Intensional transitives raise interesting logical problems. It may be argued that propositional attitude ascriptions have no logic at all: even "x believes that p and q" does not logically entail that "x believes that p": at best we may endorse a psychological principle that persons aware that they accept a conjunction will also accept each conjunct individually. But for intensional transitives, there are substantial questions about the validity of certain inference-patterns. For example, if Richard III needs a warhorse, does it follow that he needs a horse? If notional readings are glossed in terms of indifference ("any would do," as in Lewis [1972, p. 199]) it does not follow: Even if Richard III needs a warhorse, and any one will do, it does not follow that he needs a horse, and any one will do—in the mayhem of the Battle of Bosworth, a cart horse would not do. On the other hand, the standard glossing of notional readings using "no particular one" seems to leave open the logical status of the inference rather than settling it one way or the other. These and other issues about the validity of specific inference patterns are pursued in Richard (2000) and Forbes (2003).

See also Davidson, Donald; Language; Language, Philosophy of; Propositions; Quine, Willard Van Orman; Semantics; Sense.

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INTENTION

Philosophical work on intention is motivated by three general concerns. First, philosophers of action want to understand what it is for an event to be an intentional action and how intentional actions are produced by their agents. They have good reason to think hard about what intentions are and how they may be involved in the production of intentional actions, because, even if it is unclear exactly how intentional actions and intentions are related to each other, it is clear that they are intimately related. Second, moral philosophers and others in the business of developing theories of the evaluation of actions and their agents need an account of intentional action, and such an account is likely to involve intention in an important way. Moral evaluations of actions have intentional actions as their primary subject matter, even if people sometimes are proper targets of moral blame for some unintentional actions (e.g., when a drunk driver accidentally injures or kills someone). Third, some philosophers have the goal of crafting analyses of philo-

sophically interesting concepts as they are reflected in ordinary language.

INTENTIONS AND RELATED STATES OF MIND

It is generally agreed that intentions are closely linked to desires—especially *action-desires*, desires to do things—and beliefs. An intention to do something *A* has a motivational dimension, as does a desire to *A*. Having an intention also is widely regarded as requiring the satisfaction of a belief condition of some sort. Few philosophers of action would maintain that people who believe that their chance of winning today's lottery is about one in a million intend to win the lottery, no matter how strongly they desire to win. A relatively popular claim is that having an intention to *A* requires believing that one (probably) will *A*. The proposal is designed to capture, among other things, the confidence in one's success that intending allegedly involves. A less demanding claim is that having an intention to *A* requires that one lack the belief that one (probably) will not *A*. (The agent may have no belief on the matter.) Other alternatives include the requirement that the agent believe to some nonzero degree (even a degree associated with a subjective probability well below 0.5) that he or she will *A* and the requirement that the agent believe that there is a chance that he or she can *A*.

Philosophers are divided on how tight the connection is between intentions, on the one hand, and desires and beliefs, on the other. In particular, they disagree about whether intentions are reducible to combinations of action-desires and beliefs. The central point of contention is whether the settledness that intention encompasses can be captured in terms of beliefs and desires. One who desires to *A*—even someone who desires this more strongly than he or she desires not to *A* and who believes on inductive grounds that he or she probably will *A*—may still be deliberating about whether to *A*, in which case the person is not settled on *A*-ing. Ed wants more strongly to respond in kind to a recent insult than to refrain from doing so, but, owing to moral qualms, he is deliberating about whether to do so. He is unsettled about whether to retaliate, despite the relative strength of his desires and despite his inference from his past behavior in similar situations that he is more likely to retaliate than not to do so (Mele 1992). In acquiring an intention to retaliate—or an intention to refrain from retaliating—Ed becomes settled (but not necessarily irrevocably) on a course of action.

