

On the Semantics and Metaphysics of “Expected”

Lajos Brons¹

Abstract: The expression “expected x ” and other phrases in which “expected” appears to function like an adjective are potentially misleading. Except if x is real and in the past, “expected” is not a predicate, but an operator similar to the doxastic belief operator and an expected x is not an x . Instead, a phrase involving some “expected x ” (typically) specifies an expectation about x , and expectations imply agents having those expectations. This analysis matters for moral philosophy, in which expected consequences — which, by implication, are not (a kind of) consequences — play an important role.

Keywords: expectations, doxastic logic, philosophy of language, metaphysics, consequentialism, expected consequences.

¹ Sado, Niigata, Japan, mail@lajosbrons.net

How would one formalize a sentence like the following in first-order logic or some extension thereof?

(1) The expected storm will be strongest on Friday.

An obvious answer might be something like this:

(2) $\exists x [\text{storm}(x) \wedge \text{expected}(x) \wedge \text{strongest-on-Friday}(x)]$,

but this “obvious answer” is obviously wrong. The existential quantifier implies that Friday’s storm exists, while this isn’t true. It is not Friday yet, and thus, the expected storm does not exist *yet*. One could, of course, adopt eternalism, which would appear to solve this problem, as eternalism holds that past and future things and events also exist, but this “solution” does not really work, as there is a more fundamental problem, namely, what is expected may not actually come to pass. Expectations may fail to realize. Or in other words, if the weather forecast turns out to be wrong, the expected storm still does not exist on Friday, or at any later point in time for that matter. Hence, the storm in question *might* exist at some specific time in the future — its existence may even have a very high probability — but there also is a chance that it will not exist. And therefore, any formalization of (1) that implies an ontological commitment to the expected storm is wrong.

Notice that prefixing the existential quantifier in (2) with a modal operator does not work either, although this may not be immediately obvious.

(3) $\Diamond \exists x [\text{storm}(x) \wedge \text{expected}(x) \wedge \text{strongest-on-Friday}(x)]$

The problem is that (3) fails to accurately formalize (1), because it effectively ignores that the storm’s possible failure to realize is part of the meaning of “expected”. (1) does not mean that there possibly is something that is a storm and that is expected. Rather, that the storm is *expected*, means that there possibly is no storm at all. Perhaps the issue becomes clearer upon consideration of the following largely analogous sentence:

(4) The suspected criminal will appear in court on Friday.

The analogy of (3) would be:

(5) $\Diamond \exists x [\text{criminal}(x) \wedge \text{suspected}(x) \wedge \text{appears-in-court-on-Friday}(x)]$,

which is clearly incorrect as a formalization of (4). What might be more accurate is:

(6) $\exists x [\Diamond \text{criminal}(x) \wedge \text{suspected}(x) \wedge \text{appears-in-court-on-Friday}(x)]$,

as there is indeed someone who is suspected and who will appear in court on Friday. However, it makes no sense to say that someone is suspected without saying what they are suspected of — in this case, being a criminal. Furthermore, the analogy between (1) and (4) breaks down here, as

(7) $\exists x [\Diamond \text{storm}(x) \wedge \text{expected}(x) \wedge \text{strongest-on-Friday}(x)]$

is dubious at best, given that it seems a metaphysically odd interpretation of (1) to say there is something that is expected and that may turn out to be a storm. Furthermore, there is another, less important disanalogy between (1) and (4), namely, while “will be strongest on Friday” is part of what is expected in (1), “will appear on court on Friday” is *not* part of what is suspected in (4). There are sentences using “expected” that are not disanalogous to (4) in this regard, however. For example:

(8) The expected storm led to the cancellation of the festival on Friday.

This last disanalogy between (1) and (4) matters little here, and (4) may still be helpful in figuring out the formal structure of (1). The analogy of (2) for sentence (4) would be:

(9) $\exists x [\text{criminal}(x) \wedge \text{suspected}(x) \wedge \text{appears-in-court-on-Friday}(x)]$,

which is obviously incorrect, but which also very clearly illustrates the nature of the problem. It is not the case that there is someone who is suspected and who is a criminal, as (9) claims. Rather, there is someone who is *suspected to be a criminal*. However, while in (1), it is not the case that there is something that is expected and that is a storm (as in 2) or might be a storm (as in 7), it is debatable whether there is something that is *expected to be a storm*. While in (4) the person who might or might not be a criminal already exists, in (1) the very existence of the storm is uncertain. Or in other words, in case of (4) there is a bearer of the property “suspected to be a criminal”, but there *may* be no bearer of the property “expected to be a storm” in (1). As mentioned, this is debatable (hence, the italicized “may” in the previous sentence), as it could be argued that the gale that actually occurs on Friday is the bearer of the property “expected to be a storm”. However, it is not difficult to come up with examples of analogous sentences where there really is no bearer of the “expected to ...” property.

