

# Two Kinds of Means–End Contexts: On the Use of the Means–End Terminology in Weber, Parsons, and Simon\*

JAN-ERIK LANE  
University of Umeå

## 1. Introduction

In the various social sciences and in history the terms ‘end’, ‘means’, and ‘means–end relationship’ occur to describe, analyze, and explain certain phenomena systematically. Sometimes this terminology is not used explicitly, but often sentences in which terms such as ‘purpose’ and ‘motive’ occur can be translated into sentences formulated in the means–end terminology. Furthermore, this terminology can enter into a set of primitive terms by which other terms are defined, as e.g. ‘action’ and ‘rationality’. Below I will try to distinguish between the different kinds of contexts in which means–end sentences are used. By stating the range of the variables ‘x’ and ‘y’ in the sentence

(S) x is a means to an end y

*different types* of means–end sentences are introduced and the different contexts corresponding to these can then be stated precisely. I am not concerned with a complete account of the range of entities among which the variables may take their values. The objective is to show how fundamentally different means–end sentences arise through distinctions between *different kinds of possible values* of ‘x’ and ‘y’ and that the key terms have a different meaning depending on the means–end context in which they are used. In scientific connections where a means–end terminology is used the different contexts are often mixed up and the distinction between different kinds of means–end sentences disappears. That this is the case will be shown by examples from methodological studies by Max Weber, Talcott Parsons, and Herbert Simon.

\* An earlier version of this article was published in *Statsvetenskaplig Tidskrift*, No. 2, 1973.

# Two Kinds of Means–End Contexts: On the Use of the Means–End Terminology in Weber, Parsons, and Simon\*

JAN-ERIK LANE  
University of Umeå

## 1. Introduction

In the various social sciences and in history the terms ‘end’, ‘means’, and ‘means–end relationship’ occur to describe, analyze, and explain certain phenomena systematically. Sometimes this terminology is not used explicitly, but often sentences in which terms such as ‘purpose’ and ‘motive’ occur can be translated into sentences formulated in the means–end terminology. Furthermore, this terminology can enter into a set of primitive terms by which other terms are defined, as e.g. ‘action’ and ‘rationality’. Below I will try to distinguish between the different kinds of contexts in which means–end sentences are used. By stating the range of the variables ‘x’ and ‘y’ in the sentence

(S) x is a means to an end y

*different types* of means–end sentences are introduced and the different contexts corresponding to these can then be stated precisely. I am not concerned with a complete account of the range of entities among which the variables may take their values. The objective is to show how fundamentally different means–end sentences arise through distinctions between *different kinds of possible values* of ‘x’ and ‘y’ and that the key terms have a different meaning depending on the means–end context in which they are used. In scientific connections where a means–end terminology is used the different contexts are often mixed up and the distinction between different kinds of means–end sentences disappears. That this is the case will be shown by examples from methodological studies by Max Weber, Talcott Parsons, and Herbert Simon.

\* An earlier version of this article was published in *Statsvetenskaplig Tidskrift*, No. 2, 1973.

## 2. The Different Kinds of Ends, Means, and Means-End Relationships

In the sciences mentioned in the introduction the means–end terminology is usually applied to various kinds of behavior phenomena – only this use will be discussed here. There is no general agreement on the exact definition of terms like ‘behavior’, ‘intention’, ‘action’, and ‘motive’. The discussion about what concepts are appropriate – central is the delimitation of the concept “action”<sup>1</sup> – comprises epistemological considerations and views on the nature of the social reality. With regard to the concept formation of the special branches of sciences the following definitions are suitable:

- (1) ‘Act’ = <sub>def</sub> ‘inner or outer behavior’
- (2) ‘Action’ = <sub>def</sub> ‘intentional act’
- (3) ‘Activity’ = <sub>def</sub> ‘complex of actions’

These definitions have support in linguistic usage, but they are not generally accepted.<sup>2</sup> A problem when delimiting the concept “action” concerns the distinction between “behavior” (“act”) and “action”. By ‘intentional behavior’ (‘intentional act’) is usually meant a behavior that is consciously directed – oriented – towards a certain state. To formulate this distinction exactly is a central methodological problem. The philosophical debate about how intentional behavior differs from mere behavior and if there is a causal relation between intention and behavior in an action is unclear – e.g. what different units in the consciousness ‘intention’ refers to. To a great extent this obscurity is a result of the fact that no distinction is made between the following problems:

(P1) What is the cause of a behavior?

and

(P2) What is the cause of an action?<sup>3</sup>

The fact that (P1) is not separated from (P2) can be due to a confusion of what is called ‘intention’ behind a behavior and what is called ‘intention’ behind an action. It is possible to identify an action as a combination of an intention and a behavior – let the term ‘*purpose*’ stand for intention in connection with behavior – and then study the relationship between purpose and behavior. Furthermore, when the cause of an action (purpose + behavior) is inquired for, an intention can be mentioned – let the term ‘*motive*’ stand for intention in connection with action – and the relationship between motive and action can be inquired for. Thus the term ‘intention’ refers to purposes as well as motives.

It can be difficult to decide in each case if the term ‘behavior’ or the term ‘action’ should be applied. The same is also true of the distinction between “purpose” and “motive”. The entities distinguished here, behavior, action, purpose and motive, are often analyzed by a means–end terminology.

A study of the concept formation of the special branches of science with respect to actions shows that the means–end terminology is applied to two different kinds of phenomena (Figure 1).

Figure 1. The dimensions of an action

Behavior level (actual level)	Intentional level		
	Means <sub>i</sub>	End <sub>i</sub>	Means–end relationship <sub>i</sub>
Means <sub>a</sub>	Realized means		
Ends <sub>a</sub>	Realized end		
Means–end relationship <sub>a</sub>	Rational means–end action		

Starting from the diagram the sentence (S) can be changed into two different kinds of sentences.

