## STRUCTURAL INTENTIONS

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A person can have two basic kinds of propositional attitudes: *epistemic* and *conative* attitudes. A *propositional attitude* is an attitude of a person towards a proposition.

If I expect the sun to shine tomorrow, then I have a certain *epistemic* attitude towards the proposition that the sun will shine tomorrow. The proposition is that the sun will shine tomorrow and my epistemic attitude towards this proposition is that of expectation, or: my subjective probability for this proposition being true is close to or equal to 100 %. Epistemic attitudes, in the form of (descriptive) beliefs, expectations, conjectures, certainties, hypotheses, etc., concern what is, has been, or will be the case. If a person's epistemic attitudes are coherent, then they can be represented by a subjective probability function.

If I wish that the sun will shine tomorrow, then I have a certain *conative* attitude towards the proposition that the sun will shine tomorrow. The proposition is that the sun will shine tomorrow and the conative attitude towards this proposition is the one of wishing. Conative attitudes, in the form of wishes, hopes, intentions, etc., concern what is, has been, or will be the case. If the conative attitudes of a person are coherent, they can be represented by a subjective desirability function.

Attitudes can change over time, but their character is *dispositional*: they are manifested in respective judgements and actions, provided that certain conditions are satisfied. To this extent, the epistemic state of a person is an abstraction: what is meant is the totality of the epistemic attitudes of the person at a specific point in time. Since the epistemic attitudes of a person are not isolated from each other, but are rather interrelated in complex ways and comprise specific observational judgements as well as theories and background beliefs, one may speak of an epistemic system. The same is true for propositional attitudes. Since both basic types of propositional attitudes are interrelated with regard to their manifestations (judgements and actions), the system of epistemic and conative propositional attitudes cannot be separated in two distinct parts.

Changes in a rational person's propositional attitudes do not occur arbitrarily, but are guided by reasons. This is true both of epistemic and of conative

attitudes. Ultimately, the rationality of a person displays itself in the structures – including the temporal structures, i. e. the dynamics – of his epistemic and conative attitudes.

Actions are affected by intentions of different sorts. There is no action without intentionality. Three types of intentions can be distinguished without cutting across the different types of contents of these intentions: (a) intentions which are constitutive for the actions which they, so to speak, accompany (agency as controlled behaviour); (b) intentions which precede the actions and which are satisfied by the action itself (decisions); (c) intentions which motivate the choice of an action (motivating intentions) and which are not satisfied by the action itself but, e.g., by the action's consequences. Motivating intentions do not have to be satisfied by the consequences of the action, since the embedding of an action in larger structural contexts can also satisfy motivating intentions. In this chapter, the intentional side of structural rationality will be examined.

Intentions are a specific type of conative attitudes and can be distinguished from other conative attitudes by their intimate connection to actions. They are not simply given, but, rather, they are the result of a person's weighing of theoretical and practical reasons. They are embedded in the system of epistemic and conative attitudes as a whole.

If one assumes a separation between epistemic and conative attitudes (a separation which ultimately cannot be upheld) for the purpose of the further argument, then the following is the case: a great many of the epistemic states of a rational person are the result of a weighing of (theoretical) reasons. Many of the conative states of a rational person are the result of weighing (practical) reasons. Beliefs that are direct (causal) consequences of observations are not under the control of a process of weighing (theoretical) reasons. One can grant the existence of such beliefs without having to abandon the coherentist interpretation of the weighing of reasons, since beliefs of the type just mentioned are too marginal to be able to carry all of the justificatory weight for our system of beliefs. In a similar way, desires are not subject to a weighing of (practical) reasons. (Descriptive) beliefs are sometimes highly dependent on theories, e.g., on beliefs about the number of the stars in the universe or the causes for the phenomenon that the sky appears to be blue. Our life-world (descriptive) beliefs are largely independent of theoretical assumptions. We can agree on life-world facts without necessarily having to agree on (scientific) theories. We can communicate with people in a life-world way who do not have any theoretical scientific knowledge. The conative attitudes guiding our life-world agency are largely independent of ethical theories. We can agree on reasons and counter-reasons without having to agree on ethical theories; and others lacking any knowledge about ethical theories can criticize our actions.

Not only epistemic but also conative states are shaped by reasons. Not all (descriptive) beliefs and not all conative attitudes can and need to be justified in the same way. There are more or less fundamental beliefs and conative attitudes, which serve as starting points of theoretical and practical justificatory chains. Generally, with regard to those elements of our epistemic and conative system, a question for further justification does not arise, since these elements are largely homogeneous on an interpersonal level and therefore not disputed. Conative attitudes and practical reasons are closely interrelated, in much the same way that epistemic beliefs are linked to theoretical reasons. Some of our beliefs are not subjected to further justification and reasonable critique, and similarly some of our conative attitudes are excluded from justifiability and critique with reference to practical reasons.