(10) The *Storm Watchers Association* (SWA) is expected to be founded on Friday.

There is no thing that bears the property of “expected to be the SWA”. The SWA does not exist, and neither does anything exist that becomes the SWA. On Friday, either the SWA comes into existence as expected, or it does not. In other words, there is no thing that is expected to be(come) the SWA, but there is an expectation that the SWA will be founded on Friday, and analogously, in case of (1), *there is an expectation* that there will be a storm that will be strongest on Friday. This cannot be formalized in standard first-order logic, of course, but could be expressed something like the following:

(11) $\exists x [\text{expectation}(x) \wedge x = \ulcorner \exists y [\text{storm}(y) \wedge \text{strongest-on-Friday}(y)] \urcorner]$.

If (11) is correct, then the grammar of (1) is quite misleading. In that sentence “expected” appears to be a property of some storm, which is clearly nonsensical from a metaphysical point of view. (And similarly “suspected” is not a property of some criminal in (4) either.) However, this should not be taken to imply that “expected” never is a property. For example, in the following sentence “expected” is a property of the storm mentioned:

(12) This morning’s storm was expected.

What makes the difference between (1) and (12) is that in (1) the storm is (now) expected to occur in the future, while in (12) the storm is in the past. In either case, the expectation precedes the expected event, but in (1) this event has not occurred yet (and may never occur), while in (12) it has. Hence, “expected” can be a property of past events, but not of future events. In case of future events, the grammar of “expected” is misleading, as illustrated by (11).

The substitution of “expectation” for “expected” in (11) may not be necessary, however, and may be somewhat misleading as well, albeit for a very different reason. Instead, we could change (1) into the following synonymous sentence:

(13) It is expected that there will be a storm that will be strongest on Friday.

In this sentence “is expected” is the passive voice of “to expect”, so it may be useful to briefly consider the formal semantics of the passive voice here. Take an active voice sentence like “John eats an apple” and its passive voice derivation “An apple is eaten”. The active voice sentence is formalized as “eats(John,apple)” and the passive voice sentence as “ $\exists x[\text{eats}(x,\text{apple})]$ ”. Similarly, if “John expects something” is “expects(John,something)”, then

the passive voice construction “something is expected” is formally expressed as “ $\exists x[\text{expects}(x, \text{something})]$ ”. And consequently, (13) is formalized as:

$$(14) \exists x, p [\text{expects}(x, p) \wedge p = \ulcorner \exists y [\text{storm}(y) \wedge \text{strongest-on-Friday}(y)] \urcorner] .$$

Notice that “ x expects that there will be a storm that will be strongest on Friday” is very similar to “ x believes that there will be a storm that will be strongest on Friday”, which would be represented in doxastic logic as:

$$(15) \mathbf{B}_x (\exists y [\text{storm}(y) \wedge \text{strongest-on-Friday}(y)]) .$$

The fundamental difference between (14) and (15) is that the expectation in (14) implies uncertainty, while the belief in (15) does not. Additionally, in (15) x is a free variable, while it is bound by an existential quantifier in (14). A doxastic logic approximation of (14), then, would be more like:

$$(16) \exists x [\mathbf{B}_x (\Diamond \exists y [\text{storm}(y) \wedge \text{strongest-on-Friday}(y)])] ,$$

although the modal operator $\Diamond$ suggests a much weaker level of confidence or probability than what the term “expected” seems to imply. A better option may be to introduce a new operator $\mathbf{E}$ to represent expectation analogous to the doxastic operator $\mathbf{B}$ denoting belief, and to define this new operator such that it takes the inherent uncertainty of expectations into account. Then, we can simply write:

$$(17) \exists x [\mathbf{E}_x (\exists y [\text{storm}(y) \wedge \text{strongest-on-Friday}(y)])] ,$$

but this is really just a notational variant of (14), and personally I prefer (14). What (17) does make even more explicit than (14), however, is that “expected” in many cases is not a predicate but an operator, and that this operator is quite similar to the doxastic $\mathbf{B}$ (belief) operator, suggesting (rather unsurprisingly, perhaps) that expectations are a kind of beliefs.

