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Practical Syllogisms: From Humeanism to Utilitarianism

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Abstract: The practical syllogism of the customary type, "*desire*, *belief* /∴ *action*", which we may also formulate as "W_I (q), B_I ($p \rightarrow q$) /∴ p", is the main topic of the following discussions. This syllogism is not valid, viewed at the level of rigid, symbolic logic. That is the initial claim made in this article (§2). Kant may save us from this dead end (§1); but his logic of the imperative is never always provided for our ordinary lives (§3.1). Contrasting the two, Kant's logic and the customary syllogism, we look into where the invalidity of the latter resides in: individuality of the belief (§1.4), a fallacy of affirming the consequent (§2.1), propositional attitudes (§2.3), irrationality (§3.2), concretely. Although the validity is finally given up, we find another dimension of understanding in the formulation of utilitarianism; this point has been passed over by former thinkers (§4). Before jumping to this conclusion, we look through the landscape of their discussions as well, especially those held under the name of Humeanism. Readers who wonder how this article relates to the main stream of modern debates are recommended to see those parts (§3.3-3.4) first.

Keywords: practical syllogisms; logical validity; causation; utilitarianism; Humeanism.

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§1. Kant's Logicism

1.1. Kant on the Practical Syllogism

For Immanuel Kant (1748-1832)[2], *reason* was an ability for *reasoning*, namely inference (Kant 1787, B355). Now *practical reason*, the central notion of his ethics, can also be reviewed from this angle, as Beck (1960, p.81) pointed out:

(1)[3] Pure reason in practical use, in contrast with [its theoretical use which requires] empirical grounds, starts with *a priori fundamental rules* (*Grundsätze a priori*), so that its formula[4] is close to a *syllogism* (*Vernunftschluss*); that is, it begins with a *major premise* (*Obersatz*), where something general[5] is stated as a moral principle, and then, goes through a *minor premise* (*Untersatz*), where the *potential*, *optional action* (*mögliche Handlung*) is logically subsumed under the general principle, ending up with the *conclusion* (*Schlusssatz*), where a decision is made. (Kant 1788, V90)[6]

Although Kant himself might have written this passage as a review of his precedent arguments, Beck claimed it indicates the syllogistic structure of the practical reasoning[7]. We may well take it as the *practical syllogism*, a modern structure of decision-making; as such, the following syllogism will be assembled:

(2)		Anyone should forbear to step in the land owned by another person.	[categorical imperative]
		The place where I am planning to take a rest is owned by someone else.	[situation]
	∴	I should forbear to use the land.	[decision]

The "categorical imperative" at the major premise is one of the "a priori fundamental rules" stated in (1). A "situation" at the minor premise is recognition that the agent's potential, optional act, e.g. "I am planning to take a rest," is subsumed under a broader category of a blamable act, e.g. "a violation of another person's proprietary," coming from some "general principle" stated in (1). This is how the agent reaches the decision to forbear the act.

[2] The years of birth and death are attached to the initial appearance of the key thinker.

[3] Crucial sentences and citations are consecutively numbered within parentheses.

[4] *Einteilung* (Kant 1788, V90).

[5] "Das Allgemeine," which the author read as "etwas Allgemeines."

[6] The English translation of the German original is made by the author.

[7] Beck also referred to Kant's relevant discussion in *Tugendlehre* (Kant 1797b, VI437-438).

1.2. A Covering Law Model

To know Kant's logic, we do not need even deontic logic[8]. Omission is well expressed by "forbear to do." The meticulous difference between $\neg Op$ and $O\neg p$ is unnecessary, unified into "should forbear to do."[9] We can simply recognize this logic as *MP* (*Modus Ponens*), owing it to Paton (1947, p.60, p.80), who found, in Kant's ethics[10], relativization of the will, decision-making, to a situation.

Look at (2), where the situation literally mediates the decision process through a minor premise; this mediation is relativization of the will, and moreover *MP*, formalized in the following way:

(3)	$\forall x$((x steps in the land owned by another person)$\rightarrow$(x should forbear to use it))	[$\forall x(Fx\rightarrow Gx)$]
	(I step in the land owned by another person)	[Fc]
$\therefore$	(I should forbear to use the land)	[Gc]

More precisely, "$\forall x(Fx\rightarrow Gx)$, Fc /$\therefore$ Gc", rather than *MP*, as noted in the square brackets, where "Fc" expresses a situation. Von Wright, whom we shall mention later (§2.1), would call this logic a *covering law model* (1972, p.39)[11].

1.3. Individuality

Kant's covering law model beautifully formalizes our decision-making[12]. We may well think of it as an ideal of the practical syllogism.

The practical syllogism was originally tackled as an issue by Aristotle (384-322 BC), whose style was *term logic* notoriously. This entangled the problem, misleading it into that of an individual thing, such as "this food"[13]. According to Aristotle (300BC, 1140a-1144a), the realm of practice cannot but commit itself with such an individual thing having a proper name, but it was too much for his logic[14]. Anscombe (1957, sec.33) took the same line[15], yet the problem is not there.

