusses both individual and group-level cognition.

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## Classic and Early Work

As this section underscores, the contributions of Tyler Burge to the debate over internalism and externalism have been significant. Burge 1979, together with Putnam 1975, are the two *loci classici* of the externalist challenge to individualism, with Kripke 1980 laying the groundwork in theories of meaning for these works. But Burge's engagement with internalism and individualism continued for much of the remainder of the century. Burge 1982a offers an informative reply to Jerry Fodor's initial response to Burge 1979, while Burge 1982b puts some distance between Burge's "anti-individualism" and Putnam's "semantic externalism" and is the paper that Burge himself considers as the best introduction to his line of thinking about individualism, as he explains in his helpful introduction to the volume in which all of these papers of his are collected: *Foundations of Mind: Philosophical Essays*, Volume 2 (Oxford: Clarendon, 2007). Burge 1986 most explicitly extended the debate from (roughly speaking) folk psychology to cognitive science in a more full-hearted way, primarily by focusing its second half on David Marr's celebrated computational theory of vision and arguing that it was externalist in various ways. This paper gave rise to its own subliterate (see Marr's Theory of Vision). Stich 1978 argues that internalism, cast in terms of what the author calls the principle of autonomy, is incompatible with folk psychology, while Fodor 1987 and Fodor 1982 (cited under Narrow Content II) offer individualistic responses to the challenges posed by Putnam and Burge. The essays in Pettit and McDowell 1986 provide a sense of the reception of those challenges in the United Kingdom.

**Burge, Tyler. "Individualism and the Mental." In *Studies in Metaphysics*. Edited by Peter A. French, Theodore E. Uehling Jr., and Howard K. Wettstein, 73–121. *Midwest Studies in Philosophy* 4. Minneapolis: University of Minnesota Press, 1979.**

One of the Ur-papers on individualism that still repays careful reading, almost forty years later.

**Burge, Tyler. "Two Thought Experiments Reviewed." *Notre Dame Journal of Formal Logic* 23.2 (1982a): 284–293.**

A reply to Fodor 1982 (cited under Narrow Content II) that appears in an issue of the journal devoted to discussion of the implications of Twin Earth for semantics and psychology.

**Burge, Tyler. "Other Bodies." In *Thought and Object: Essays on Intentionality*. Edited by Andrew Woodfield. Oxford: Clarendon, 1982b.**

An attempt to put some distance between the author and Putnam that also contains an early expression of doubt about the possibility of a narrow notion of content. (see Narrow Content I and Narrow Content II).

**Burge, Tyler. "Individualism and Psychology." *Philosophical Review* 95 (1986): 3–45.**

In some ways the most accessible of Burge's papers; the first half recounts the thought experiments and makes some general points; the second half argues that Marr's theory of vision is non-individualistic.

**Fodor, Jerry. *Psychosemantics: The Problem of Meaning in the Philosophy of Mind*. Cambridge, MA: MIT, 1987.**

Classic Fodor, with chapters defending folk psychology and individualism and attacking meaning, holism, and other evils.

**Kripke, Saul A. *Naming and Necessity*. Cambridge, MA: Harvard University Press, 1980.**

Influential critique of descriptive theories of reference and the source of “direct” theories of reference in the philosophy of language that, in turn, have indirectly motivated externalist views about the mind.

**Loar, Brian. “Social Content and Psychological Content.” In *Contents of Thought: Proceedings of the 1985 Oberlin Colloquium in Philosophy, Oberlin College*. Edited by Robert Grimm and David Merrill, 99–110. Tucson: University of Arizona Press, 1988.**

Widely regarded as one of the best responses to Burge and as providing the basis for an account of narrow content, i.e., mental content that is individualistic or internalist.

**Pettit, Philip, and John McDowell, eds. *Subject, Thought, and Context*. Oxford: Oxford University Press, 1986.**

A volume devoted to the relationships among subject, thought, and context in light of Putnam-Burge thought experiments, with an all-star and largely British cast.

**Putnam, Hilary. “The Meaning of ‘Meaning.’” In *Language, Mind and Knowledge*. Edited by Keith Gunderson, 131–193. Minneapolis: University of Minnesota Press, 1975.**

Reprinted in Hilary Putnam, *Mind, Language, and Reality: Philosophical Papers*, Volume 2 (Cambridge, UK: Cambridge University Press, 1975). New York: Cambridge University Press. With Burge 1979, the Ur-paper for contemporary work on externalism. Source for Twin Earth fantasies and the development of Putnam’s earlier ideas about reference.

**Stich, Stephen. “Autonomous Psychology and the Belief-Desire Thesis.” *Monist* 61.4 (1978): 573–591.**

Stich’s initial statement of the principle of autonomy and an argument for its incompatibility with folk psychology.

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## Philosophy of Language/Mind Interface

Challenges to descriptive theories of reference, and the development of so-called direct theories of reference in their place, particularly in Kripke 1980 and Putnam 1975 (both cited under Classic and Early Work), constitute the most commonly discussed antecedents to the rise of externalism in the philosophy of mind. Much of this concerns the semantics of different sorts of referring terms, such as names, natural kinds, and indexical expressions, and the debate among Fregeans, Russellians, and their hybrid successors has generated its own mini-industry in the philosophy of language. Peacocke 1981 and McDowell 1986 focus, respectively, on demonstrative and singular thought, manifesting the compressed, dense nature of much of this literature, while Evans 1982, Bach 1987, and Recanati 1993 represent more sustained, spacious treatments of these themes. The six papers in Woodfield 1982 derive from workshop presentations that Dennett and Stich made at Bristol in the late 1970s, and each is worth reading on its own. Millikan 1984 proceeds in an entirely constructive (rather than critical) fashion, constituting an independent pathway to externalism about the mind that forms part of an even more encompassing philosophical toolkit, one with continuing influence in metaphysics, epistemology, the philosophy of mind, and the philosophy of biology. Burge 2007 is an insightful overview of all of Burge’s work on individualism; several of the papers in the volume it introduces contain postscripts or addenda. Gertler 2012 surveys much of the debate as it has focused on the content of thought and concludes that the inability to adequately characterize what the expression “intrinsic to the thinker” means implies that there is an irresolvable disagreement between internalists and externalists. Wikfoss 2008 distinguishes between three kinds of externalism and argues that suitably clarified externalism is either trivially true and defensible or more substantive but indefensible.

**Bach, Kent. *Thought and Reference*. Oxford: Clarendon, 1987.**

Concentrates on singular terms, thought, and reference. The final chapter, "Reference and Natural Kinds," is of most direct relevance to those interested in the Kripke-Putnam-Burge triad.

**Burge, Tyler. "Introduction." In *Foundations of Mind: Philosophical Essays*. Vol. 2. By Tyler Burge, 1–20. Oxford: Clarendon, 2007.**

Provides an overview of all of Burge's work on individualism, and it is relevant for what it says about the transition from an original focus on language to one on mind in the debate over internalism and externalism.

**Evans, Gareth. *The Varieties of Reference*. Oxford: Clarendon, 1982.**

The book at the root of recent neo-Frussellian accounts of reference and thought. Chapters 1–5 are perhaps of most relevance, especially chapters 4 and 5.

**Gertler, Brie. "Understanding the Internalism-Externalism Debate: What Is the Boundary of the Thinker?" *Philosophical Perspectives* 26.1 (2012): 51–75.**

Argues that the debate, construed as one about the contents of thought, is irresolvable, since it trades on an ineliminable ambiguity in how "intrinsic to the thinker" should be understood.

**McDowell, John. "Singular Thought and the Extent of Inner Space." In *Subject, Thought, and Context*. Edited by Philip Pettit and John McDowell, 137–168. Oxford: Oxford University Press, 1986.**

Develops an anti-Cartesian view of the mental by discussing Russell's view of singular thought. A difficult read.

**Millikan, Ruth Garrett. *Language, Thought, and Other Biological Categories: New Foundations for Realism*. Cambridge, MA: MIT, 1984.**

A mind-blowingly original work when it came out. Millikanese has now become its own lingua franca, largely through the subsequent papers collected in Millikan's *White Queen Psychology and Other Essays for Alice* (Millikan 1993, cited under Intentionality: Books). Provides, among other things, a teleofunctional, externalist account of thought.

**Peacocke, Christopher. "Demonstrative Thought and Psychological Explanation." *Synthese* 49.2 (1981): 187–217.**

Argues that demonstrative thought is crucial for psychological explanation and makes a case for the salience of Fregean modes of presentation.

**Recanati, François. *Direct Reference: From Language to Thought*. Oxford: Blackwell, 1993.**

Like Bach 1987, a work principally that deals in the philosophy of language, but that takes on broad issues concerning thought and content. Chapters 11 and 12, while not completely self-contained, are independent enough to convey the gist of Recanati's views on mental content.

**Wikfoss, Asa. "Semantic Externalism and Psychological Externalism." *Philosophy Compass* 3.1 (2008): 158–181.**

An overview focused on the early literature on externalism that offers a clarifying but deflationary interpretation of the significance of externalism as a view in both the philosophy of language and the philosophy of mind.