Two ways of coming to intend to *A* should be distinguished. Many philosophers claim or argue that to decide to *A* is to perform a mental action of a certain kind—an action of forming an intention to *A*. According to one version of this view, deciding to *A* is a momentary mental action of intention formation, and it resolves uncertainty about what to do (Mele 2003). The assertion that deciding to *A* is momentary is meant to distinguish it from, for example, a combination of deliberating and deciding. Students who are speaking loosely may say, "I was up all night deciding to major in English," when what they mean is that they were deliberating or fretting all night about what major to declare and eventually decided to major in English. Not all intentions are actively formed. For example, "When I intentionally unlocked my office door this morning, I intended to unlock it. But since I am in the habit of unlocking my door in the morning and conditions … were normal, nothing called for a *decision* to unlock it" (Mele 1992, p. 231). If I had heard a fight in my office, I may have paused to consider whether to unlock the door or walk away, and I may have decided to unlock it. But given the routine nature of my conduct, there is no need to posit an act of intention formation in this case. My intention to unlock the door may have been acquired without having been actively formed.

Some intentions are for the nonimmediate future and others are not. Ann may decide on Tuesday to attend a meeting on Friday, and she may decide now to phone her mother now. The intention formed in the former decision is aimed at action three days in the future. The intention Ann forms when she decides to phone her mother now is about what to do now. Intentions of these kinds are, respectively, *distal* and *proximal* intentions. Proximal intentions also include intentions to continue doing something that one is doing and intentions to start *A*-ing (e.g., start running a mile) straightaway. *Temporally mixed* intentions have both proximal and distal aspects. Consider an intention to watch the movie *Dangerous Intentions* in one sitting, beginning now. Executing it requires doing something now and continued activity for some time.

INTENTION'S FUNCTIONS AND CONSTITUTION

What work do intentions do? And how are they likely to be constituted given that they do this work? Functions plausibly attributed to intentions include initiating and motivationally sustaining intentional actions, guiding intentional action, helping to coordinate agents' behavior over time and their interaction with other agents, and

prompting and appropriately terminating practical reasoning (see Brand 1984, Bratman 1987, McCann 1998, Mele 1992, and Searle 1983).

Intentions, like many psychological states, have both a representational and an attitudinal dimension. The representational content of an intention may be understood as a *plan*. The intending attitude toward plans may be termed an *executive* attitude. Plans, on one conception, are purely representational and have no motivational power of their own. People have many different attitudes toward plans, in this sense. They may believe that a plan is too complicated, admire it, hope that it is never executed, and so on. To understand the executive dimension of intention—something at work in the initiation of action—recall that intending to *A*, unlike desiring to *A*, is partially constituted by being settled on *A*-ing. To have the intending attitude toward a plan is to be settled (but not necessarily irrevocably) on executing it. In virtue of this motivational feature of intentions, acquisitions of proximal intentions are well suited to the task of initiating actions and the persistence of intentions that initiate actions is well suited to sustain them. (In the case of an intention for a not-doing—for example, an intention not to vote in tomorrow's election—the agent may instead be settled on not violating the simple plan embedded in it, the plan not to vote.)

Why do acquisitions of proximal intentions initiate and sustain the actions that they do? Why, for example, does acquiring a proximal intention to order a hamburger and fries initiate and sustain one's ordering a hamburger and fries rather than one's ordering a salad or one's singing a song? Attention to the representational side of intentions provides an answer. An intention to *A* incorporates a plan for *A*-ing, and which intentional action(s) an intention generates is a partial function of the intention-embedded plan. In the limiting case, the plan in an intention has a single node. It is, for example, a prospective representation of one's pushing a window closed. Often, intention-embedded plans are more complex. The proximal intention to check his bank account online that Bob is executing incorporates a plan that includes clicking on his bank's link, then typing his ID and password in a certain pair of boxes, and so on. Agents who successfully execute an intention are guided by the intention-embedded plan. The guidance depends on agents monitoring progress toward their goals. The information (or misinformation) that Bob has entered his ID, for example, helps to produce his continued execution of his plan.

Although the content of an intention is a plan, such expressions as "Bob's intention to check his bank account now" and "Ann intends to shoot pool tonight" are common. It should not be inferred from such expressions that the agent's intention-embedded plan is structurally simple. Often, ordinary expressions of an agent's motivational attitudes do not identify the full content of the attitude and are not meant to. Bob says, without intending to mislead, "Ann wants to shoot pool tonight," even though he knows that what she wants is to play eight-ball with him at Pockets tonight for a dollar a game until the place closes, as they normally do.