The problem of the practical syllogism is *individuality* for sure, but not of the *thing* like "this food," but of the *agent*. In (3), it is presented by "I" or "c". Kant avoided individuality of this

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[8] In reference to deontic logic, the author has in mind the so-called detachment as Dancy (2000, pp.70f.) discussed it. His approach is taken up later, together with other modern thinkers (§3.4).

[9] This manner of explanation can be learned from Austin (1832, pp.19f.), who the author thinks has multiple parts in common with Kant's logic and ethics, though this point is not developed any further in this paper.

[10] Paton (1947, p.60, p.80) gave this interpretation to the maxim, a typical Kantian notion, originally but we apply the same idea to the categorical imperative. This is admissible since, as is well known, the categorical imperative is a universalized version of a maxim.

[11] Surely von Wright had in mind Hempel & Oppenheim's scheme (1948, p.138).

[12] The description heretofore is mainly owed to Kaneko (2008; 2011; 2017; 2020), who has long been tackling this issue of formalizing Kant's ethics.

[13] "τὰ καθ' ἕκαστα" (Aristotle 300BC, 1140a-1144a).

[14] That Aristotle's term logic cannot handle singular sentences adequately is a well-known fact (cf. Nolt et al. 2011, p.134), so the detailed explanation is omitted within this article.

[15] And it was not changed in her later works (e.g. Anscombe 1974).

kind by covering it literally within his covering law model. But in real life, we rarely find such a decisive law (in the present case, it is a categorical imperative plus a situation. Readers may also think of the hypothetical imperative, which shall be dealt with in §2.2 later).

Our decision-making is mostly on *means to end*: "I want such-and-such. I think if I do such-and-such, then I can satisfy my desire. So I will do such-and-such." The end is expressed by a desire; the belief provides a means to the end. Dubbed "*desire, belief /∴ action*", this teleological model of the practical syllogism was widely shared among thinkers (von Wright 1972, pp.39-40; Davidson 1963, p.7; Dancy 2000, pp.10-11) including Anscombe (1957, sec.26).

(4)			
		I think that if I attend that school, I can be an astronaut.	[belief]
		I want to be an astronaut.	[desire]
	∴	I will attend that school.	[decision]

This is a typical example of such a teleological model, much better known than Kant's (as we saw it in §1.1-1.2) definitely. The subtle difference in the expression between "action" and "decision" should be disregarded, since the conclusion of the syllogism expresses προαίρεσις, a decision of an action in Aristotle's terminology, after all (Aristotle 300BC, 1113a; see also Davidson 1970a, p.31).

A boy can have a desire to be an astronaut (cf. (4)). But there is no definitive route to be an astronaut. So he thinks of attending a certain school famous for producing two or three astronauts. Such is our ordinary reasoning. This is *teleological,* that is, on means to end, and moreover, *personal* and *individual,* because in most cases, there is no decisive law to tell the agent what to do.

1.4. Issues Tackled Below

Such is our ordinary decision-making. It is on means to end, and individual, relying on personal thoughts. The well-known structure "*desire, belief /∴ action*" relates to this teleological reasoning. But such a type of syllogism appears to lose validity, differently from Kant's structure (§1.2). See (4) again. It is assembled from the boy's personal thoughts alone. He desired such-and-such; he believed such-and-such. They are so individual as to deprive his logic of validity. By *validity*, here we mean that validity which regular rules like *MP* has. The syllogism "*desire, belief /∴ action*" lacks this type of validity due to its individuality (§1.3). Let us formulate it on trial.

(5)			
		B_I (I attend that school → I can be an astronaut)	[belief]
		W_I (I am an astronaut)	[desire]
	∴	I will attend that school.	[decision]

This is a reformulation of (4) above, where we see notorious *propositional attitudes* coming in. B_I (*p*) is "I believe that *p*." W_I (*p*) is "I have a desire that *p*." Goldman (1970, p.10), who gave a (5)-like construction to the practical syllogism, was concerned about the verb "want" being unable to have a that-clause, but it is not critical; the alternative expression, such as "I have a desire that *p*" will do. The problem is, rather, that almost all thinkers find no anomaly in this logic; in other words, viewed at the level of rigid, symbolic logic, the syllogism like (5) lacks validity.

Rationalization may be an excuse (Davidson 1963, p.3). But it stays doubtful, because we do not know what rationalization is in the first place. Our inquiries below center at this point, to tell the truth, namely the anomaly, or lack of validity, of the practical syllogism. Gilbert Harman (1938-2021) denied the logical characteristic of the practical syllogism itself (1976, p.431), but his cognitive approach, which *psychologizes* all the process of the syllogism, seems a deviation from Aristotle's original, logical approach (§1.3).