**Woodfield, Andrew, ed. *Thought and Object: Essays on Intentionality*. Oxford: Oxford University Press, 1982.**

An early collection of papers by Dennett, Burge, Bach, Stich, McGinn, and Woodfield.

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## The Extended Mind and Cognition

Clark and Chalmers 1998 introduces the term the *extended mind* and has become one of the most highly cited papers in philosophy since 1950. At its heart are several “intuition pumps,” to use Dennett’s term, namely thought experiments that aim to support the intuition that whether the machinery that supports cognition falls inside or outside the body of the individual is, in principle, irrelevant to psychology and cognitive science. Menary 2007 develops this idea with less reliance on functionalist assumptions, while Clark 2008 draws links between the embodiment and the extension of cognition. Wilson and Foglia 2017 is an accessible review of work in the cognitive sciences on embodied cognition that likewise views the embodiment of cognition and extended cognition as closely related. Rupert 2009 and Adams and Aizawa 2008 are sustained critiques of extended cognition, the former significantly developing Rupert 2004, which provides a more bite-sized critique. Menary 2010 contains both a useful introduction from the editor and more than a dozen papers by leading proponents and critics of the extended mind thesis, together with a reprint of Clark and Chalmers 1998. Wilson 1994 is situated somewhere between early critical work on individualism and the shift to thinking of cognition itself as located more extensively than the bodily envelope, while Wilson 2014 offers a recent reflection on recurrent questions about extended cognition. See also the *Oxford Bibliographies* article “The Extended Mind Thesis” for a more extensive list of references and topics.

**Adams, Frederick, and Kenneth Aizawa. *The Bounds of Cognition*. Oxford: Blackwell, 2008.**

A defense of an internalist view of cognition and a critique of the extended mind hypothesis.

**Clark, Andy. *Supersizing the Mind: Embodiment, Action and Cognitive Extension*. Oxford: Oxford University Press, 2008.**

A defense of an externalist view of cognition that focuses on the embodiment and extension of cognition beyond the brain.

**Clark, Andy, and David Chalmers. “The Extended Mind.” *Analysis* 58.1 (1998): 10–23.**

An almost instantly classic paper that introduced the term the *extended mind* and that argues that we take the idea of the mind extending beyond the body seriously.

**Menary, Richard. *Cognitive Integration: Mind and Cognition Unbounded*. New York: Palgrave Macmillan, 2007.**

A defense of extended cognition that largely does without the functionalist assumptions that drive much work that argues for the same general position.

**Menary, Richard, ed. *The Extended Mind*. Cambridge, MA: MIT, 2010.**

An important collection of papers that collectively articulates and defends the extended mind.

**Rupert, Robert. “Challenges to the Hypothesis of Extended Cognition.” *Journal of Philosophy* 101.8 (2004): 389–428.**

Argues against extended cognition chiefly by showing that a view closer to traditional individualism or internalism, the “hypothesis of embedded cognition,” accords more closely with explanatory desiderata.

**Rupert, Robert. *Cognitive Systems and the Extended Mind*. Oxford: Oxford University Press, 2009.**

A development of Rupert 2004 that focuses on what cognitive systems are, and why they are not extended but internalist.

**Wilson, Robert A. "Wide Computationalism." *Mind* 103.411 (1994): 351–372.**

A critique of the computational argument for individualism or internalism that rejects the view that computational systems stop at the head or skin of the cognizer.

**Wilson, Robert A. "Ten Questions Concerning Extended Cognition." In *Special Issue: Extended Cognition: New Philosophical Perspectives*. Edited by Thomas Sturm and Anna Estany. *Philosophical Psychology* 27.1 (2014): 19–33.**

Takes up ten questions that have recurred in discussions within the extended cognition literature, as part of the author's defense of extended cognition.

**Wilson, Robert A., and Lucia Foglia. "Embodied Cognition." In *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Stanford, CA: Stanford University, 2017.**

A review of recent work on embodied cognition in the cognitive sciences that locates that work historically and treats the philosophical issues it raises.

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## Mental Causation and Explanation I

As the publication dates on the twenty works in this section and the next indicate, the 1990s saw a lot of concentrated thinking about the implications of individualism and externalism for mental causation and psychological explanation. Burge 1989 is a fairly direct response to Fodor's influential chapter 2 of *Psychosemantics*, while Burge 1993 more generally suggests a primacy for explanatory practice over appeals to abstract metaphysical claims about science as a guide in thinking about mental causation. Antony 1993 and Crane 1991 both provide some individualistic push-back by returning to offer reinterpretations of the original Putnam-Burge thought experiments. Egan 1991 and Egan 1999 both focus on computational explanation, aiming to show that the kinds of computationalism explicit in leading theories in the cognitive sciences, such as Marr's Theory of Vision, are either individualistic or compatible with individualism. Baker 1995 shares Burge's emphasis on explanation, being in many ways more closely allied to common sense and pragmatism about folk psychology than is much of the language of thought-inspired literature, while Braun 1991 is more skeptical about such explanatory-based arguments. Finally, the essays in Heil and Mele 1993 on mental causation and the review of work on supervenience offered in Horgan 1993 will provide graduate students with a good sense of the lay of the land on these more general topics and their relevance to the debate over internalism and externalism.

**Antony, Michael. "Social Relations and the Individuation of Thought." *Mind* 102.406 (1993): 247–261.**

An argument for the conclusion that an individual's social relations are inessential to the nature of that individual's thoughts, which offers a reinterpretation of the thought experiments in Burge 1979 (cited under Classic and Early Work). Reminiscent of Unger's work on semantic relativity.

**Baker, Lynne Rudder. *Explaining Attitudes: A Practical Approach to the Mind*. New York: Cambridge University Press, 1995.**

A development of Baker 1987 (cited under Intentionality: Books) with more emphasis on articulating a positive conception of mind.

**Braun, David. "Content, Causation, and Cognitive Science." *Australasian Journal of Philosophy* 69.4 (1991): 375–389.**

Defends the view that while the usual, explanatory-based arguments for doing cognitive science without a (wide) notion of content are flawed, we just cannot tell (now) whether cognitive science needs a notion of content.

**Burge, Tyler. "Individuation and Causation in Psychology." *Pacific Philosophical Quarterly* 70 (1989): 303–322.**

A response to the objections that Fodor poses in his *Psychosemantics* to the notion of causation that Burge relies on in "Individualism and the Mental" (Burge 1979), "Two Thought Experiments Reviewed" (Burge 1982a), and "Individualism and Psychology" (Burge 1986) (all cited under Classic and Early Work).

**Burge, Tyler. "Mind-Body Causation and Explanatory Practice." In *Mental Causation*. Edited by John Heil and Alfred Mele, 97–120. Oxford: Clarendon, 1993.**

Argues, on the heels of a passing suggestion in his "Individualism and the Mental" (Burge 1979, cited under Classic and Early Work), that token identity theories provide no help in understanding mental causation; our explanatory practices rather than philosophical metaphysics should guide us here.

**Crane, Tim. "All the Difference in the World." *Philosophical Quarterly* 41.12 (1991): 1–25.**

Challenges the consensus on the significance of the Putnam-Burge arguments by making claims about the nature of causation that removes the problem to which that consensus is a response.

**Egan, Frances. "Must Psychology Be Individualistic?" *Philosophical Review* 100 (1991): 179–203.**

Argues that while general arguments for individualism fail, insofar as psychology is computational, it is individualistic. Also follows Loar, "Social Content and Psychological Content" (Loar 1988, cited under Classic and Early Work) in arguing against the anti-individualistic conclusions drawn from the Putnam-Burge thought experiment, and against Burge's interpretation of Marr.

**Egan, Frances. "In Defense of Narrow Mindedness." *Mind and Language* 14.2 (1999): 177–194.**

Attempts to show that a proper understanding of computational explanation is consistent with narrow taxonomies, and that these latter are to be preferred.

**Heil, John, and Alfred Mele, eds. *Mental Causation*. New York: Oxford University Press, 1993.**

An interesting anthology of commissioned papers from some influential players, e.g., Donald Davidson, Jaegwon Kim, Ernest Sosa, Fred Dretske, Ruth Millikan, and Tyler Burge. Especially recommended is the second of the papers by Kim and Sosa, and that by Frank Jackson and Philip Pettit.

**Horgan, Terence. "From Supervenience to Superdupervenience: Meeting the Demands of a Material World." *Mind* 102 (1993): 555–586.**

An excellent review article on supervenience and the philosophy of mind whose suggestions for "where the action will be" can now be checked, twenty-five years later; gets extra points for using "superdupervenience" in the title.