Intention's coordinative capacities lie both in its executive aspect, which includes settledness, and in its plan component. Comprehensive plans for extended activity can be constructed out of plans embedded in less inclusive intentions, and developments in plans will be influenced and constrained by what one is already settled on doing. (This is not to deny the possibility of revising earlier intentions.) Moreover, knowledge of what others are settled on doing assists one in forming intentions and plans for cooperative ventures. To the extent to which coordination depends on practical reasoning, intention promotes coordination by providing motivation for required reasoning—motivation deriving from the settledness intention encompasses. Michael Bratman argues that the coordinating roles of distal intentions rest on several features of these intentions: they have the capacity to control behavior, they "resist (to some extent) revision and reconsideration," and they involve dispositions to reason with a view to intention-satisfaction and "to constrain one's intentions in the direction of consistency" (1987, pp. 108–109). All of these features are tied to the settledness intentions encompass.

Intention is an appropriate terminator of practical reasoning precisely because in forming or acquiring an intention one becomes settled on a course of action. Practical reasoning is aimed at action; and, if all goes well, one does what one has become settled on doing on the basis of one's practical reasoning. Intention's capacity to prompt such reasoning, as just noted, also derives from the settledness it involves.

INTENTIONS AND REASONS

Are people's reasons for intending to *A* limited to their reasons for *A*-ing? Gregory Kavka's (1983) "toxin puzzle" suggests that they are not. In this puzzle, a trustworthy billionaire offers you a million dollars for intending tonight to drink a certain toxin tomorrow afternoon. You are convinced that he can tell what you intend independ-

ently of what you do. Although drinking the toxin would make you ill for a day, you do not need to drink it to get the money. Constraints on prize-winning intentions include prohibitions against creating special incentives for yourself to drink the toxin, various tricks, and forgetting relevant details of the offer. For example, you will not receive the money if you hire a hit man to kill you should you not drink the toxin or persuade a hypnotist to implant the intention in you. If, by midnight tonight, without violating any rules, you intend to drink the toxin tomorrow afternoon, you will find a million dollars in your bank account when you awake tomorrow morning. Because you are well aware of this point and would love to be a millionaire, you seemingly have a great reason to form the intention. Now, you probably would drink the toxin for a million dollars. But can you, without violating the rules of the offer, intend tonight to drink it tomorrow? Apparently, you have no reason to drink the toxin and an excellent reason not to drink it. Seemingly, you will infer from this that you will not drink the toxin. Indeed, it seems that you will be confident that you will not drink it, and your confidence in that seems inconsistent with your having an intention to drink it.

Kavka draws the moral that intentions are "dispositions to act that are based on *reasons to act*—features of the act itself or its (possible) consequences that are valued by the agent" (1983, p. 35). However, because not all the work in Kavka's puzzle is done by truths about intention, reasons, and the like, his perfectly general claim about intentions cannot be established by reflection on the puzzle. Were it not for the rule against forgetting, for example, you could become a millionaire. If, tonight, you can so arrange things that at midnight you will be confident that the toxin will be in your favorite afternoon drink tomorrow and confident, as well, that by tomorrow you will have forgotten about the toxin, then at midnight you can intend to drink the toxin tomorrow. The content of your intention may be described roughly as follows: "Tomorrow afternoon, I drink the toxin unintentionally while sipping my customary afternoon tea." Even though you will have a reason tomorrow to drink tea, you will have no reason at all to drink the toxin; and that is clear to you at midnight. This scenario falsifies the idea that all possible intentions to *A* are based on reasons to *A*. A more cautious diagnosis of your apparent inability to intend to drink the toxin given the constraints Kavka imposes is that having an intention to *A* is inconsistent with being convinced that one will not *A*.

The preceding scenario leaves open a more modest version of Kavka's moral. Perhaps all possible intentions

to *A* such that in executing them one would *intentionally A* are based on reasons to *A*. Although one cannot find in reasons for *A*-ing a necessary basis for all possible intentions to *A*, one may find in them a necessary basis for all intentions of the sort just identified—*orthodox intentions*. The relatively cautious diagnosis previously mentioned provides a hint about how to test this hypothesis. Might there be agents who know that they have no reason to drink the toxin, have not forgotten anything relevant, and nevertheless believe that they will drink it?