To summarize, the brief semantic analysis in the previous pages has clarified two things. First, in a phrase “ x expected x ” or “ x is/was expected”, “expected” can be a property of x only if x is in the past. Otherwise, “expected” is not a predicate, but an operator similar to the $\mathbf{B}$ (belief) operator of doxastic logic. Consequently, except if x is real and in the past, an expected x is not an x . An expected storm is not a storm, and it is not anything else either — even if there is something that is expected to become a storm, that “thing” is not (identical to) the expected storm. Expecting “ $\Phi(x)$ ” does not imply the existence of some x that bears the property Φ , either now or in the future. Or in other words, expectations are not ontologically committed to what they are about.

Second, expectations *are* ontologically committed to an agent or multiple agents having those expectations. This is what x stands for in (14) to (17). There is no such thing as an expectation of p without *someone* expecting p .

Now, in the unlikely case that you have not read the abstract of this paper, you may be wondering why all of this matters. If you have read the abstract, on the other hand, you already know why I believe it matters: expectations play important roles in moral philosophy, either implicitly or explicitly, and this being the case, an analysis of the semantics and metaphysics of “expected x ” *may* have implications for moral philosophy. A discussion of such implications is beyond the scope of the present paper, but I will briefly elucidate my assertion that expectations (or “expected x ”s) play important roles in moral philosophy in the following.

In Aristotelian virtue ethics, what makes a certain character trait a virtue is that it is *expected* to positively contribute towards the agent’s flourishing (εὐδαιμονία). According to Kant, one

should “act only according to the maxim that one could want to become universal law”² and given Kant’s normative assumption that one is an autonomous, rational being, one could only want something to become universal law, if the *expected* consequences of that universal law are desirable consequences.³ In social contract theory, the very foundation of the social contract is the *expectation* of mutual benefit.

While these three examples come from the Western philosophical tradition, in classical Chinese philosophy, one of two common kinds of arguments in favor of a particular moral theory—that is, a *dao* 道—is an appeal to its *expected* desirable consequences.⁴ An illustrative example can be found in the following famous quote from the *Analects* 論語 by Confucius (Kongzi) 孔子:

道之以政，齊之以刑，民免而無恥；道之以德，齊之以禮，有恥且格。 If social/moral conventions (*dao*)⁵ are established by means of governance (i.e., laws and regulations), and punishment is used to maintain order, then people will [merely] avoid punishment and have no sense of shame. But if virtue is used to guide social and moral conventions, and ritual and tradition to maintain order, then there will be a [guiding] sense of shame as well as a standard.⁶

Confucius’s argument is that his ritual-and-virtue-based moral theory (i.e., his *dao*) should be accepted because (in his expectation) it will lead to the desired results, or in other words, the expected consequences of adopting his *dao* are the desired consequences. Another, negative example of this kind of argument is Mencius’s (Mengzi) 孟子 repudiation of Mozi’s 墨子 *dao* because the latter would (in Mengzi’s expectation) only undermine order and harmony and would do nothing but “endanger the kingdom”.⁷

The prevailing value of *x* in “expected *x*” in the previous paragraphs is “consequences”, and indeed the best examples of a prominent role of expectations in moral thought can be found in consequentialism. Classical utilitarians like Jeremy Bentham, John Stuart Mill, and Henry Sidgwick did not frame their theories in terms of consequences, but rather, they wrote about tendencies, about things that “will” happen, and about probabilities.⁸ For example, Bentham’s “principle of utility” is:

that principle which approves or disapproves of every action whatsoever, according to the tendency which it appears to have to augment or diminish the happiness of the party

² Immanuel Kant, *Grundlegung zur Metaphysik der Sitten* (1785), §421. My translation. The original German is: “Handle nur nach derjenigen Maxime, durch die du zugleich wollen kannst, dass sie ein allgemeines Gesetz werde.”

³ This observation was made before by Mill. See John Stuart Mill, *Utilitarianism*, in *Collected Works*, vol. 10 (Toronto: University of Toronto Press, 1969), 207. Originally published 1861.

⁴ The other kind of common argument is an appeal to “heaven” *tian* 天, but it must be noted that this is not the notion of heaven familiar from Western thought. *Tian* is usually not a supernatural, godly, or personalized kind of heaven, and in many cases “nature” is a better translation of *tian*. Hence, this kind of argument is often best understood as an appeal to “natural preference”.