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## Mental Causation and Explanation II

The apparent conflict between internalism and folk psychology's reliance on broad or wide content had both compatibilist and incompatibilist responses. Kitcher 1985 is a compatibilist response, defending the individualistic nature of computational psychology but according a place for ordinary, wide content in psychological explanation. Jackson and Pettit 1988 likewise proposes a way to understand the utility of broad content as an example of what the authors call "programme explanations," showing the compatibility of this with functionalism. By contrast, Owens 1987 and van Gulick 1989 are authored by incompatibilists who argue that internalism or individualism should be rejected. Wilson 1992, like Owens 1993, focuses on Fodor's appeal to causal powers in chapter 2 of *Psychosemantics* (Fodor 1987, cited under Classic and Early Work) diagnosing an equivocation in Fodor's use of that notion in his much-discussed argument (an equivocation that can be found in Owens 1993). Yablo 1992 is an inventive metaphysical account of mental causation that invokes the relationship between determinables (like color) to determinates (like red) to explain the mind-body relationship, while Kim 1993 is a collection of Kim's influential papers on supervenience. Wilson 2001 introduces the idea of wide realizations by contrasting the dominant view of realizations as both determinative and intrinsic properties with what the author characterizes as a contextualist alternative.

**Jackson, Frank, and Philip Pettit. "Functionalism and Broad Content." *Mind* 97 (1988): 381–400.**

Argues that functionalism is compatible with ascriptions of broad (or wide) content, and makes a case for the explanatory utility of wide content as what the authors call "programme explanations."

**Kitcher, Patricia. "Narrow Taxonomy and Wide Functionalism." *Philosophy of Science* 52.1 (1985): 78–97.**

Argues for a middle ground position that defends computational psychology as individualistic but allows (wide) content to play a role in psychological explanation.

**Kim, Jaegwon. *Supervenience and Mind*. New York: Cambridge University Press, 1993.**

A collection of influential papers on both topics mentioned in the title and their relationship. Worth having just to have all these in one place. Chapters 13, 14, and 16 are especially recommended.

**Owens, Joseph. "In Defence of a Different Doppelgänger." *Philosophical Review* 96 (1987): 521–554.**

Argues that although there is a conflict between psychophysical supervenience and individuation by content, this poses no problem for intentionality since there are no good reasons to accept individualism.

**Owens, Joseph. "Content, Causation, and Psychophysical Supervenience." *Philosophy of Science* 60.2 (1993): 242–261.**

Takes up a theme from chapter 2 of Fodor's *Psychosemantics* (Fodor 1987, cited under Classic and Early Work) and equivocates in much the way that Fodor himself does on "causal powers."

**van Gulick, Robert. "Metaphysical Arguments for Internalism and Why They Don't Work." In *Rerepresentation*. Edited by Stuart Silvers, 151–159. Dordrecht, The Netherlands: Kluwer, 1989.**

An early response to Fodor's *Psychosemantics* with echoes in Egan's "Must Psychology Be Individualistic?" (Egan 1991, cited under Mental Causation and Explanation I) and Wilson's "Individualism, Causal Powers, and Explanation" (Wilson 1992).

**Wilson, Robert A. "Individualism, Causal Powers, and Explanation." *Philosophical Studies* 68.2 (1992): 103–139.**

A critique of the influential argument of chapter 2 of Fodor's *Psychosemantics* (Fodor 1987, cited under Classic and Early Work) that argues that the argument equivocates on "causal powers," an equivocation replicated in his "A Modal Argument for Narrow Content" (see Fodor 1991, cited under Narrow Content II).

**Wilson, Robert A. "Two Views of Realization." *Philosophical Studies* 104.1 (2001): 1–31.**

Critiques the dominant view of realization and develops a contextualist alternative to it that attempts to give metaphysical oomph to externalism.

**Yablo, Steve. "Mental Causation." *Philosophical Review* 101.2 (1992): 245–280.**

A fairly dazzling, ontologically serious paper (nearly all of which appears in his "Cause and Essence," *Synthese* 93.3 [1992]: 403–449) that deftly defends the counterintuitive view that the relation of mental to physical is that of determinable to determinate.

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**Intentionality: Articles**

Folk psychological states are typically thought to be individuated by both the attitude they express (e.g., belief) and the propositional content toward which that attitude is expressed (trees have leaves). This representational content—the directedness or "aboutness" that many folk psychological states have—is what people mean in talking of the intentionality of the mental. Mental representation is often but not always propositional and explicit: images or pictures also represent, and there may be aspects or kinds of content to which we have limited epistemic access. Since the original arguments for externalism appealed directly to mental content—Oscar on Earth has thoughts *about water*, while Twin Oscar on Twin Earth has thoughts *about XYZ*—the idea that mental content was wide or externalist has been central to externalism from that start. Burge 1986a and Burge 1986b expand on the author's original arguments in Burge 1979 (cited under Classic and Early Work) by concentrating, respectively, on perception and intellectual norms. Elugardo 1993 argues that Burge's original interpretation of his thought experiments is mistaken, and so maintains an internalist view in light of Burge's argument. But the most common response to the conclusion that intentionality or content is wide or externalist has been to concede that Burge is right about this, but to then attempt to show that there is another kind of content, *narrow content*. This is the basic idea of two-factor views of content, including the conceptual role semantics that is defended in Field 1981 and Block 1987, and the distinction between "psychological" and "social" content introduced in Loar 1988 (cited under Classic and Early Work) and defended further in Loar 1988 and Patterson 1990. Walsh 1998 represents a different kind of compromise view, one that combines individualism with an embrace of wide content, while Houghton 1997 emphasizes the importance of external representation in cognition, shifting toward the idea of extended cognition and the extended mind thesis. Lau and Deutsch 2014 provides an overview of externalism about mental content, though the volume does not cover perception or experience, and it is limited in what it says about cognitive science.

**Block, Ned. "Advertisement for a Semantics for Psychology." *Midwest Studies in Philosophy* 10.1 (1987): 615–678.**

Outlines eight desiderata for any semantics appropriate for cognitive science, and then argues that his own "two factor" conceptual role semantics fits the bill.

**Burge, Tyler. "Cartesian Error and the Objectivity of Perception." In *Subject, Thought, and Context*. Edited by Philip Pettit and John McDowell, 117–136. Oxford: Oxford University Press, 1986a.**

After some introductory, historical remarks, here Burge offers a version of one of the arguments given in his "Individualism and Psychology" on Marr's Theory of Vision, here with respect to the objectivity of perception in general.

**Burge, Tyler. "Intellectual Norms and the Foundations of Mind." *Journal of Philosophy* 83 (1986b): 697–720.**

A more epistemically motivated argument for Burge's anti-individualism.

**Elugardo, Ray. "Burge on Content." *Philosophy and Phenomenological Research* 53.2 (1993): 368–384.**

Challenges the coherence of Burge's interpretations of his own thought experiments.

**Field, Hartry.** "Mental Representation." In *Readings in Philosophy of Psychology*. Vol. 2. Edited by Ned Block, 9–61. Cambridge, MA: Harvard University Press, 1981.

An early articulation of a sort of two factor semantic theory, with only the conceptual role factor being relevant to psychology.

**Houghton, David.** "Mental Content and External Representations." *Philosophical Quarterly* 47.187 (1997): 159–177.

Discusses why we should take the role of external representations seriously in thinking about mental content.

**Lau, Joe, and Max Deutsch.** "Externalism about Mental Content." In *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Stanford, CA: Stanford University, 2014.

A recently updated review article that covers much of the ground of this annotated guide, but that makes the debate between internalists and externalists seem somewhat philosophically rarified.

**Loar, Brian.** "Reply: A New Kind of Content." In *Contents of Thought: Proceedings of the 1985 Oberlin Colloquium in Philosophy, Oberlin College*. Edited by Robert Grimm and David Merrill, 121–139. Tucson: University of Arizona Press, 1988.

Responds to Akeel Bilgrami's comments on Loar's "Social Content and Psychological Content," published in the same volume (Loar 1988, cited under Classic and Early Work), and clarifies the views there.

**Patterson, Sarah.** "The Explanatory Role of Belief Ascriptions." *Philosophical Studies* 59.3 (1990): 313–332.

With a flag to Loar's "Social Content and Psychological Content" (Loar 1988, cited under Classic and Early Work), makes a case for individualism about belief.

**Walsh, Denis.** "Wide Content Individualism." *Mind* 107.427 (1998): 625–651.

Attempts to stake out a middle-ground position between individualism and externalism that strives to preserve much of Fodor's *Psychosemantics* (Fodor 1987, cited under Classic and Early Work).