On the other hand, the issues we address below would part from Aristotle's original inquiry, because the logic we apply progressed so much, compared with that used in his era. Again, regarding the practical syllogism, we will reach a negative conclusion that we cannot but give up its validity. Right after this, however, a more important view of utilitarianism comes into the picture.

§2. Lack of Logical Validity

2.1. A Fallacy of Affirming the Consequent

Our concern below is lack of validity in the practical syllogism. Individuality of the agent in that syllogism calls in his/her personal attitudes toward propositions, under the name of propositional attitudes. There being no option to psychologize them (§1.4), we must look into the logic head-on.

Some may look into the internal structure of the syllogism as well, that is, means to end. Our practical reasoning is mostly teleological, as discussed earlier (§1.3). It is different from *MP* as Kant presented it (§1.2), and Georg Henrik von Wright (1916-2003) actually took it up as a problem. See (5) again; it says, "If I attend that school, I (can) be an astronaut. I (want to) be an astronaut /∴ I (will) attend that school", leaving aside "B_I," "W_I," "can" and "will". This is "$p \rightarrow q$, q /∴ p", said to commit *a fallacy of affirming the consequent*.

Our teleological reasoning commonly has this structure "$p \rightarrow q$, q /∴ p", as realized by reviewing it as "*means-end (stated in a belief), end (stated as a desire) / ∴ means (stated as a decision)*". This was exactly what von Wright (1972, pp.40-41) had his eye on. It is not difficult to see how he thought he corrected this fallacy (of affirming the consequent).

(6)		B_I (¬(I attend that school) → ¬(I can be an astronaut))	[belief]
		W_I (I am an astronaut)	[desire]
	∴	I will attend that school.	[decision]

This way, by taking *the inverse* of the content of the belief, von Wright thought he corrected a fallacy of affirming the consequent. Leaving aside "B_I" and "W_I"[16] as well as "can" and "will"

[16] Von Wright (1972) positively did not look into propositional attitude-like features of parts of the syllogism, the belief and the desire. This partially relates to his investigation being concerned with Anscombe (1957), not with Davidson (1963).

similarly to (5) above, we can see (6) having the form "$\neg p \rightarrow \neg q$, q /∴ p". This is logically valid, not committing a fallacy any more[17].

2.2. Hypothetical Imperatives

Von Wright corrected the fallacy of the practical syllogism this way, prima facie. But it can be cast a sidelight on; especially propositional attitudes like "B_I" and "W_I" have not yet been handled, which may interrupt logic and does. This, in turn, throws light on Kant's supremacy again. Besides his typical formulation like (2), Kant prepared another logic for teleological reasoning, under the name of the *hypothetical imperative*[18].

(7)		For anyone, if s/he wants to be an astronaut, s/he should attend that school.	[hypothetical imperative]
		I want to be an astronaut.	[desire]
	∴	I should attend that school.	[decision]

Ingeniously enough, here, a personal belief we saw above (from (5) to (6)) is replaced with the imperative occupying the major premise, providing another covering law (than the categorical imperative we saw in (2) above)[19]. Exactly this enables the whole logic to be valid. Let us see it in another form:

(8)		∀*x*((*x* wants to be an astronaut)→(*x* should attend that school))	[hypothetical imperative]
		(I wants to be an astronaut)	[desire]
	∴	(I should attend that school)	[decision]

We can thus find another covering law model, regarding teleological reasoning. The hypothetical imperative is that very covering law. Thanks to it, we can free ourselves from such expressions of propositional attitudes as W_I and B_I unremovable in the preceding syllogisms (from (5) to (6)). Wanting, or desire in (8), is no longer put in W_I, formulated into a one-place predicate "*x wants to be an astronaut*", instead. It occupies an antecedent of the conditional in the universal sentence (cf. (8)).

The universal form of the hypothetical imperative may recall Kant's thesis that the hypothetical imperative is *analytic* (1785, IV417, IV419). But it never means that in the hypothetical imperative, a desire (occupying the antecedent of the universal sentence) is analyzed in such a

[17] This solution of von Wright's was not explicitly but implicitly presented at the beginning of his article abruptly (1972, pp.40-41).

[18] Like the precedent discussion on the categorical imperative (§1.1), the following argument is owed to Kaneko (2008; 2011; 2017; 2020).

[19] Kant never called the hypothetical imperative "a law." This was due to his terminology of "universal law" Kant allocated to the categorical imperative alone, which is clear from his formulation of the moral law (Kant 1785, IV421). Nonetheless, we can find a few parts where it appears Kant thought of the hypothetical imperative as "a law." For example:

> Hypothetical imperatives present practical necessity of the potential, optional act as a means to reach an end (Kant 1785, IV414; see also Kaneko 2020, p.213 n.253).