⁵ The classical Chinese term *dao* 道 has many different meanings, and its correct interpretation depends very much on context. Among others, a *dao* can be a moral theory, or (a set or system of) social/moral conventions. The quote by Confucius uses the word *dao* in the latter sense but argues for his *dao* in the former sense.

⁶ Confucius, 論語 [*Analects*], 為政 §3. My translation.

⁷ Mengzi, 孟子 [*Mengzi*], 梁惠王上 §1.

⁸ See, e.g., Marcus Singer, “Actual Consequence Utilitarianism,” *Mind* 86, no. 341 (1977): 67–77.

whose interest is in question: or, what is the same thing in other words, to promote or to oppose that happiness.⁹

The key phrase here is “tendency which it appears to have”: it is not the actual effects on overall happiness that determine whether an action is right, but its *expected* effect based on this apparent tendency. Tendencies play a similar key role in Mill’s utilitarianism, which “holds that actions are right in proportion as they *tend* to promote happiness, wrong as they *tend* to produce the reverse of happiness”.¹⁰ Thus, what makes an action right, is its *expected* effect, wherein this expectation is determined by the tendency of that kind of action to have the desired effect.¹¹

While expectations play an implicit role in classical utilitarianism, *subjective* consequentialism (or prospective consequentialism) much more explicitly defines the good in terms of expected consequences, although definitions of what exactly distinguishes subjective from objective consequentialism differ.¹² For example, Mason defines subjective consequentialism as the theory that claims that “the right action is the one that the agent believes is required by consequentialism”,¹³ but since what is required by consequentialism is whatever has the most desirable consequences, “what the agent believes to be required by consequentialism” means the same thing as “what the agent *expects* to have the most desirable consequences”.

Mason’s definition is an interesting one for (at least) two reasons. First, it might make one wonder whether classical utilitarianism is best understood as a variety of subjective consequentialism, given the quotes by Bentham and Mill above, or Mill’s arguments about the tendencies of actions learned by experience,¹⁴ or Sidgwick’s method of “Empirical Hedonism”

according to which we have in each case to compare all the pleasures and pains *that can be foreseen as probable results* of the different alternatives of conduct presented to us, and to adopt the alternative *which seems likely* to lead to the greatest happiness on the whole.¹⁵

Second, Mason’s definition implies that subjective consequentialism is not a kind of consequentialism, but is somehow derivative thereof. The same conclusion follows enthymematically from Driver’s assertions that “consequentialism is outcome-oriented, and procedures are evaluated in terms of their outcomes” and that “what subjective consequentialists do is place priority in the procedure itself completely independent of the outcome”.¹⁶ This conclusion, which neither Mason nor Driver seems to endorse, by the way, also follows from the semantic and metaphysical analysis of “expected x ” in this paper, *if*

⁹ Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation*, reprint of the 1823 ed. (Oxford: Clarendon, 1952), 2. Emphasis added.

¹⁰ Mill, *Utilitarianism*, 210. Emphasis added.

¹¹ See Lajos Brons, “Expected Consequences,” in *A Buddha Land in This World: Philosophy, Utopia, and Radical Buddhism* (Earth: Punctum, 2022), 327–49.

¹² The distinction between subjective and objective consequentialism was introduced in Peter Railton, “Alienation, Consequentialism, and the Demands of Morality,” *Philosophy & Public Affairs* 13, no. 2 (1984): 134–71. See also Julia Driver, *Consequentialism* (London: Routledge, 2012); Elinor Mason, “Objectivism, Subjectivism, and Prospectivism,” in *The Cambridge Companion to Utilitarianism*, ed. Ben Eggleston and Dale Miller (Cambridge: Cambridge University Press, 2014), 177–98; and Brons, “Expected Consequences.”

¹³ Mason, “Objectivism, Subjectivism, and Prospectivism,” 178.

¹⁴ Mill, *Utilitarianism*, 224.

¹⁵ Henry Sidgwick, *The Methods of Ethics*, 7th ed. (Indianapolis: Hackett, 1981), 460. Originally published 1906. Emphasis added.

¹⁶ Driver, *Consequentialism*, 127–28.

consequentialism is defined as the moral theory that defines the good in terms of the most desirable consequences.

If a moral theory aims to provide a criterion to decide which acts (or rules or virtues) are right — and typically this is taken to be the very purpose of a moral theory — then, at the time of making such a decision, the consequences of that act can only be in the future, which means that the decision can only be made on the basis of the act's *expected* consequences. But as shown above, *expected* consequences (that are not in the past) are *not* consequences — they are *expectations* about (probable) consequences. In other words, if consequentialism is supposed to help me figure out the right thing to do, it can only do so by defining the good in terms of expectations, and (real) consequences play no direct role.¹⁷ The label “consequentialism”, then, appears to be a misnomer.