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## Intentionality: Books

As one might expect, given the importance of intentionality to the debate over internalism and externalism in the philosophy of mind, a number of the books mentioned in General Background and Classic and Early Work that either advocate (e.g., Stich 1996, cited under General Background, Fodor 1987, cited under Classic and Early Work) or critique (Wilson 1995, cited under General Background, Wilson 2004, cited under General Background) individualism have much to say about intentionality. Here the concentration is on other books from roughly 1985–1995 with a similar focus. Dennett 1987 provides a useful overview of the intentional stance that Dennett has developed in the series of papers that constitute the collection, while Millikan 1993 not only does the same for Millikan's teleosemantics but also includes several substantial, newer papers that have not been published previously. Fodor 1990 has this same feature, though the papers it collects have been significantly less influential than those in Fodor 1981 (cited under General Background). Whereas the notion of narrow content finds Fodor's sympathies in this collection, Fodor 1994 shows more of a strained commitment to that notion. In contrast to Baker 1987, which offers a critique of physicalism particularly attuned to the debate over internalism and externalism, and its relatively user-friendly writing style, Bilgrami 1992 and McGinn 1989 each make for more difficult reading, sometimes with attempts to cover middle-ground positions constituting part of the problem here. McDowell 1994 and Pettit 1993 are written with a broader scope, with McDowell developing thoughts that owe much to Kant and Sellars and Pettit linking issues in the philosophy of mind to those in the philosophy of social science

and politics. Millikan 2004 provides a relatively recent and quite accessible introduction to the development of Millikan's biosemantic program explaining intentionality.

**Baker, Lynne Rudder. *Saving Belief: A Critique of Physicalism*. Princeton, NJ: Princeton University Press, 1987.**

While purporting to be a general critique of physicalism, this volume is really an attack on individualism, instrumentalism, and eliminativism about psychology that concentrates on folk psychology.

**Bilgrami, Akeel. *Belief and Content*. Oxford: Basil Blackwell, 1992.**

Defends both the unity of content and what Bilgrami calls the "locality" of content. Bilgrami characterizes his view as "individualistic externalism," and a good question is whether individualism or externalism gets the upper hand here.

**Dennett, Daniel C. *The Intentional Stance*. Cambridge, MA: MIT, 1987.**

A collection of mostly published papers, including "True Believers: The Intentional Strategy and Why It Works" (1981), "Three Kinds of Intentional Psychology" (1981), and "Beyond Belief" (1982), together with postscripts to most of the papers.

**Fodor, Jerry. *A Theory of Content and Other Essays*. Cambridge, MA: MIT, 1990.**

Another collection of Fodor's essays, these written since 1981. Perhaps most noted for the two eponymous essays, which were new with the volume.

**Fodor, Jerry. *The Elm and the Expert*. Cambridge, MA: MIT, 1994.**

Witty, irreverent, and not without a few signs of desperation, as Fodor continues to grapple with the conciliation of intentionality with the computational nature of thought. Does Fodor here give up on the notion of narrow content or is he just playing?

**McDowell, John. *Mind and World*. Cambridge, MA: Harvard University Press, 1994.**

A much-anticipated book that develops McDowell's Sellars-inspired exploration of the Kant-inspired "space of reasons" and the "space of nature." Chapters on non-conceptual content and rationality, with a Kantian vein running through them.

**McGinn, Colin. *Mental Content*. New York: Basil Blackwell, 1989.**

A wide-ranging and at times insightful exploration of intentionality and externalism that wanders a lot and whose organization might have been more user friendly (the first chapter is 120 pages).

**Millikan, Ruth Garrett. *White Queen Psychology: Essays for Alice*. Cambridge, MA: MIT, 1993.**

Contains papers that help explain the author's *Language, Thought, and Other Biological Categories*, as well as several long, new papers (chapters 7, 8, 14, amounting to 120 pages or so) that moved the discussion in new directions.

**Millikan, Ruth Garrett. *Varieties of Meaning*. Cambridge, MA: MIT, 2004.**

Based on Millikan's Jean Nicod lectures from 2002, this book focuses on intentionality, combining the wide-ranging perspective one finds in Millikan 1984 (cited under Philosophy of Language/Mind Interface) with the benefit of the high level of accessibility of most of the papers in

Millikan 1993.

**Pettit, Philip. *The Common Mind*. New York: Oxford University Press, 1993.**

A wide-ranging book that covers topics in philosophy of mind, social science, and political philosophy in its three parts. Defends an anti-individualist view of the mind and offers a solution to the Kripkenstein puzzle about rule-following.

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## Narrow Content I

In *Intentionality: Articles* and *Intentionality: Books* we noted the importance of the notion of narrow content to debates over internalism and externalism about the mind, and this section and the next are devoted to the subliteration on this concept. Although, in general, Dennett's view of intentionality coheres better with an externalist view (especially given his appeal to cognitive scaffolding in the world), Dennett 1982 is an exploration, in part, of the idea of a "notional world" and how that concept might be used to articulate a conception of content that is individualistic. Brown 2016 provides an updated review of the various specific accounts of narrow content, examples of which include those articulated in Devitt 1990, Chalmers 2002, and Chalmers 2003. Chalmers 2002 follows Block 1987 (cited under *Intentionality: Articles*) among many others in allowing for a dual account of content—narrow and wide—while Chalmers 2003 develops the ideas here by an appeal to the idea of epistemically grounding narrow content in experience. Among the responses to Fodor's proposals regarding narrow content in his *Psychosemantics* (Fodor 1987, cited under *Classic and Early Work*) and its antecedents are Adams, et al. 1990; Antony 1990; Block 1991; and Davies 1986. Aydede 1997 offers an integrative perspective on Fodor's work here.

**Adams, Fred, David Drebusenko, Gary Fuller, and Robert Stecker. "Narrow Content: Fodor's Folly." *Mind and Language* 5.3 (1990): 213–229.**

A pointed attack on attempts, particularly those by Fodor in his "Cognitive Science and the Twin-Earth Problem" (Fodor 1982, cited under *Narrow Content II*) and *Psychosemantics* (Fodor 1987, cited under *Classic and Early Work*), to develop a notion of narrow content.

**Antony, Louise. "Semantic Anorexia: On the Notion of 'Content' in Cognitive Science." In *Meaning and Method*. Edited by George Boolos, 105–135. Cambridge, UK: Cambridge University Press, 1990.**

An attack on some recent accounts of narrow content.

**Aydede, Murat. "Has Fodor Really Changed His Mind on Narrow Content?" *Mind and Language* 12.3–4 (1997): 422–458.**

Offers an account of Fodor's trajectory from 1980 to 1994 on intentionality, arguing that he has not, in fact, changed his mind in Fodor 1994 (cited under *Intentionality: Books*) about narrow content.

**Block, Ned. "What Narrow Content Is Not." In *Meaning in Mind: Fodor and His Critics*. Edited by Barry Loewer and Georges Rey, 33–64. Cambridge, MA: Blackwell, 1991.**

A contribution to a festschrift for Fodor that attacks Fodor's own account of narrow content in his *Psychosemantics* (Fodor 1987, cited under *Classic and Early Work*).

**Brown, Curtis. "Narrow Mental Content." In *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Stanford, CA: Stanford University, 2016.**

An encyclopedic overview of narrow content that covers the history of the concept, and in sections 3 and 4 the chief arguments for and accounts of narrow content.

**Chalmers, David J. "The Components of Content." In *Philosophy of Mind: Classical and Contemporary Readings*. Edited by David J. Chalmers, 608–633. Oxford: Oxford University Press, 2002.**

Written at the interface of the philosophy of mind and language, Chalmers introduces a two-dimensional account of mental content that distinguishes notional from relational content, and argues that the former, while propositional and truth-conditional, serves the role of narrow content.

**Chalmers, David J. "The Nature of Narrow Content." *Philosophical Issues* 13.1 (2003): 46–66.**

Offers an epistemic grounding of the notion of narrow content.

**Davies, Martin. "Externality, Psychological Explanation, and Narrow Content." *Proceedings of the Aristotelian Society* 60 (1986): 263–283.**

A response to an earlier version of chapter 2 of Fodor's *Psychosemantics* (Fodor 1987, cited under Classic and Early Work) that discusses the claim that there is a divergence between common sense and psychology with regard to content and Fodor's own proposal regarding narrow content.

**Dennett, Daniel C. "Beyond Belief." In *Thought and Object: Essays on Intentionality*. Edited by Andrew Woodfield, 1–95. Oxford: Oxford University Press, 1982.**

A long paper whose chief relevance here is its introduction of the idea of a notional world; cf. Stalnaker's "On What's in the Head" (Stalnaker 1989, cited under Narrow Content II).

**Devitt, Michael. "A Narrow Representational Theory of the Mind." In *Mind and Cognition*. Edited by William Lycan, 371–398. Oxford: Basil Blackwell, 1990.**

Devitt's shot at narrow content.