Note, incidentally, that in the present context, the author distinguishes categorical imperatives from the moral law. The categorical imperatives is what we usually call a duty, which generates from the universalization of a maxim.

manner as the subject in "All bachelors are unmarried" is analyzed, but that in the whole logic of (7) and (8), the agent logically deduces the act as a means. This logic is termed "analytic" by Kant; in other words, the practical syllogism of teleological reasoning is, as a whole, analytic.

2.3. Propositional Attitudes

This way, even in teleological reasoning, Kant avoided such individuality as we are concerned about (§1.3) by his covering law model of the hypothetical imperative (§2.2). But such cases are rare, because in ordinary lives, we rarely find a decisive law like the hypothetical imperative; for example, the boy (in (4)) wants to be an astronaut, but attending the school never guarantees him his becoming an astronaut.

This pushes us back to that logic of propositional attitudes of personal thoughts. Wanting, for example, merely formulated as a one-place predicate "*x wants to be an astronaut*" in Kant's logic (cf. (8)), returns to its previous form W_I unfortunately. And the whole logic degenerates into "$B_I\ (p \rightarrow q),\ W_I\ (q)\ /\therefore\ p$", as seen before (cf. (5)).

Von Wright's solution (§2.1) has no impact on here, since our problem is individuality expressed by propositional attitudes, B_I and W_I.

The propositional attitude was pioneered by Frege (1892, S.37; see also Iida 1987, p.144 n.36) and by Russel (1912, ch.xii; 1918, p.59; see also Kaneko 2021, p.231 n.28). Their discussions were originally part of philosophy of language, not of logic. With intentional logic remaining incomplete, we cannot help getting lost when it comes to the logic of propositional attitudes. This constitutes an essential part of our problem, namely the lack of validity in the practical syllogism.

§3. Humeanism

3.1. Universality

Nick Zangwill proposed *normative essentialism* to support the logic of propositional attitudes like (5). According to it, even such logic is valid, because as a whole, it is *normative* that having a desire that q and believing that $p \rightarrow q$ leads to the act of p (Zangwill 2005, p.3; Zangwill 1998, p.190, p.196; see also Kaneko 2011, sec.7-8; Kaneko 2017, pt.III ch.2). But it appears *a fallacy of begging the question* (*petitio principii*), put in the context of our discussions at least.

Incidentally, some may wonder, as to Kant's logic (i.e. (8)), why in it, the fallacy of affirming the consequent as von Wright pointed it out (§2.1) is suddenly corrected, as noticed by comparing (5) with (8). We may follow this up with the view of *universalization* of a personal belief[20].

(9) For anyone, if s/he attends that school, then s/he can be an astronaut.

This is universalization of the personal belief stated in (4) above. By saying this (i.e. (9)), the agent is entitled to say the hypothetical imperative stated in (7), too. That is, *confidence in*

[20] The following discussion might be connected to talks about the categorical imperative, since universality, which here means that over agents, is considered in Kant's ethics mainly when the categorical imperative is gained from a maxim. But we do not look into this aspect of the problem any further within this article.

means to end generates a hypothetical imperative, and enables the conversion of the antecedent and the consequent in the belief.

This is how the correction of the fallacy (of affirming the consequent) is somehow explained, regarding Kant's logic. We do not look into this any further, but a kind of induction concerns it, apparently[21].

3.2. Irrationality

If we reach confidence, our teleological reasoning takes the form of the hypothetical imperative. But in most cases (of our ordinary lives), we cannot. Thus, personal, individual attitudes toward means to end must enter the logic, in the name of propositional attitudes, to make it invalid (as seen in §1.4 and §2.3).

Most thinkers look away from this fact, taking shelter in *causation*. For example, Goldman claimed that the framework of the propositional attitude need not be conceived of as logical since it is causal (Goldman 1970, pp.100-101). After all, Davison's famous causal theory of the action is grouped under this. This trend negatively interests us, because it gave rise to the notorious *Humeanism*[22].

Humeanism naturally occurs to us, seeing "*desire, belief /∴ action*". Seeing the syllogism, e.g. (4) above, we recall an intensive desire driving a belief, as often experienced in our ordinary lives. We find it quite natural; I always think of the thing wanted first, and then, think over how my desire is satisfied. David Hume (1711-1776), however, saw *irrationality* in this[23].

(10) Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them. […] When in exerting any passion in action, we ch[oo]se means insufficient for the design[e]d end, and deceive ourselves in our judgement of causes and effects. [… It is] not contrary to reason to prefer the destruction of the whole world to the scratching of my finger. (Hume 1739-40, pp.415-416)

We call this the *slave thesis* of Hume's. Here "reason" is equated with the belief as we talked about it in the practical syllogism, and "passion" with a desire. A belief is a slave to a desire. This reading was to be found in the structure "*desire, belief /∴ action*" by later thinkers.