Actions are not causal consequences of conative attitudes directed by descriptive beliefs. Actions are the result of a stance which integrates theoretical and practical reasons. Because of this, actions cannot be causally determined by the epistemic and conative states. Nevertheless, every action reveals or represents elements of the respective epistemic and conative state. This revelation, however, is not a matter of simple representation. Actions do not unveil the mental states of their agents. The privileged access of the acting person to her own mental states remains intact. To this extent, logical behaviourism as a philosophy of language is misguided. An action is not solely rendered rational as a means to realize something given (descriptive belief) and something irrational (conative attitude). The rationality of an action is an expression of the rationality of the epistemic as well as the conative state itself.

In order to justify a descriptive belief, we fall back on other descriptive beliefs that are not doubted and to those connections between beliefs that are equally beyond doubt (assuming regularities, laws, theories). Theoretical reasons explicitly refer to other propositions which seem to be certain – often they explicitly refer to theoretical (although not necessarily scientific) assumptions that relate these certain propositions to the uncertain ones; this always happens by way of inclusion in a whole system of background assumptions, a system which cannot be overlooked as a whole and which includes general descriptive assumptions, for example on the structure of space and time, methods of theory-building, conceptual prerequisites, rules of inference, etc.<sup>1</sup>

The situation is perfectly analogous in the realm of practical reasons. The justification of a conative attitude includes uncontested conative attitudes and those connections (regularities, normative rules, normative theories) which relate uncontested elements of our conative system to each other and additionally allow them to be related to the contested elements. Formally, practical reasons can be regarded as the markers of those conative attitudes that are responsible for the fact that these conative elements are action-guiding for a rational person. Hence, an enormous system of implicit background beliefs is utilized: a system which, e.g., comprises certain assumptions of invariance (for instance conditions of fairness), criteria of relevance, methods of normative theory-building, rules of deontic logic, but also basic normative principles.

The rationality of a descriptive belief depends on the way in which it is embedded in the structure of the epistemic system. The rationality of a conative attitude depends on its embeddedness in the structure of the conative system. With regard to descriptive beliefs, philosophy of science has provided many insights into the different relations of embeddedness. Some justifications are ultimately of a deductive structure, others are inductive; the most important relations in science, however, are reductive or abductive – this is sometimes called the "inference to the best explanation". These different forms of arguments represent different ways of embedding, they do not stand in opposition to each other, but rather form the framework of justification in the life-world as well as in the sciences, which proceeds in a generally coherentist manner.<sup>3</sup>

Practical justifications differ from theoretical ones with regard to what is being justified, but not in their form of justification. Deductive, inductive and reductive arguments also play a role in practical justifications. There are pointwise and structural descriptive beliefs, beliefs which refer to singular states of affairs and beliefs which refer to regularities and laws, and similarly there are pointwise and structural normative judgements. Our descriptive beliefs can be, at least ideally, represented in a coherent probability function. Our normative judgements can be, ideally, represented in a coherent function of desirability. This is why decision theory does not oppose a differentiated analysis of epistemic and conative attitudes, but is rather a method of testing elementary standards of coherence and a way of uniformly (reductively) representing conative and epistemic attitudes. In decision theory, the representations of epistemic and

<sup>2</sup> See Thomas Barthelborth, Begründungsstrategien, Berlin 1996.

I have further elaborated on these issues in my "Normatives Orientierungswissen", in: JNR: Ethische Essays. Frankfurt am Main 2001. For more details see JNR Philosophie und Lebensform. Frankfurt 2009

conative attitudes by functions of probability and desirability are interrelated in such a way that they cannot be disentangled. This interrelation has a natural interpretation in the interwoven structure of conative and epistemic attitudes. In this chapter, we will only consider a specific aspect, namely, justification by embedding within intentional structures.

Let us start with an especially innocent example. I am sitting in a restaurant, and of all the available dishes, I would most prefer having a plate of spaghetti marinara. The desire to have spaghetti marinara is motivated by the expectation that I will experience certain pleasant sensations, especially when the spaghetti is combined with the open white wine offered here. The expectation of a pleasant sensation is a good reason to form the desire (the conative attitude) to have a plate of spaghetti marinara now. This good *prima facie* reason can, of course, be outweighed by other conflicting reasons, such as the fact that I have seen, in passing, that the kitchen is dirty or that the spaghetti was cooked a day in advance. In the process of weighing the reasons, these latter reasons would have a greater weight, such that the original desire to have spaghetti marinara would not persist. Presumably, the desire in question can be satisfied by actions on my part (ordering etc.). This desire is the result of a weighing of (*prima facie*) reasons for action. When I order a plate of spaghetti marinara, this action is motivated by the intention to be able to later perform the action of eating the spaghetti marinara. For ordering, I need to perform a number of other actions (I may have to do something in order to get the waiter's attention, to say certain things, to turn around, etc.). I perform all of these actions not for their own sake, but in order to place my order; and I am placing my order not for its own sake, but in order to be able to eat a plate of spaghetti. These "in order to"-relations are relations between intentions.