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## Narrow Content II

Fodor 1982 and White 1991 are two of the earliest attempts to fashion a notion of content that is individualistic, and thus be resilient against the Putnam-Burge thought experiments and the conclusion that appeals to representational content violated the constraint of individualism; Burge 1982a (cited under Classic and Early Work) is a reply to Fodor 1982. Following Burge's explicit shift to the notion of content in the cognitive sciences in Burge 1986 (cited under Classic and Early Work), the narrow content program swung into full steam. Fodor 1991, Jackson and Pettit 1993, and Segal 2000 offer defenses of narrow content, while Stalnaker 1989, Stalnaker 1999, and Sawyer 2007 provide critiques of a number of the most prominent proposals, including those in Loar 1988 and Fodor 1987 (both cited under Classic and Early Work). Stich 1991 sketches an alternative individualistic view that does without the notion of content altogether, and in so doing presents a contrast between the narrow content program and the author's own syntactic theory of mind. Egan 1992 is an outlier with respect to the narrow content program, arguing for a pox on both the houses of content via an appeal to Marr's computational theory of vision (see Marr's Theory of Vision): although Egan argues for the individualistic nature of computational vision, the role of content in that theory makes both the narrow content program and the kinds of appeals to wide or broad content made initially by Burge 1986 (cited under Classic and Early Work) mistakes of different kinds but mistakes nonetheless.

**Egan, Frances. "Individualism, Computation, and Perceptual Content." *Mind* 101.403 (1992): 443–459.**

Argues for the view that a proper understanding of the role of content in cognitive science (especially in Marr's Theory of Vision) undermines both the narrow content program and the claim that content is wide. Also argues that computational individuation is individualistic.

**Fodor, Jerry. "Cognitive Science and the Twin-Earth Problem." *Notre Dame Journal of Formal Logic* 23.2 (1982): 98–118.**

Contains an early attempt of Fodor's to formulate a notion of narrow content in phenomenological terms; cf. Burge's "Two Thought Experiments Reviewed" in the same journal issue (Burge 1982a, cited under Classic and Early Work).

**Fodor, Jerry. "A Modal Argument for Narrow Content." *Journal of Philosophy* 88.1 (1991): 5–26.**

A second shot at the account of narrow content discussed in Fodor's *Psychosemantics* (Fodor 1987, cited under Classic and Early Work), and taken more seriously than it deserved to be.

**Jackson, Frank, and Philip Pettit. "Some Content is Narrow." In *Mental Causation*. Edited by John Heil and Alfred Mele, 259–282. New York: Oxford University Press, 1993.**

A fairly commonsense defense of a species of narrow content.

**Sawyer, Sarah. "There is No Viable Notion of Narrow Content." In *Contemporary Debates in Philosophy of Mind*. Edited by Brian McLaughlin and Jonathon D. Cohen, 20–34. Oxford: Blackwell, 2007.**

Explains the distinction between narrow and wide content, and the motivation for each, before critiquing three proposals for what narrow content is: the idea that it is a function from contexts to broad content (e.g., Fodor 1982), that it is grounded in epistemic possibility (e.g., Chalmers 2003, cited under Narrow Content I), or that it is what is prescribed in ordinary folk ascriptions of content (Segal 2000).

**Segal, Gabriel. *A Slim Book about Narrow Content*. Cambridge, MA: MIT, 2000.**

Divides Putnam-style from Burge-style externalism, and attempts to regain some conceded ground for individualists.

**Stalnaker, Robert. "On What's in the Head." *Philosophical Perspectives* 8.3 (1989): 287–316.**

Also in his *Context and Content* (New York: Oxford University Press, 1998), pp. 169–193. An influential response to revisionist proposals regarding content in light of the Putnam-Burge thought experiments. Discusses Daniel Dennett's "notional worlds" and Stephen White's "partial character" as bases for accounts of narrow content.

**Stalnaker, Robert. "Narrow Content." In *Context and Content*. By Robert Stalnaker, 194–209. Oxford: Oxford University Press, 1999.**

With a focus on Loar's "Social Content and Psychological Content" (Loar 1988, cited under Classic and Early Work), argues that there are problems with internalist views of content.

**Stich, Stephen. "Fat Syntax Meets Skinny Semantics." In *Fodor and His Critics*. Edited by Barry Loewer and Georges Rey, 239–254. Cambridge, MA: Blackwell, 1991.**

Discusses Stich's preferred content-free view of cognition with views of narrow content.

**White, Stephen.** *The Unity of the Self*. Cambridge, MA: MIT, 1991.

A collection of White's essays. Noteworthy in this context are the first two chapters, "Partial Character and the Language of Thought" (1982) and "Narrow Content and Narrow Interpretation" (1991), which introduce and develop the kind of account of narrow content associated with Fodor's *Psychosemantics* (Fodor 1987, cited under Classic and Early Work).

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## Phenomenal Intentionality

The debate over internalism and externalism has been so central to the philosophy of mind since the 1970s, as we have seen, in part because of what it implies about intentionality, representation, or mental content. The leading accounts of intentionality in the last quarter of the 20th century were causal/informational theories epistemized by Fred Dretske's *Knowledge and the Flow of Information* (1981), and teleological or biosemantic theories whose most systematic development can be found in Ruth Millikan's *Language, Thought, and Other Biological Categories* (1984) and the essays in *White Queen Psychology and Other Essays for Alice* (Millikan 1993, cited under Intentionality: Books). Both were externalist in orientation, providing naturalistic accounts of intentionality cast in terms of external causes or biofunctions. Starting with Loar 1987, Horgan and Tienson 2002, and Loar 2003, an alternative approach to intentionality began to emerge that the authors of Kriegel 2013 and Mendelovici and Bourget 2014 call the *phenomenal intentionality research program*. The basic idea here is to take phenomenal states—states that have something it is like to have them, such as perceptual states—to be paradigmatic forms of intentionality, and to attempt to explain aspects of intentionality via that basic idea. While both Kriegel 2013 and Mendelovici and Bourget 2014 provide overviews of this paradigm, Bourget and Mendelovici 2017 gives the most comprehensive and up-to-date general coverage of phenomenal intentionality. For both Loar and Horgan and Tienson, phenomenal intentionality is narrow or individualistic, though in reacting to the externalist view that intentionality was wide, they adopted what might be thought of as a middle-ground position, attempting to carve out a central place for phenomenal intentionality in the rising tide of externalism about content. Farkas 2008 defends a less compromising view, according to which narrow intentionality is apt to carry all of the load, and so appeals to wide content are otiose. Horgan 2013 reviews the chief arguments for accepting phenomenal intentionality while introducing a new argument that acknowledges its debt to Searle's Chinese Room argument. Wilson 2003 questions whether the notion of phenomenal intentionality can do all that Loar and Horgan and Tienson ask of it and suggests that philosophers with antecedent theoretical commitments one way or the other about phenomenal intentionality are unlikely to be reliable first-person reporters of just what the phenomenality of thought and belief are like.

**Bourget, David, and Angela Mendelovici.** "Phenomenal Intentionality." In *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Stanford, CA: Stanford University, 2017.

A comprehensive overview of work on phenomenal intentionality that covers the variety of views of phenomenal intentionality, key arguments for accepting the notion and the role it plays in accounts of intentionality, and problems in progress for those accounts.

**Farkas, Katalin.** "Phenomenal Intentionality without Compromise." *The Monist* 91.2 (2008): 273–293.

A defense of the view that the reasons that have been given for accepting the middle-ground position, held by early defenders of phenomenal intentionality such as Loar and Horgan and Tienson, that there is some intentionality that is externalist are weak, and that narrow intentionality is all the intentionality that someone committed to phenomenal intentionality needs.

**Horgan, Terence.** "Original Intentionality Is Phenomenal Intentionality." *The Monist* 96.2 (2013): 232–251.

A relatively recent expression of Horgan's view of phenomenal intentionality that takes up questions about the "original intentionality" of robots and offers an argument inspired by Searle's Chinese Room argument to support claims about phenomenal intentionality.

**Horgan, Terence, and John Tienson.** "The Intentionality of Phenomenology and the Phenomenology of Intentionality." In *Philosophy of Mind: Classical and Contemporary Readings*. Edited by David J. Chalmers, 520–533. New York: Oxford University Press, 2002.

Defends the idea that there is a necessary or inseparable connection between intentionality and phenomenology of some kind, and that both are narrow.

**Kriegel, Uriah, ed. *Phenomenal Intentionality*. New York: Oxford University Press, 2013.**

A diverse collection of new essays within what Kriegel, in his useful introduction, calls the phenomenal intentionality research program.

**Loar, Brian. "Subjective Intentionality." *Philosophical Topics* 15 (1987): 89–124.**

One of the earliest articulations of what has subsequently been called "phenomenal intentionality" and that Loar has also called "psychological content" (Loar 1988, cited under Classic and Early Work) and "intentional qualia" (Loar 2002, cited under Consciousness, Phenomenology, and Experience: Articles).

**Loar, Brian. "Phenomenal Intentionality as the Basis of Mental Content." In *Reflections and Replies: Essays on the Philosophy of Tyler Burge*. Edited by Martin Hahn and Bjorn Ramberg, 229–257. Cambridge, MA: MIT, 2003.**

A more extensive treatment of the idea of phenomenal intentionality and its foundational status in any account of mental content.

**Mendelovici, Angela, and David Bourget. "Naturalizing Intentionality: Tracking Theories versus Phenomenal Intentionality Theories." *Philosophy Compass* 9.5 (2014): 325–337.**

Following Kriegel's introduction in Kriegel 2013, the authors cluster the dominant theories of intentionality during the 1980s and 1990s—causal theories of various kinds and Millikan's biosemantics program—under the heading of "tracking theories" and contrasts these with accounts that accord a central place to the phenomenal nature of mental states in providing an account of their content.