It appears, in the first place, a misinterpretation of an ability of reason, however, viewed from a Kantian perspective, because to Kant, reason is an ability to assemble a whole syllogism, not a part of it taken as a belief (§1.1; see also "analytic" discussed in §2.2). Besides, even if a belief, or reason in Hume's term, yields to a passion, it does not at all "deceive" itself. It is

[21] Surely, only one person can reach a 100 % belief of confidence to generate valid logic; let's say, "Every time I eat an apple, I stay healthy." But even so, its imperative form "If I want to stay healthy, I should eat an apple" is somewhat awkward; rather, "For anyone like me, if s/he wants to stay healthy, s/he should eat an apple" is better, and from this, some features of the agent is abstracted. We need to take a closer look at this, but leave it to another opportunity. Kaneko (2022) partially handles it in terms of means to end.

[22] Humeanism is discussed by Dancy (2000, p.10, p.79), Finlay et al. (2017, sec.1.2.1), etc.

[23] As is well known, Aristotle (300 BC, 1147a-1147b) also saw something irrational, or more precisely, ἀκρασία in the practical syllogism. But it dissolves when we put it in a more refined, utilitarian structure of the practical syllogism, which we shall talk about later (§4 ;see also Kaneko 2017, p.141 n.5).

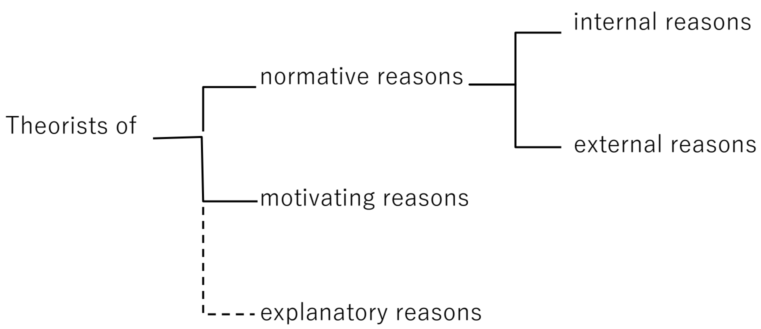
going too far to call it a slave. It is not at all irrational, but quite rational, and moreover, *utilitarian*, as we shall see below.

3.3. Put in the Context

Later thinkers found Humeanism in the structure of "*desire, belief /∴ action*" with the intention of following up its lack of validity with causation. This appeared Hume's idea, but Hume himself thought it irrational (cf. (10)).

Before jumping to the conclusion, we would like to put this argument in a decent context of contemporary discussions about reasons for the action. This section and the following (§3.3-3.4), which appears a detour, are necessary for readers wondering how the present article relates to the main stream of action theories. Again, it should be noted that Kaneko (2021) adjusted the present arguments of the practical syllogism well to modern debates over the human action.

(11) An Overview of the Latest Schools



We can overview the landscape of contemporary discussions about reasons for the action in this table, where Humeanism we mentioned above (§3.2) is a kind of theory of *internal reasons* (Finlay et al, sec.1.2.1). Let us see this circumstance.

The distinction between *normative reasons* and *motivating reasons* is the one between subjectivity and objectivity (Bishago 2016, p.28); for example, if an actor drinks gasoline (petrol), thinking of it as coffee, s/he has a motivating reason for it (subjectively), but does not have a normative reason for it (objectively). Customarily motivating reasons are not distinguished from *explanatory reasons* (Suzuki 2016a, sec.4; Suzuki 2016b, sec.2; Bishago 2016, sec.2), though Alvarez (2016, intro., sec.3) claims the necessity of that distinction.

The distinction between *internal reasons* and *external reasons* occurs exclusively in the theory of normative reasons; it relates to whether or not we should give motivating power to those normative reasons which appear to lie outside the agent's mind (as seen from the preceding instance of drinking gasoline). Humeanism emerges in this context, according to which the normative reason, not motivating an action directly, has only to be accompanied by an additional state of a *desire* (Finlay et al. 2017, sec.1.1.1, sec.1.2.1). This construction recalled modern thinkers to Hume's slave thesis (i.e. (10)).

3.4. A Manipulation

Let us take a closer look at that construction. The normative reason is accompanied by an additional state of a desire to gain motivating power. This tenet is part of *internalism*, or the theory of internal reasons, which Jonathan Dancy (1946-), a leading thinker in such debates, formulated it in the following manner:

(12) [I]t is the case that p is a good reason for A to ϕ **only if** there is some e such that in condition to C, A would desire e and, given that p, ϕ-ing subserves the prospect of e's being realized. (Dancy 2000, p.27)

Complicated as it is, it must be noted that our syllogistic structure "*desire, belief /∴ action*" is taken apart in this formulation, to be replaced with a belief considered a sole reason for the action. It is noted by "*p*" here, or more precisely, *believing that p* or B_I (p) in our notation (§1.4).

