

homunculus (from Latin, 'little man'), a miniature adult held to inhabit the brain (or some other organ) who perceives all the inputs to the sense organs and initiates all the commands to the muscles. Any theory that posits such an internal agent risks an infinite regress (sometimes called the *homunculus fallacy*), since we can ask whether there is a little man in the little man's head, responsible for his perception and action, and so on. Many familiar views of the mind and its activities seem to require a homunculus. For instance, models of visual perception that posit an inner picture as its product apparently require a homunculus to look at the picture, and models of action that treat intentions as commands to the muscles apparently require a homunculus to issue the commands. It is never an easy matter to determine whether a theory is committed to the existence of a homunculus that vitiates the theory, and in some circumstances, homunculi can be legitimately posited at intermediate levels of theory: "Homunculi are *bogeymen* only if they duplicate *entire* the talents they are rung in to explain. If one can get a team or committee of *relatively* ignorant, narrow-minded, blind homunculi to produce the intelligent behavior of the whole, this is progress" (Dennett, *Brainstorms*, 1978). Theories (in philosophy of mind or artificial intelligence or cognitive science) that posit such teams of homunculi have been called *homuncular functionalism* by William Lycan.

intendo, 'to point (at)' or 'aim (at)' or 'extend (toward)'. Phenomena with intentionality thus point outside of themselves to something else: whatever they are of or about. The term was revived by the nineteenth-century philosopher and psychologist Franz Brentano, who claimed that intentionality defines the distinction between the mental and the physical; all and only mental phenomena exhibit intentionality. Since intentionality is an irreducible feature of mental phenomena, and since no physical phenomena could exhibit it, mental phenomena could not be a species of physical phenomena. This claim, often called the Brentano thesis or Brentano's irreducibility thesis, has often been cited to support the view that the mind cannot be the brain, but this is by no means generally accepted today.

There was a second revival of the term in the 1960s and 1970s by analytic philosophers, in particular R. M. Chisholm, Wilfrid Sellars, and W. V. Quine. Chisholm attempted to clarify the concept by shifting to a logical definition of intentional *idioms*, the terms used to speak of mental states and events, rather than attempting to define the intentionality of the states and events themselves. Intentional idioms include the familiar "mentalistic" terms of folk psychology, but also their technical counterparts in theories and discussions in cognitive science, 'X believes that *p*,' and 'X desires that *q*' are paradigmatic intentional idioms, but according to Chisholm's logical definition, in terms of referential opacity (the failure of substitutivity of coextensive terms *salva veritate*), so are such less familiar idioms as 'X stores the information that *p*' and 'X gives high priority to achieving the state of affairs that *q*'.

Although there continue to be deep divisions among philosophers about the proper definition or treatment of the concept of intentionality, there is fairly widespread agreement that it marks a feature – aboutness or content – that is central to mental phenomena, and hence a central, and difficult, problem that any theory of mind must solve.

See also BRENTANO, FOLK PSYCHOLOGY, QUANTIFYING IN, REFERENTIALLY TRANSPARENT.

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intentionality, aboutness. Things that are about other things exhibit intentionality. Beliefs and other mental states exhibit intentionality, but so, in a derived way, do sentences and books, maps and pictures, and other representations. The adjective 'intentional' in this philosophical sense is a technical term not to be confused with the more familiar sense, characterizing something done on purpose. Hopes and fears, for instance, are not things we do, not intentional acts in the latter, familiar sense, but they are intentional phenomena in the technical sense: hopes and fears are *about* various things.

The term was coined by the Scholastics in the Middle Ages, and derives from the Latin verb

Mentalese, the language of thought (the title of a book by J. Fodor, 1975) or of "brain writing" (a term of D. Dennett's); specifically, a languagelike medium of representation in which the contents of mental events are supposedly expressed or recorded. (The term was probably coined by Wilfrid Sellars, with whose views it was first associated.) If what one believes are propositions, then it is tempting to propose that believing something is having the Mentalese expression of that proposition somehow written in the relevant place in one's mind or brain. Thinking a thought, at least on those occasions when we think "wordlessly" (without formulating our thoughts in sentences or phrases composed of words of a public language), thus appears to be a matter of creating a short-lived Mentalese expression in a special arena or work space in the mind. In a further application of the concept, the process of coming to understand a sentence of natural language can be viewed as one of translating the sentence into Mentalese. It has often been argued that this view of understanding only postpones the difficult questions of meaning, for it leaves unanswered the question of how Mentalese expressions come to have the meanings they do. There have been frequent attempts to develop versions of the hypothesis that mental activity is conducted in Mentalese, and just as frequent criticisms of these attempts. Some critics deny there is anything properly called representation in the mind or brain at all; others claim that the system of representation used by the brain is not enough like a natural language to be called a language. Even among defenders of Mentalese, it has seldom been claimed that all brains "speak" the same Mentalese. **See also PHILOSOPHY OF LANGUAGE; PHILOSOPHY OF MIND; SELLARS, WILFRID.**

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mentalism, any theory that posits explicitly mental events and processes, where 'mental' means exhibiting intentionality, not necessarily being immaterial or non-physical. A mentalistic theory is couched in terms of belief, desire, thinking, feeling, hoping, etc. A scrupulously non-mentalistic theory would be couched entirely in extensional terms: it would refer only to behavior or to neurophysiological states and events. The attack on mentalism by behaviorists was led by B. F. Skinner, whose criticisms did not

all depend on the assumption that mentalists were dualists, and the subsequent rise of cognitive science has restored a sort of mentalism (a "thoroughly modern mentalism," as Fodor has called it) that is explicitly materialistic. **See also BEHAVIORISM, COGNITIVE SCIENCE, PHILOSOPHY OF MIND.**

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mental representation. See COGNITIVE SCIENCE.

topic-neutral, noncommittal between two or more ontological interpretations of a term. J. J. C. Smart (in 1959) suggested that introspective reports can be taken as topic-neutral: composed of terms neutral between “dualistic metaphysics” and “materialistic metaphysics.” When one asserts, e.g., that one has a yellowish-orange after-image, this is tantamount to saying *‘There is some-*

thing going on that is like what is going on when I have my eyes open, am awake, and there is an orange illuminated in good light in front of me, i.e., when I really see an orange'. The italicized phrase is, in Smart's terms, topic-neutral; it refers to an event, while remaining noncommittal about whether it is material or immaterial. The term has not always been restricted to neutrality regarding dualism and materialism. Smart suggests that topic-neutral descriptions are composed of "quasi-logical" words, and hence would be suitable for any occasion where a relatively noncommittal expression of a view is required. **See also** **PHILOSOPHY OF MIND.** D.C.D.