**Wilson, Robert A. "Intentionality and Phenomenology." *Pacific Philosophical Quarterly* 84.4 (2003): 413–431.**

An early, critical response to Horgan and Tienson 2002, Loar 1987, and Loar 2003 that challenges the inseparability thesis, the claim that phenomenal character and intentional content are inseparable; also reworked slightly as chapter 10 in Wilson 2004 (cited under General Background).

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## Consciousness, Phenomenology, and Experience: Articles

Given the origins of externalism in thinking about intentionality, it was only a matter of time before the implications of externalism for consciousness were explored. A core part of that exploration came via representationalist views of consciousness, adopting the broad idea that the best way to explain consciousness was by utilizing the existing frameworks for understanding intentionality. Representationalism about phenomenal experience is thus the view that phenomenal properties of mental states should be understood, in some way, via intentionality, being sometimes expressed as the claim that the phenomenal character of experience just is its intentionality (nothing more, nothing less). Block 1990 is a widely discussed early critique of such views. The works of authors who have subsequently employed representationalism to defend externalism about experience include Davies 1995, Dretske 1996, and Lycan 2001. While van Gulick 1995 provides an approach to phenomenal consciousness that gives primacy to intentionality and so is akin to representationalism, Loar 2002 and Chalmers 2004 both put more emphasis on the internalist nature of phenomenal experience that situate the resulting views more closely to the work reviewed in *Phenomenal Intentionality* on phenomenal intentionality. Finally, some of the most interesting work here has involved rethinking the relationship between vision and action. O'Regan and Noë 2001a and O'Regan and Noë 2001b develop the authors' sensorimotor account of visual consciousness in ways that comport with externalism, and that Noë later expanded in his *Action in Perception* (2004). Hurley 2001 provides a truncated introduction to the majestic *Consciousness in Action* (Hurley 1998, cited under Consciousness, Phenomenology, and Experience: Books).

**Block, Ned. "Inverted Earth." *Philosophical Perspectives* 4 (1990): 51–79.**

Reprinted in Block, et al. 1997 (cited under General Background), pp. 677–693. Develops a complicated variant on inverted spectrum and Twin Earth stories to argue against representationalist views of phenomenal experience.

**Chalmers, David. "The Representational Character of Experience." In *The Future for Philosophy*. Edited by Brian Leiter, 153–181. New York: Oxford University Press, 2004.**

A synthetic paper that begins by contrasting the projects of grounding consciousness in intentionality and grounding intentionality in consciousness and ends up defending "a form of impure, nonreductive, narrow, Fregean representationalism," a position that can be properly understood only via the five contrasts this description relies on and that Chalmers discusses.

**Davies, Martin. "Externalism and Experience." In *Philosophy and Cognitive Science: Categories, Consciousness, and Reasoning*. Edited by Andy Clark, Jesús Ezquerro, and Jesús M. Larrazabal, 1–33. Dordrecht, The Netherlands: Kluwer Academic, 1995.**

Reprinted in Block, et al. 1997 (cited under General Background), pp. 309–327. Articulates a form of externalism with respect to phenomenal experience and phenomenal content.

**Dretske, Fred. "Phenomenal Externalism, or If Meanings Ain't in the Head, Where are Qualia?" In *Perception*. Edited by Enrique Villanueva, 143–158. Philosophical Issues 7. Atascadero, CA: Ridgeview, 1996.**

A defense of the eponymous view that is short and sweet.

**Hurley, Susan. "Perception and Action: Alternative Views." *Synthese* 129.1 (2001): 3–40.**

A forty-page introduction to some of the views developed in Hurley's *Consciousness in Action* (Hurley 1998, cited under Consciousness, Phenomenology, and Experience: Books).

**Loar, Brian. "Transparent Experience and the Availability of Qualia." In *Consciousness: New Philosophical Perspectives*. Edited by Quentin Smith and Aleksandar Jokić, 71–96. Oxford: Oxford University Press, 2002.**

Develops a position similar to that of Horgan and Tienson "The Intentionality of Phenomenology and the Phenomenology of Intentionality" (Horgan and Tienson 2002, cited under Phenomenal Intentionality), offering an alternative to the fashion for phenomenal externalism. As the title suggests, a defense of internalism about the phenomenal, via a representationalist account.

**Lycan, William. "The Case for Phenomenal Externalism." *Philosophical Perspectives* 15 (2001): 17–35.**

As the title suggests, a defense of externalism about the phenomenal, via a representationalist account.

**O'Regan, J. Kevin, and Alva Noë. "What It Is Like to See: A Sensorimotor Theory of Perceptual Experience." *Synthese* 129.1 (2001a): 79–103.**

Pretty much a digest of O'Regan and Noë 2001b, but which might be preferable for those who want a more compressed read.

**O'Regan, J. Kevin, and Alva Noë. "A Sensorimotor Account of Vision and Visual Consciousness." *Behavioral and Brain Sciences* 24.5 (2001b): 939–972.**

Proposes that visual consciousness is an action and develops this idea in externalist-friendly ways; many affinities to Dennett's views of consciousness.

**van Gulick, Robert. "How Should We Understand the Relation between Intentionality and Phenomenal Consciousness?" *Philosophical Perspectives* 9 (1995): 271–289.**

Closely examines Searle's connection argument for the claim that only potentially conscious states have intentional content and argues for a position intermediate between two extremes, one represented by Searle, the other by Dennett's view that intentionality can be understood independent of consciousness. On van Gulick's view, nonphenomenal intentionality is the primary base for at least partially explaining phenomenal consciousness.

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## Consciousness, Phenomenology, and Experience: Books

As the previous few sections indicate, although the debate between internalists and externalists focused originally on intentionality and the nature of mental representation, with the resurgence of general interest in consciousness in the 1990s, the implications for views of consciousness of the shift to an externalist view began to be explored as that decade wore on. Dennett 1991 and Chalmers 1996 are two of the most influential general books on consciousness from that period. Neither contains any explicit discussion of internalism and externalism, although in general terms Chalmers has subsequently developed views more sympathetic to internalism, and Dennett's views are more sympathetic to externalism. Lycan 1996 and Dretske 1996 each develop perspectives on consciousness and experience that extend the previous work of the authors within a broadly externalist framework: Lycan remains focused on the functionalism he had defended in his *Consciousness* (1987), while Dretske draws together and expands on his earlier work on perception and the naturalizing project that he pursued in developing information semantics. Siewert 1998 and Hurley 1998 are influential books published in the same year that contrast in interesting ways. Siewert 1998 is a more traditional philosophical analysis of consciousness that concentrates on the first-person perspective and puzzles that arise for it about consciousness, privileged access, and cognitive neglect. Hurley 1998, by contrast, offers a rethinking of the relationship between vision and action that challenges both general internalist views of consciousness and specific arguments that appeal to thought experiments that buttress internalist intuitions. Orlandi 2014 shares with Hurley an attempt to rethink visual processing in a broadly externalist framework. All three draw on the empirical literature in informative ways, and even twenty years later, are worth a read. Farkas 2008 develops the not-so-compromising form of internalism the author touts in Farkas 2008 (cited under Phenomenal Intentionality), while Siegel 2010 continues more traditional work in the philosophy of perception that largely bypasses the internalism-externalism debate, though short sections in several of the chapters take up that debate. The essays in Bayne and Montague 2011, as well as the editorial introduction to the volume, provide a good sense of why cognitive phenomenology has been at the center of much recent discussion in the philosophy of mind, and in the relationships between that discussion in the debate over internalism and externalism.

**Bayne, Tim, and Michelle Montague, eds. *Cognitive Phenomenology*. Oxford: Oxford University Press, 2011.**

A collection of fourteen essays, together with an editorial introduction, that explains the contemporary interest in phenomenology chiefly within analytic philosophy of mind and cognitive science.

**Chalmers, David J. *The Conscious Mind*. New York: Oxford University Press, 1996.**

Based on his doctoral dissertation, a book that garnered immediate and widespread attention from the time it was published from both philosophers and non-philosophers.

**Dennett, Daniel C. *Consciousness Explained*. Boston: Little Brown, 1991.**

A sort of extension of Dennett's intentional stance to consciousness, developed with a more explicitly eliminativist twist; a book that many psychologists and cognitive scientists viewed as the most relevant book by a philosopher on consciousness published in the 1980s and 1990s.

**Dretske, Fred. *Naturalizing the Mind*. Cambridge, MA: MIT, 1996.**

Develops Dretske's earlier work on perception within an externalist framework, with chapters on introspection, qualia, consciousness, and supervenience.

**Farkas, Katalin. *The Subject's Point of View*. Oxford: Oxford University Press, 2008.**

Presents a sustained internalist view of mentality that appeals to the perspectival nature of distinctively mental states and pushes back against the trend toward externalism in much of the literature of the 1990s, in part by drawing more explicitly on issues in the philosophy of language.