It must also be noted that this formulation of Dancy's, i.e. (12), resembles Davidson's original formulation so bad:

(13) R is a primary reason why an agent performed the action A under the description of d **only if** R consists of a pro[-]attitude of the agent towards actions with a certain property, and a belief of the agent that A, under the description d, has that property. (Davidson 1963, p.5)[24]

The bold part "**only if**" is an emphasis put by the author to facilitate the comparison of the two, (12) and (13). The latter, Davidson's formulation, is famous for having established the syllogistic structure, namely "*desire, belief /∴ action*". By comparing the two, (12) and (13), we come to find some *manipulation* occurring amid discussions from Davidson's formulation to Dancy's.

Actually the debates over psychologism vs. anti-psychologism (Dancy 2000, pp.14f.), pure cognitivism (Dancy 2000, pp.12f., pp.77f.), etc. presumably never occur without that manipulation. Concretely, Dancy's formulation depends on B_I (p), a manipulated form of the belief, which turns into p through his discussion about pure cognitivism and anti-psychologism. But this style of discussion never occurs as long as we keep the syllogistic structure "*desire, belief /∴ action*", because the belief stays B_I ($p \rightarrow q$), not B_I (p). And this teleological form of the belief, B_I ($p \rightarrow q$), calls for a desire, W_I (q), setting an end (the consequent p).

Why did a manipulation, such as B_I ($p \rightarrow q$) turning into B_I (p), occur? It appears debates over *directions of fit* affected debates over reasons for the action (Dancy 2000, p.12). According to the view (of directions of fit), the desire has a direction of fit from the world to a mind (in terms of satisfaction) while the belief has a direction of fit from a mind to the world (in terms of truth or falsity)[25]. This metaphysical distinction, as it were, decides the characters of the desire and

[24] Davidson originally put forward this formulation on the extended line of Anscombe's logic of *redescription*. But we do not look into this aspect of his formulation to deal with the discussions about "*desire*, *belief /∴ action*" directly.

[25] Direction of fits is definitely traced back to the distinction between theoretical philosophy (relating to the belief) and practical philosophy (relating to the desire) in the past, but in modern times, Anscombe (1957, sec.32) revived it. Zangwill (1998, p.173), on the other hand, criticized it for not revealing anything about the syllogistic structure of reasons for the action (see also Kaneko 2017, pt.III ch.3).

the belief respectively, differently from and independently of the teleological, syllogistic structure. As a result, the collaboration between W_I (q) and B_I ($p \rightarrow q$) dissolved, and instead, the conflict between W_I (p) and B_I (p) occurred to make one thrust the other.

§4 Toward Utilitarianism

4.1. Logic vs Causation

The logic of "*desire, belief /∴ action*" is sometimes discussed under the name of Humeanism (§3.2). In that context, thinkers came to forget its original construction "W_I (q), B_I ($p \rightarrow q$) /∴ p" to take it as W_I (p) vs B_I (p), instead, in terms of directions of fit (§3.4). Causation took the place of teleology this way. Dancy (2000, p.11) called it *hydraulics*. Indeed, it is an image of *causal hydraulics* that modern thinkers have of the practical syllogism. Is that a true image, however? Actually when it comes to Davidson's formulation as we saw it earlier (cf. (13)), modern thinkers got lost in how to position it in their discussion, seemingly (Finlay et al. 2017, sec.2.1; Alvarez 2016, sec.3).

The famous *causal theory* of Davidson's was not such hydraulics, to tell the truth. Certainly, he said a primary reason (cf. (13)) could be a cause, but causation itself works behind, according to his *anomalous monism* (1970b, pp.213-214). "Behind" here means the agent him/herself is aware of the logic of "*desire, belief /∴ action*" at the conscious, mental level while *behind it*, at that material, mental level s/he is never aware of, causation serves to secure the actual process going from the reasons, a pair of a desire and a belief, to the performed act. Though it has a weak point[26], this picture is sufficient for overcoming the Humean hydraulics.

Let us dig into this a bit further, to clear up misunderstandings. Wrongly enough, Davidson's causal theory is often discussed in the following way (Nobuhara 1999, pp.34f.; Kaneko 2021, sec.11). The agent can have multiple, different pairs of the reasons, a desire and a belief, for one action. For example, a boy (cf. (4)) will attend that school, partly because he wanted to be an astronaut, believing that if he attends that school, then he will be an astronaut, partly because he wanted to leave hometown friends, believing that if he attends that school, then he can leave hometown friends, partly because …, etc. Among these pairs of reasons, the only one is specified to be thought of as a true reason, a synonym for a cause[27].

True, Davidson (1963, p.9) himself presented his causal theory in such a manner. But we can find it inessential, thinking over the necessity of causation into the picture. First, it is not at all unnatural that the agent has multiple, different reasons for one action. Utilitarian logic we shall gain below (§4.3) does not rule out such possibilities of having multiple, different reasons for one action (thanks to their *hedonistic calculus*; but we do not look into that within the current article)[28]. Second, we merely need causation for making up for the lack of validity in logic (§3.2). To do that, choosing one true reason from multiple, different reasons is unnecessary. Only one pair of a desire and a belief is enough to call in causation.