When I intend to perform a specific action a, and when I (descriptively) believe that performing a requires the performance of actions  $a_1, \ldots, a_n$ , then an overall (structural) intention is formed, which comprises the total sequence  $\langle a_1, \ldots, a_n \rangle$ . In this case,  $a_1, \ldots, a_n$  would be a sequence of actions that are instrumentally chosen in view of action a; a is intended, and  $a_1, \ldots, a_n$  are intended solely by virtue of a.

Even if there is more than one way to perform a, then the desire to perform a is (under certain circumstances) a reason for a "way" A or  $\langle a_1, \ldots, a_n \rangle$ . Those who try to maintain an optimization conception of practical rationality can interpret this feature of our life-world practical justifications in the following way: since time spent deliberating alternative options (ways) is limited, it does not make sense (it would lead, as it were, to further costs) to require further

deliberation about the specific choice of A as opposed to the other actions that would realize a. Due to a lack of sufficient information, the person is consequently indifferent to these options, of which she is at least partially aware. Therefore, the fact that one of these ways A leads to a is sufficient to justify A. However, there is a different conception of rationality which makes no reference to the notion of optimization. According to this conception, the justified desire to carry out a is a good reason pick A even if there are alternative ways A, A,.... Only when there are *prima facie* reasons speaking against A, e.g., if another way has obvious advantages, is an additional element of justification for A required (beyond the fact that A is a way to a). Buridan's ass dies of starvation because he is indifferent to two stacks of hay and does not find any reason for choosing one of them over the other. When indifferent, the optimizer chooses one of the optimal actions, yet he is unable to give a reason for his choice. The structurally rational agent can give a reason for his way of acting.

Our life-world understanding of practical rationality requires our conative attitudes to be coherent. Our intentions must satisfy certain criteria in their relations to one another. Our life-world understanding of practical rationality does not require optimization. By "life-world understanding" I do not mean to refer to a theory, but rather to our practice of dealing with reasons for action, which is embedded in our life-world.

Intentions are realized in actions that have various temporal and personal extensions. My intention to stop smoking tomorrow extends over the remainder of my lifetime. The intention to carry a piano in another room together with three other people is realized in an action that extends over four agents and a relatively short period of time. Realizing an intention in an action is not completely under the control of the acting person. Between the decision and the action there can be intervening circumstances, and in the case of intentions that are realized by multi-agent actions, there is a dependency on the decisions of the other agents involved. There are intentions which are more comprehensive, and those which are less comprehensive, depending on whether they are realized in more or less extended actions.

More interesting than the temporal and personal aspects of the extension of an action is its decomposition into sub-actions. Only very few actions are basic in the sense that they cannot be further decomposed into other actions. Accordingly, the properties "pointwise" and "structural" are relative (and gradual): an action *a* is pointwise with regard to another action *A* insofar as *A* is realized by the performance of *a* and further actions *a*', *a*", etc. In order to perform

the action of ordering a plate of spaghetti marinara, a plurality of individual actions must be carried out. These individual actions  $a_1, a_2, ..., a_n$  are pointwise with regard to the action A, ordering a plate of spaghetti marinara. It is possible that raising one's arm in order to call the waiter is a basic action, i. e., under normal circumstances this action is not part of the performance of other, more pointwise actions. Having said this, however, I do take the idea of a repertoire of basic actions to be misleading. Whether or not an action is a basic action depends on the context and especially on the intentional state of the acting person. In the end, actions are individuated by intentions.

If A is performed by way of carrying out  $a_1, a_2, ..., a_n$ , then  $a_1, a_2, ..., a_n$  are justified in virtue of A's being justified. If I desire to order a plate of spaghetti marinara, and if I can do this by carrying out a sequence of actions such as "turning round in my chair", "raising my arm", "uttering certain sentences", "nodding in response to a query", etc., then every pointwise action in this sequence of actions is justified in virtue of the fact that the action of ordering is justified (by my desire to eat a plate of spaghetti marinara). The action of ordering is structural with regard to the individual actions, the performance of which realizes the action of ordering. My structural intention justifies my pointwise intentions. Most will agree to this with regard to the example of ordering a plate of spaghetti. The justificatory relations between structural and pointwise intentions can be taken to be almost trivial in cases in which the performance of the structural action is sufficiently "close" to the performance of the pointwise actions. The larger the range, however, the greater are the conflicts between this triviality, on the one hand, and certain, especially consequentialist, views about rationality, on the other.