**Hurley, Susan. *Consciousness in Action*. Cambridge, MA: Harvard University Press, 1998.**

A tour de force consisting of relatively independent chapters that challenge a number of dominant views of consciousness and thought experiments (e.g., Block's "Inverted Earth") commonly used in the consciousness literature.

**Lycan, William. *Consciousness and Experience*. Cambridge, MA: MIT, 1996.**

Defends an across-the-board functionalism about consciousness and intentionality familiar from his 1987 book on consciousness.

**Orlandi, Nico. *The Innocent Eye: Why Vision Is Not a Cognitive Process*. New York: Oxford University Press, 2014.**

Argues against the dominant view among visual perceptual theorists (including its most recent Bayesian incarnation) that vision involves some kind of constructive inference and in favor of an externalist-inspired account of vision as "embedded."

**Siegel, Susanna. *The Contents of Visual Experience*. Oxford: Oxford University Press, 2010.**

Focuses on the question of how rich the contents of visual experience are, and the implications of an answer to the question for broader issues in the philosophy of perception.

**Siewert, Charles. *The Significance of Consciousness*. Princeton, NJ: Princeton University Press, 1998.**

Explores central topics connection to consciousness, such as first-person knowledge and the relationship between consciousness and intentionality, from a perspective influenced by internalists such as Searle and Chalmers.

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## Marr's Theory of Vision

Early reactions to Putnam 1975 and Burge 1979 (both cited under Classic and Early Work) included something like the following line of thought: OK, so our folk psychological conception of content is infected with externalism, but short of going the whole eliminativist hog about mental representation—stitching oneself into church land—none of this intuition-mongering about Twin Earth or "tharthritis" of "chofas" has much relevance for cognitive science. At best ambivalently entertained by its proponents, such thinking was scurried in Burge 1986 (cited under Classic and Early Work), which argued explicitly that Marr's theory of vision, a sort of paradigm of work in computational vision highly regarded within the cognitive sciences, trafficked in wide content. Marr's theory is presented in his posthumously published *Vision: A Computational Investigation into the Human Representation and Processing of Visual Information* (New York: Freeman, 1982). Starting with Kitcher 1988 and Segal 1989, the former defending and the latter attacking this view of Marr's theory, the papers in this section show how this dimension to the debate over internalism and externalism played out until 2000. Key papers here are Shapiro 1997 and Egan 1995,

both of which build on earlier and somewhat messier papers that the authors had published on the same topic. Egan 1992 (cited under Narrow Content II) had argued that computational theories of vision were individualistic and offered a sort of “no content” view of Marr’s theory; Egan 1995 usefully locates this view in a broader philosophy of science framework. Shapiro 1997 rejects this no content view and defends an externalist view of content within Marr’s theory; it goes beyond Shapiro 1993 in informative ways by sketching a bigger picture view located between the philosophy of mind and science. Butler 1996, in turn, critiques Shapiro 1993, while Butler 1998 focused more directly on Egan’s views; both attempt to buttress individualistic understandings of Marr’s theory of vision. Kitcher 1988, Davies 1991, and Morton 1993, by contrast, side with Burge and Shapiro in defending externalist readings of Marr. Segal 1991 is a paired, direct response to Davies 1991 that deepens the response Segal 1989 makes to Burge 1986. A more expansive and hopefully informative characterization of this debate is found on pp. 150–174 of Robert A. Wilson, *Boundaries of the Mind* (Wilson 2004, cited under General Background).

**Butler, Keith. “Individualism and Marr’s Computational Theory of Vision.” *Mind and Language* 11.4 (1996): 313–337.**

Attacks Shapiro 1993 and defends an individualistic view of Marr’s theory of vision that is distinct from that of Segal 1989.

**Butler, Keith. “Content, Computation, and Individuation.” *Synthese* 114 (1998): 277–292.**

Focused largely on Egan 1995 and her claim that content plays a non-realist role in Marr’s theory of vision, but argues that rejection of this view does not lead to anti-individualism.

**Davies, Martin. “Individualism and Perceptual Content.” *Mind* 100 (1991): 461–484.**

Argues, following Burge, that Marr’s theory of vision uses a notion of wide content.

**Egan, Frances. “Computation and Content.” *Philosophical Review* 104 (1995): 181–203.**

Further develops the argument in Egan 1992 (cited under Narrow Content II) that aims to undermine both the narrow content program and the appeal to wide content, with special reference to Marr’s computational theory of vision, and casts it in a more general framework in the philosophy of science.

**Kitcher, Patricia. “Marr’s Computational Theory of Vision.” *Philosophy of Science* 55.1 (1988): 1–24.**

An early paper that defends the wide nature of Marr’s theory.

**Morton, Peter. “Supervenience and Computational Explanation in Vision Theory.” *Philosophy of Science* 60.1 (1993): 86–99.**

Argues that Marr’s theory of vision is not individualistic.

**Segal, Gabriel. “Seeing What Is Not There.” *Philosophical Review* 98 (1989): 189–214.**

The best response to Burge 1986 (cited under Classic and Early Work) on Marr that I know of and that introduced one of my favorite philosophical terms of art: crackdow.

**Segal, Gabriel. “In Defense of a Reasonable Individualism.” *Mind* 100 (1991): 485–494.**

Further defense of the view that Marr’s theory of vision is individualistic, directed this time at Davies 1991, with broader overtures.

**Shapiro, Lawrence. "Content, Kinds, and Individualism in Marr's Theory of Vision." *Philosophical Review* 102.4 (1993): 489–513.**

A complicated paper that argues that the standard test employed to determine whether a given psychological theory (in this case, Marr's) is individualistic is inadequate.

**Shapiro, Lawrence. "A Clearer Vision." *Philosophy of Science* 64.1 (1997): 131–153.**

Argues against the view of Marr's theory as content-free that Egan has defended and outlines the role of content in the theory of vision.

## Knowledge and Self-Knowledge

Among the targets of the critique of individualism in Burge 1979 (cited under Classic and Early Work) were what Burge called Cartesian-Russellian introspectionist treatments of the mind, and together with Burge 1988, this challenge to the general idea that we know the contents of at least our own minds by some kind of introspective ability has generated its own subliteration, much of it gathered in Ludlow and Martin 1998. Parent 2013 provides an update to this literature. There are also broader concerns about anti-individualism or externalism and knowledge more generally, and here Brown 2004 provides general coverage from an externalist perspective. Finally, interest has been shown in bringing together work on externalism in the philosophy of mind and epistemology more explicitly, something that both Brown 2007 and the essays in the recent special issue of the journal *American Philosophical Quarterly* do (Greco 2016). Parent 2017 presents an accessible, even if at times sophisticated, account of self-reflection in the context of both externalist challenges and empirically driven skepticism about the limits of our knowledge.

**Brown, Jessica. *Anti-individualism and Knowledge*. Cambridge, MA: MIT, 2004.**

Presents a defense of externalism by attempting to show that the rejection of individualism neither has radical implications for the limitation of what we know (e.g., about our own mental states), nor provides too easy a path to a priori knowledge of the nature of the world.

**Brown, Jessica. "Externalism in Mind and Epistemology." In *Internalism and Externalism in Semantics and Epistemology*. Edited by Sanford Goldberg, 13–34. New York: Oxford University Press, 2007.**

Provides an overview of externalism in both the philosophy and mind and epistemology and the relationship between them.

**Burge, Tyler. "Individualism and Self-Knowledge." *Journal of Philosophy* 85.11 (1988): 649–663.**

States the prima facie tension between the rejection of individualism and the authority of self-knowledge, and proposes a solution to the problem.

**Greco, John, ed. *Special Issue: Varieties of Externalism: Epistemic, Content, Vehicle*. *American Philosophical Quarterly* 53.2 (2016).**

Six recent papers, each of which explores some theme within externalism about the mind or knowledge, or the relation between the two, supported by an editorial introduction by J. Adam Carter, Andy Clark, Jesper Kallestrup, S. Orestis Palenno, and Duncan Pritchard.

**Ludlow, Peter, and Norah Martin, eds. *Externalism and Self-Knowledge*. Palo Alto, CA: CSLI, 1998.**

A collection of twenty-one essays that explore the implications of externalism for the knowledge that we have of our own minds. It includes Burge 1979 (cited under Classic and Early Work) and Burge 1988, together with influential papers by Paul Boghossian and Jessica Brown.

**Parent, Ted. "Externalism and Self-Knowledge." *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Stanford, CA: Stanford University, 2013.**

A comprehensive review of the literature on externalism and self-knowledge.

**Parent, Ted. *Self-Reflection for the Opaque Mind: An Essay in Neo-Sellarsian Philosophy*. New York: Routledge, 2017.**

A defence of both the importance and possibility of self-knowledge in the wake of challenges posed by both externalism in the philosophy of mind and the empirical literature that shows our fallibility about both what we know and how we know it.