The latter conclusion is not a very important point — it concerns a mere terminological issue. What is potentially more important is that the fundamental metaphysical difference between consequences and expected consequences (which, again, are typically not consequences) may have been overlooked in some consequentialist theories leading to a metaphysically dubious sliding back and forth between two very different kinds of things (namely, actual consequences and expectations). Furthermore, the all too obvious misidentification of expected consequences as a kind of consequences may also have hampered moral philosophy in another way. Non-consequentialists may balk at the claim that expected consequences play an important role in moral theory, misinterpreting this claim as a kind of consequentialist imperialist encroachment onto their terrain; while consequentialists may elatedly misinterpret the same claim as implying that apparent non-consequentialist theories are really varieties of consequentialism. Both would be wrong for the same reason: expected consequences are not consequences, and saying that expected consequences play an important role in moral theory, is the same as saying that *expectations* about consequences (or outcomes, results, and so forth) (of actions, rules, virtues, and so forth) play an important role in moral theory. One may even wonder whether the notion of expected consequences could provide a kind of common ground.¹⁸

Expectations of various kinds play a more or less central role in other branches of philosophy and science as well, and it is quite possible that a clearer understanding of the metaphysics and semantics of “expected x ” matters for those as well. To recapitulate, the analysis in this paper has contributed toward this clearer understanding by showing two key things about phrases in which “expected” appears to function like an adjective. First, “expected” is not a predicate, but an operator, and except if x is real and in the past, an expected x is not an x . Rather, a phrase involving some “expected x ” specifies an *expectation* about x . And second, expectations imply agents having those expectations: there is no such thing as an expectation of p without *someone* expecting p . By implication, for any theory that appeals to expectations (either directly or by means of some phrase involving the word “expected”) one should ask (and try to answer) the question, who exactly has those expectations (and why, and how are those expectations formed, or what are they based on, and so forth). An expected storm is not a storm, but “expected storm”

¹⁷ Similar arguments can also be (and have been) made on epistemological grounds. Future consequences are unknowable and can, therefore, not provide the guidance consequentialism expects from them. See, for example, James Lenman, “Consequentialism and Cluelessness,” *Philosophy & Public Affairs* 29, no. 4 (2000): 342–70. My argument here is metaphysical rather than epistemological, however. My point is that expected consequences are not consequences, but something else entirely, namely *expectations*, that is, a special class of *beliefs* about the future.

¹⁸ For a sketchy attempt to do something like this, see Brons, “Expected Consequences,” as well as the preceding chapter in the same volume.

is a somewhat cryptic reference to an expectation by some people, based on some reasoning or evidence, that there will probably be a storm.

References

- Bentham, Jeremy. *An Introduction to the Principles of Morals and Legislation*. Reprint of the 1823 edition. Oxford: Clarendon, 1952. Originally published 1789.
- Brons, Lajos. “Expected Consequences.” In *A Buddha Land in This World: Philosophy, Utopia, and Radical Buddhism*, 327–49. Earth: Punctum, 2022.
- Confucius 孔子. 論語 [*The Analects*]. 5th century BCE.
- Driver, Julia. *Consequentialism*. London: Routledge, 2012.
- Kant, Immanuel. *Grundlegung zur Metaphysik der Sitten*. 1785.
- Lenman, James. “Consequentialism and Cluelessness.” *Philosophy & Public Affairs* 29, no. 4 (2000): 342–70.
- Mason, Elinor. “Objectivism, Subjectivism, and Prospectivism.” In *The Cambridge Companion to Utilitarianism*, edited by Ben Eggleston and Dale Miller, 177–98. Cambridge: Cambridge University Press, 2014.
- Mengzi 孟子. 孟子 [*Mengzi*]. 4th century BCE.
- Mill, John Stuart. *Utilitarianism*. In *Collected Works*, vol. 10. Toronto: University of Toronto Press, 1969. Originally published 1861.
- Railton, Peter. “Alienation, Consequentialism, and the Demands of Morality.” *Philosophy & Public Affairs* 13, no. 2 (1984): 134–71.
- Sidgwick, Henry. *The Methods of Ethics*. 7th ed. Indianapolis: Hackett, 1981. Originally published 1906.
- Singer, Marcus. “Actual Consequence Utilitarianism.” *Mind* 86, no. 341 (1977): 67–77.