My pointwise action to do my share in carrying the piano is justified by a structural action constituted by the collective carrying of the piano (by four persons). If there are good reasons for the respective structural intention, then *ipso facto* there is a good reason for me to contribute to this activity. It is, of course, possible that a person has this structural intention, and also has reason to question whether she should participate. In such cases, there is a practical conflict between opposing *prima facie* reasons. The person may, for example, take it that a refusal to contribute to this activity would lead to a situation in which there is another person contributing her share, such that the desired result (the piano is in the other room) could be attained without physical effort on the part of the deliberating person. If this reason dominates the deliberation, then the structural intention to carry the piano into the other room together with three other persons is no longer present, and hence the pointwise activ-

ity of one's own contribution can no longer be justified with reference to the structural intention.<sup>4</sup>

The direction of the justificatory relations is not solely from top to bottom, i. e. from structural to pointwise intentions. An indispensable part of deliberation about reasons for action is the reduction of comprehensive intentions to the level of pointwise actions (and the desirability of the latter), and to take this into account in the overall weighing of reasons. Someone who intends to stop smoking has to take into account the deprivations accompanying every pointwise renunciation of a cigarette – especially in the early stages of realizing this structural intention. The person has coherent intentions and is, in this respect, rational only when the structural intention is stable with regard to information about the desirability of pointwise actions which realize (pointwisely) the structural intention. Thus, it is entirely irrelevant whether the action is optimal with regard to a pointwise perspective - for example, in cases in which the action is evaluated solely with regard to its consequences for the well-being of the person (hedonistic calculus). Analogously, this argument can be reformulated for other - non-consequentialist and non-hedonist - ways of evaluating actions.

The formation of rational intentions cannot be understood unless the phenomenon of forming pointwise intentions with regard to structural intentions is taken into account. There are different conceivable ways in which a theory of practical rationality might refrain from incorporating this phenomenon. One possibility is the attempt to interpret the structural intentions such that they logically imply pointwise intentions. The structural intention to stop smoking tomorrow implies the pointwise intention not to smoke tomorrow or (even more pointwise) not to light the first cigarette after having eaten breakfast. A slight modification of our characterization of structural intentions, however, renders this way of construing the matter inadequate: let the structural intention be to stop smoking as soon as possible. When this is assumed, the argument – known to many, if not all smokers who have already tried to quit smoking – that it is actually irrelevant whether one stops smoking today or tomorrow (after having smoked for twenty years) develops its full force. And,

4 Important contributions to the analysis of collective intentions have been published by Raimo Tuomela over many years, see his A Theory of Social Action, Dordrecht 1984, The Importance of Us, Stanford 1995, and numerous papers on this topic. In the past Tuomela refrained, however, in this context from systematically embedding his account into a coherent notion of practical rationality. In his recent book Theory of Sociality: The Shared Point of View (Oxford 2007) Tuomela discusses the implications of the conceptual frame of joint intentions for rationality, but – to my surprise - he sticks to a narrow consequentialist account of practical rationality.

indeed, my state of health in five years from now might be completely unaffected by one further day of smoking. Since the actual goal of my structural intention to stop smoking as soon as possible is to have (five years from now) the characteristics of a person who has never smoked before, this argument – as claimed by medical studies - would even be correct. Applying this argument 1825 times, however, will lead to a situation in which my state of health in five years from now is one of a person who has smoked for 25 years. In order to make this analysis fully convincing, one could supplement it by invoking the idea of preference thresholds. If the pointwise view of agency is such that with regard to the consequences relevant for performing the structural intentions, the effects of pointwise actions are under certain thresholds, then there is no possibility to transfer the motivation for the structural intention to the lower level of the pointwise intention. A person optimizing in a pointwise manner would undercut the entire complex of his - as we shall assume - justified structural intentions, i. e., he would pointwisely act in such a way that none of his structural intentions are realized (or if so, then only accidentally).

The problem would even remain if there were a way to evaluate the actions for which pointwise and structural rationality would not pull in different directions. A theory of practical reason tries to clarify the motivations for actions of an ideally rational person. It seems, however, to be a decisive characteristic of rational persons that they chose their actions in view of their conformity to structural intentions — entirely independent of whether there is an alternative way of calculation that does not take into account the idea of structural embedding. The formation of pointwise intentions with regard to structural ones, the choice of a pointwise action with regard to whether it is part of a sequence of actions that realizes a structural intention, is reasonable. To act in a pointwise manner, i. e. to act without taking into account more comprehensive features of intentional structures, cannot count as a characteristic of a rational person.<sup>5</sup>

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