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## Other Cognitive Science and Philosophy of Science: Articles

These final two sections include works that highlight miscellaneous work on internalism and externalism that connects either to cognitive science or to the philosophy of science, or both. Chomsky 1995 is notable for its sweeping dismissal of Putnam-Burge inspired externalism, as well as for the brief endorsement of Egan's counterintuitive "no content" view of Marr's Theory of Vision. Patterson 1991 gives a localized, internalist interpretation of particular work in developmental psychology—that on semantic development—while Walsh 1999 takes the debate over individualism into the philosophy of biology by arguing that the individuation of Hox genes in development biology and genetics is non-individualistic, a view challenged in Wilson 2000b. Haugeland 1998 shows the author's typical clarity in discussing the embodied and embedded nature of cognition, while Clark 2001 links ongoing work on dynamic approaches to robotics to the extended mind thesis. Orlandi 2013 is a philosophically succinct precis, in some ways, of Orlandi 2014 (cited under Consciousness, Phenomenology, and Experience: Books) that shows some affinities with the Gibsonian approach to visual perception. Wilson 2000a expresses many of the ideas about extended cognition developed in more detail in Wilson 2004 (cited under General Background), while Wilson 2004 links together individualism across the cognitive, biological, and social sciences. Wilson 2010 provides an explicit argument for why vision is extended that centers on the idea that vision and action are more integrally related than has usually been thought, building on the work of Susan Hurley, Brenda Milner, and Mel Goodale.

**Chomsky, Noam. "Language and Nature." *Mind* 104 (1995): 1–61.**

Goes after Putnam and Burge with much rhetorical flourish as part of a broader advocacy of his defense of "I-languages" over "E-language" alternatives.

**Clark, Andy. "Reasons, Robots and the Extended Mind." *Mind and Language* 16 (2001): 121–145.**

Develops the extended mind idea in the context of recent work in "embodied cognition" and dynamic approaches within robotics.

**Haugeland, John. "Mind Embodied and Embedded." In *Having Thought: Essays in the Metaphysics of Mind*. By John Haugeland, 207–237. Cambridge, MA: Harvard University Press, 1998.**

An account of the mind that emphasizes the "incorporeal interfaces" in real-life cognition, with some discussion of work in classic and contemporary artificial intelligence. Some affinities with Clark and Chalmers 1998 (cited under the Extended Mind and Cognition), McDowell 1994 (cited under Intentionality: Books), and the work of Hubert Dreyfus.

**Orlandi, Nico. "Embedded Seeing: Vision in the Natural World." *Nous* 47.4 (2013): 727–747.**

Provides a capsule statement of the view that Orlandi develops at length in Orlandi 2014 (cited under Consciousness, Phenomenology, and Experience: Books) that departs from the Helmholtzian view of vision as inferential and thus as internally cognitively loaded.

**Patterson, Sarah. "Individualism and Semantic Development." *Philosophy of Science* 58 (1991): 15–35.**

Argues for an individualistic interpretation of recent studies in developmental linguistics while rejecting a commitment to global individualism.

**Walsh, Denis. "Alternative Individualism." *Philosophy of Science* 66.4 (1999): 628–648.**

A defense of the position in Walsh 1998 (cited under Intentionality: Articles) that appeals to the taxonomy of Hox genes in genetics to bolster that position.

**Wilson, Robert A. "The Mind beyond Itself." In *Metarepresentations: A Multidisciplinary Perspective*. Edited by Dan Sperber, 31–52. New York: Oxford University Press, 2000a.**

Introduces many of the ideas developed more fully in chapters 6–8 of *Boundaries of the Mind* (Wilson 2004, cited under General Background), including that of locational externalism.

**Wilson, Robert A. "Some Problems for 'Alternative Individualism.'" *Philosophy of Science* 67 (2000b): 671–679.**

A critique of Walsh 1998 (cited under Intentionality: Articles) and Walsh 1999 that argues that there is no middle ground for "alternative individualism" and that the analysis of the Hox genes case is mistaken.

**Wilson, Robert A. "Recent Work in Individualism in the Social, Behavioural and Biological Sciences." *Biology and Philosophy* 19 (2004): 397–423.**

A review connecting individualism about cognition, biology, and the social sciences, presenting a view developed further in Wilson's *Boundaries of the Mind* (Wilson 2004, cited under General Background) and *Genes and the Agents of Life* (2005).

**Wilson, Robert A. "Extended Vision." In *Perception, Action and Consciousness*. Edited by Nivedita Gangopadhyay, Michael Madary, and Finn Spicer, 277–290. New York: Oxford University Press, 2010.**

An explicit defense of the idea that visual perception and visual experience exemplify extended cognition.

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## Other Cognitive Science and Philosophy of Science: Books

This section contains books that provide readers with some more general background in the philosophy of cognitive science relevant to debates over externalism and internalism. Given the central role that Jerry Fodor has played in the debate over internalism and externalism, particularly through the influence of his *Psychosemantics* (Fodor 1987, cited under Classic and Early Work), it can be useful to situate that work against both the earlier and the later work of Fodor. Fodor 1975 is the classic defense of Fodor's internalist language of thought hypothesis. Fodor 1983—more influential among cognitive scientists—defends the view that perception plus language are modular and thus readily understood by computational theories, while the rest of cognition is not, and thus not so readily understood (or worse). Fodor 1998, on concepts, and Fodor 2000, on evolutionary psychology, in some ways represent the cranky fallout from this earlier work and can be seen as Fodor's chastisement of directions in the cognitive sciences that have paid insufficient heed to his earlier strictures. McClamrock 1995 and Rowlands 1999 develop embodied and embedded perspectives on cognition, perspectives for which Shapiro 2011 provides a definitive overview. Millikan 2000 stands in contrast to Fodor 1998 on concepts, and typifies Millikan's encompassing and constructive approach to the topics that she bites off. Searle 1992 is as feisty as Fodor 1998 and Fodor 2000 in treating all that has gone wrong in cognitive science, and it has served as the foundational text for the revival of the importance of first-person perspectives on cognition that is a central thread to many of the works cited under Phenomenal Intentionality, Consciousness, Phenomenology, and Experience: Books, and Consciousness, Phenomenology, and Experience: Articles. Searle 1984 is the book-length development of what follows from Searle's famed Chinese Room

thought experiment, which ranks together with Putnam on water, Burge on arthritis, and Clark and Chalmers on Otto and Inga, as one of philosophy's most influential intuition pumps.

**Fodor, Jerry. *The Language of Thought*. New York: Thomas Crowell, 1975.**

The classic expression of Fodor's language of thought hypothesis.

**Fodor, Jerry. *The Modularity of Mind*. Cambridge, MA: MIT, 1983.**

Argues that the mind has a highly modular structure, and that where capacities are not modular ("central processes"), cognitive science can expect to make little real progress; cf. also Fodor 2000.

**Fodor, Jerry. *Concepts: Where Cognitive Science Went Wrong*. New York: Oxford University Press, 1998.**

A tirade against almost much everything that psychologists, linguists, and philosophers have said about concepts in the last fifty years.

**Fodor, Jerry. *The Mind Doesn't Work That Way*. Cambridge, MA: MIT, 2000.**

Argues for the limitations to cognitive science implied by taking the scope of the modularity thesis defended in Fodor 1983 seriously; one of these is that evolutionary psychology is bunk. The title parodies Steven Pinker's *How the Mind Works* (New York: W. W. Norton, 1997), and the book is a response, of sorts, to it.

**McClamrock, Ron. *Existential Cognition: Computational Minds in the World*. Chicago: University of Chicago Press, 1995.**

Articulation of an externalist view that is informed about recent work in AI and psychology as well as philosophically sensible.

**Millikan, Ruth Garrett. *On Clear and Confused Ideas: An Essay about Substance Concepts*. New York: Cambridge University Press, 2000.**

Primarily on concepts, a book that developed from her 1998 paper in *Behavioral and Brain Sciences* and the commentaries on it.

**Rowlands, Mark. *The Body in Mind*. New York: Cambridge University Press, 1999.**

Defends an externalist view of the mind that emphasizes the embodied nature of cognition and marries this to a teleological view of content.

**Searle, John. *Minds, Brains and Science*. Cambridge, MA: Harvard University Press, 1984.**

Searle's critique of artificial intelligence, developing his 1980 *Behavioral and Brain Sciences* paper. Although Searle entered the debate over individualism only recently in informal interviews, his longstanding views place him squarely on the individualist side of the divide.

**Searle, John. *The Rediscovery of the Mind*. Cambridge, MA: MIT, 1992.**

Searle's indictment of everything that has happened in philosophy of mind in the last forty years. Provocative and stimulating, even if he resorts to caricature more often than he thinks.

**Shapiro, Lawrence. *Embodied Cognition*. New York: Routledge, 2011.**

An award-winning, accessible overview of embodied cognition and its relationship to debates on mental representation, computational psychology, and the extended mind.

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