[26] That is, we cannot guarantee the identification of a specific part of the brain with a desire and with a belief respectively (Satel et al. 2015, p.xix; Kaneko 2020, sec.43).

[27] Zangwill (1998, p.182) went so far as to say Davidson created a new notion of the *rational cause*.

[28] Kaneko (2013; 2017; 2020) developed this picture in terms of Bentham's qualitative utilitarianism. See also n.31 below.

4.2. Utilitarianism

Causation never describes the logic, nor can it take the place of it. Davidson's theory might have matched up with this picture. But we try to find another way out.

At the conscious level, the practical syllogism has no validity, as long as it keeps its ordinary form "W_I (q), B_I ($p \rightarrow q$) /∴ p" (§1.4, §2.3). Davidson never followed up this fact with his anomalous monism; it merely secures the process from the reasons, a desire and a belief, to the act, by presupposing causation working behind (§4.1). The logic as it is was not followed up with anything.

"*Desire*, *belief /∴ action*", formulated as "W_I (q), B_I ($p \rightarrow q$) /∴ p", should have been logically pursued more. Kant might have given a solution (§1), but his style of the imperative is rarely gained in our ordinary lives (§2.2, §3.1). This destines the ordinary, personal logic "W_I (q), B_I ($p \rightarrow q$) /∴ p" to fail, in appearance. Or Hume might call it irrational (cf. (10)). Do we have to put a period here, then?

We may recall the preceding discussion (§3.2), precisely there. An intensive desire drives a belief; I always think of the thing wanted first, and then, think over how my desire is satisfied. This is not at all irrational, but rational and even logical. In what sense, then? Hume actually left a clue to this query:

(14) [W]hen we have the prospect of pain or pleasure from any object, we feel a consequent emotion of aversion or propensity, and are carr[ied] to avoid or embrace what will give us this uneasiness or satisfaction. [It is] also obviou[s] that this emotion rests not here, bu[t,] making us cast our view on every side, comprehends whatever objects are connected with its original one by relation of cause and effect. (Hume 1739-40, p.414)

This statement lies shortly before his slave thesis (i.e. (12)), and *utilitarian*. With a view to bringing about *pleasure* or *escape from pain*, we choose actions, namely "whatever objects [i.e. optional actions]" connected with pleasure or escape from pain. This is very much a utilitarian manner of thinking.

4.3. Logic of Utilitarianism

Already Jeremy Bentham (1748-1832) named Hume a forerunner of utilitarianism, which was widely known[29]. And he said, like Hume (i.e. (14)), as follows:

(15) [F]or a man to be governed by any motive, he must in every case look beyond that event which is called his action; he must look to the consequences of it[;] and it is only in this way that the idea of pleasure, of pain, or of any other event, can give birth to it. (Bentham1789, ch.X par.VI)

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[29] "That *the foundations of all virtue are laid in utility* is demonstrated there [i.e. in the third volume of *A Treatise of Human Nature*] … with the strongest force of evidence … No sooner had I read the part of the work that touches on this subject than I felt as if scales had fallen from my eyes; I then for the first time learned to call the cause of the people the cause of virtue." (Bentham 1776, ch.1 par.36 footnote)

Bentham anticipated the modern structure of "*desire*, *belief* /∴ *action*" here. Due to their interest in negative results, utilitarians rarely refer to a teleological notion of the end, but to consequences[30], yet the structure of their thoughts is quite near the practical syllogism as we have talked about it. *The hedonistic principle* as Bentham (1789, ch.I par.I) presented it at the beginning of *An Introduction* is seen as a description of the desire as we saw it in "*desire*, *belief* /∴ *action*". *The principle of utility*, which tells us to take an action to satisfy the desire (Bentham 1789, ch.I par.2), is seen as a principle from which our belief in means to end is formed[31].

The desire is a product of the hedonistic principle; the belief is a product of the principle of utility[32]. Utilitarian logic, or more precisely, the practical syllogism of utilitarianism, if any, would be such. That would be located in the modern structure of "*desire*, *belief* /∴ *action*" definitely.

4.4. Logic of the Will

Davidson should also have noticed his own formulation (cf. (13)) coming closer to utilitarianism as we have just talked about it (§4.3).

(16) A [primary] reason [i.e. a pair of a desire and a belief][33] rationalizes an action **only if** it leads us to see something the agent saw, or thought he saw, in his action[, namely] some feature, consequence, or aspect of the action [that] the agent wanted, desired, prized, held dear, thought dutiful, beneficial, obligatory, or agreeable. (Davidson 1963, p.3; "only if" is read in the same manner as that in (13) above)

This is the beginning part of his article. The "feature, consequence, or aspect" of the action is what utilitarians normally call utility, which naturally comes from the principle of utility (§4.3). Here Davidson, by using the words "dutiful" and "obligatory," confused Kantianism as we saw it above (as the logic of the categorical imperative. See (1), (4)), but at the bottom line, his idea is utilitarian. He never mentioned it, nor was he aware of Humeanism[34]. Bentham, however, waited for Davidson's logic, or the practical syllogism, to come:

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30 Kaneko (2020, sec.98) dug into this aspect of utilitarianism.