Consider the following story. An evil genius tricks Ted into drinking nonlethal liquid toxins whenever such toxins happen to be nearby, and Ted is well aware of this. Ted also has—as he knows—a condition called *intention perseverance*: once he forms an intention, he will not abandon it unless he has a good reason to abandon it. Finally, Ted is indifferent between drinking toxins unintentionally and drinking them intentionally: only the subsequent illness bothers him.

Seemingly, Ted can get the big prize in Kavka's scenario. Although normal folks are confident that they will not drink the toxin, Ted is confident that he will drink it. He also has an excellent reason to decide to drink it: in so deciding he would form an intention that will make him a millionaire. And he can count on the intention formed in his decision to persist and to result in intentional toxin drinking, given that he lacks a good reason to abandon the intention after he forms it. Ted's intention to drink the toxin is such that, in executing it, he intentionally drinks the toxin. So he undermines even the more modest version of Kavka's moral. His intention to drink the toxin is based on his reasons for forming that intention, and it is not based at all on reasons for drinking the toxin. This leads back, then, to the relatively cautious diagnosis of one's apparent inability to intend to drink the toxin. The diagnosis is about a completely general connection between intention and belief, not a completely general connection between intention and reasons: having an intention to *A* is inconsistent with being convinced that one will not *A*.

Sometimes people consider reasons for and against taking a prospective course of action. Gilbert Harman (1986) and Michael Bratman (1987) argue that the concept of intentional action is sensitive to reasons agents have for not doing what they do in a way in which the concept of intention is not. The upshot is that agents sometimes intentionally do things that they lack an intention to do. For example, Bill knows that his vacuuming his carpets today will cause Beth to sneeze, and he counts that as a reason not to vacuum them today. Even so,

because he believes that it is important to vacuum today, he does so, and he notices Beth sneezing as he works. Harman and Bratman would say that even though making Beth sneeze is no part of what Bill intends, he intentionally makes her sneeze. This judgment may be in line with ordinary usage of the terms at issue, and it may be a judgment that a majority of nonspecialists would make. However, granting the existence of intentionally produced side effects that the agent does not intend to produce would complicate the task of philosophers of action who say that they are in the business of explaining how intentional actions are produced by their agents. They would need a theory that explains intentional actions of two different kinds: actions the agent is trying to perform and actions the agent is not trying to perform. Such philosophers may do well to seek—and to set up as the target of their explanatory efforts—a more circumscribed notion of intentional action that is no more sensitive to reasons against doing what one does than Harman and Bratman say the concept of intention is.

See also Belief; Content, Mental; Propositional Attitudes.

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INTENTIONALITY

The term "intentionality" was used by Jeremy Bentham to distinguish between actions that are intentional and those that are not. It was reintroduced by Edmund Husserl in connection with certain doctrines set forth in Franz Brentano's *Psychologie vom empirischen Standpunkt* (1874). The word is now used primarily in this second sense.

> Brentano wrote:
>
> Every mental phenomenon is characterized by what the scholastics of the Middle Ages called the intentional (and also mental) inexistence of an object, and what we would call, although not in entirely unambiguous terms, the reference to a content, a direction upon an object (by which we are not to understand a reality …), or an immanent objectivity. Each one includes something as an object within itself, although not always in the same way. In presentation something is presented, in judgment something is affirmed or denied, in love [something is] loved, in hate [something] is hated, in desire something is desired, etc.
>
> This intentional inexistence is exclusively characteristic of mental phenomena. No physical phenomenon manifests anything similar. Consequently, we can define mental phenomena by saying that they are such phenomena as include an object intentionally within themselves. (*Op. cit.,* Vol. I, Book II, Ch. 1)

This passage contains two different theses: one, an ontological thesis about the nature of certain objects of thought and of other psychological attitudes; the other, a psychological thesis, implying that reference to an object is what distinguishes the mental or psychological from the physical. These two theses are the subject matter of the present article. It should be noted, however, that "intentionality" is also used in connection with certain other related theses of phenomenology and existentialism.

INTENTIONAL INEXISTENCE

The problem that gave rise to the ontological thesis of intentional inexistence may be suggested by asking what is involved in having thoughts, beliefs, desires, purposes, or other intentional attitudes, which are directed upon objects that do not exist. There is a distinction between a man who is thinking about a unicorn and a man who is thinking about nothing; in the former case, the man is