31 Kaneko (2013; 2017; 2020) has already developed this system regarding the practical syllogism of utilitarianism, though we avoid mentioning it in detail, not to make the present article more complicated.

32 Note that *the greatest happiness of the greatest number*, the most famous principle of utilitarianism is the modification of this principle, the principle of utility. Bentham (1789, ch.I par.I n.1) himself waved between keeping the principle of utility literally and newly adopting the greatest happiness principle (cf. Kaneko 2020, p.196 n.404). To make matters worse, the genuine implication of the greatest happiness principle is not yet clarified by utilitarians themselves. Kaneko (2020, sec. 28, lect.52) warns that the greatest happiness principle should not be confounded with *the hedonistic calculus* Bentham (1789, ch.IV-V) originally devised to reconcile, inside my mind, the collisions of different pursuits of pleasures and escapes from pains; by contrast, the greatest happiness principle can be regarded as hearing others' opinion, as it were, about my decision.

33 This paraphrase is owed to Davidson (1963, p.6).

34 Davidson (1976) wrote a paper on Hume, but the issue he tackled there was far from Humeanism as we took up above (§3).

(17) There is, or rather there ought to be a *logic* of the *will*, as well as of the *understanding*: the operations of the former faculty [a]re neither less susceptible, nor less worth[y] than those of the latter, of being delineated by rules. Of these two branches of that recondite art, Aristotle saw only the latter[;] succeeding logicians, treading in the steps of their great founder, have concurred in seeing with no other eyes [than Aristotle]. Yet so far as a difference can be assigned between branches so intimately connected, whatever difference there is[35], in point of importance, is in favour of the logic of the will[, s]ince it is only by their capacity of directing the operations of this facult[y] that the operations of the understanding are of any consequence. (Bentham 1789, Preface)

Here it is overlooked that Aristotle (§1.3) actually developed what Bentham called "a logic of the will." But the near miss is partly ascribed to moder thinkers, too, who have ignored this statement of Bentham's for a long time. To put it in another way, "*desire, belief /∴ action*" is more utilitarian than Humean.

True, the practical syllogism is, viewed from a rigid, symbolic logic, invalid (§1.4, §2.3), but it is something *understandable*. Why? It is, after all, due to utilitarianism, i.e. the hedonistic principle and the principle of utility, against the background of which we perform teleological reasoning. Putting it the other way around, utilitarian logic roots deeply in our mind, enabling us to understand logic of the practical syllogism[36].

4.5. Summary

We do not detail what utilitarian logic of the practical is like, any further, but Kaneko (2013; 2017; 2020) developed it in the circle of Japanese academicians, so the present article, of itself, includes some crossover between Western circles and Eastern circles. Anyway, the agenda for us was lack of validity in the practical syllogism. We brought it into relief by contrasting it with Kant's logic, first (§1) and then, looked into it to find individuality, which is expressed by propositional attitudes, hindering the logic from being valid (§2.3).

Not a few thinkers hid this defect, the lack of validity in the practical syllogism, by appealing to causation, but it never saved the logic as it is (§3). This turned our eyes to utilitarianism, not Humeanism as contemporary thinkers saw it in the structure of "*desire, belief /∴ action*" (§3.2).

The lack of validity in the practical syllogism could be followed up with an application of utilitarian principles to the logic. The desire is a product of the hedonistic principle, namely the pursuit of pleasure and the escape from pain, while the belief is a product of the principle of utility; our belief lies in consideration of means to end, which utilitarians favorably call *tendency*[37].

The observation of tendency of the optional act is the true nature of the belief. It is personal indeed, and might deprive the whole logic of validity. Nevertheless, we understand the practical

[35] Difficult as it is, this part "whatever difference there is" is the subject of the whole sentence "Yet so far as… are of any consequence."

[36] Already Kaneko (2008; 2011; 2013; 2017; 2020; 2021) has pursued this aspect of the practical syllogism in terms of utilitarianism, contrasting it with rigid, symbolic logic akin to the Kantianism.

[37] Cf. Bentham 1789, ch.I par.II; Austin 1832, p.37. Tendency is mostly talked about in causal terms; note, however, that causation here talked about is a causal relation of a chosen act to an event, not a causal relation of a desire of a belief to an act as we have dealt with in terms of causal hydraulics above (§4.1).

syllogism as it is. This is due to utilitarianism. To put it the other way around, utilitarian logic roots deeply in our mind, with its teleological construction.

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