The first type of means–end sentence

(ME1)  $x$  is a means<sub>i</sub> to an end<sub>i</sub>  $y$

states a psychological fact. Here the variables ‘ $x$ ’ and ‘ $y$ ’ stand for intentional objects,<sup>4</sup> i.e. objects as they are conceived by the actor. For the sake of clarity (ME1) can be translated into

(ME1’) An actor  $A$  has a means<sub>i</sub> $x$  to an end<sub>i</sub> $y$ .

In (ME1) the values of ‘ $x$ ’ are behaviors as intentional objects and the values of ‘ $y$ ’ are states or behaviors as intentional objects. ‘ $A$ ’ refers not only to individual actors but also to organized collectives, e.g. a government. The fact that  $y$  is called ‘end’ means that  $A$  *wants* to realize  $y$  and the fact that  $x$  is called ‘means’ has the sense that  $A$  *wants* to realize  $x$  in order to realize  $y$ . The success of this depends on whether – regardless of what  $A$  wants or thinks – to the end<sub>i</sub> $y$  corresponds an end<sub>a</sub> $y$  and to the means<sub>i</sub> $x$  corresponds a means<sub>a</sub> $x$  and that the means<sub>a</sub> $x$  is the cause of the end<sub>a</sub> $y$ , i.e. to a means–end relationship<sub>i</sub> $z$  corresponds a means–end relationship<sub>a</sub> $z$ . If these conditions are fulfilled – and that is certainly not always the case – there exists a rational means–end action.<sup>5</sup>

The term ‘end<sub>i</sub>’ refers to any behavior or state such as the actor conceives it and which he wants to realize. ‘Means<sub>i</sub>’ refers to any behavior such as the actor conceives it and which  $A$  wants to realize for an end<sub>i</sub> $y$  to be realized. ‘Means–end relationship<sub>i</sub>’ denotes a belief in  $A$ , the belief that if a means<sub>i</sub> $x$  is realized, then an end<sub>i</sub> $y$  is realized. It is often pointed out that the distinction between means and end is relative in the sense that an end in its turn can be a means of another end, etc. The term ‘means–end chain’ or ‘means–end hierarchy’ is used about such phenomena. The distinction made above in the diagram is relevant in

this connection and by analogy the concept “means–end chain<sub>i</sub>” must be separated from the concept “means–end chain<sub>a</sub>”. In the following sentence

(MEC) ‘A common way of approaching the analysis of the objectives of an organization lies in the use of means–end hierarchies’<sup>6</sup>

it is a matter of “means–end chain<sub>i</sub>”.

The means–end concepts now introduced distinguish a so-called ‘inner aspect’ in an actor A.<sup>7</sup> And with these it is possible to structure A’s intention: an *end intention* or a *means–end intention* or a *means–end chain intention*. The question of whether or not these concepts suffice for a complete description of an intention will not be dealt with here, as the problem is not to specify the semantics for ‘intention’ but for the means–end terminology.

Sentences of the type (ME1) occur in several theories in the social sciences – in some they enter in one form or another into the assumptions from which the theoretical system is built up.<sup>8</sup> Moreover, they are common in historical investigations into the actions of actors.<sup>9</sup> In both cases the means–end terminology is used in two ways. On the one hand, actions are identified, i.e. it is shown that an end<sub>i</sub>y or a means<sub>i</sub>x is linked to a behavior and thus that the behavior is purposeful (intentional behavior). On the other hand, the psychological background of an action, i.e. the motive of the action, is described by “means–end chain<sub>i</sub>”. This means that the purpose of an action is placed in a wider intentional connection that is not linked by definition to the action in question and by which the action can be explained. An analysis of the will of an actor – purpose and motive – with these means–end concepts is here called ‘*teleological analysis*’. The description of the units at the intentional level (I) will be called ‘*means–end context I*’.

The other type of means–end sentence

(ME2) x is a means<sub>a</sub> to an end<sub>a</sub> y

is common, too. Here ‘end<sub>a</sub>’ refers to actual states/behaviors, ‘means<sub>a</sub>’ refers to actual behaviors that are sufficient conditions for end<sub>a</sub>y, and x and y are not intentional objects. ‘Means–end relationship<sub>a</sub>’ denotes the actual causal relationship between x and y. Sentences of the type (ME2) occur in two versions.

On the one hand, (ME2) is used of performed means behaviors and of given end states/behaviors and of the relationship between these. (ME2) can then be formulated as

(ME2’) An actor A uses the means<sub>a</sub>x and attains the end<sub>a</sub>y

and this sentence is a so-called ‘singular’ sentence.

On the other hand, (ME2) is used as a universal sentence and can then be formulated as

(ME2’’) X is a means<sub>a</sub> to an end<sub>a</sub> Y

where the values of ‘X’ are actual behaviors of a certain kind and the values of ‘Y’ are actual states/behaviors of a certain kind – not intentional objects, nor

just performed behaviors nor just given states. This sentence is a so-called ‘universal’ sentence.<sup>10</sup> (ME2’’) can be called ‘*the paradigm-sentence of the policy sciences*’, and below only this version of (ME2) will be discussed and ‘(ME2)’ will stand for (ME2’’). The fact that x is called ‘means’ here has the sense that an actor by performing x can bring about a state/behavior y, which is called ‘end’. An analysis in the policy sciences of the relation between behavior x and state/behavior y with these means–end concepts is here called ‘*causal analysis*’. The description of the units at the actual level (A) will be called ‘*means–end context 2*’.

### 3. Different Kinds of Means–End Contexts in Weber, Parsons, and Simon

#### WEBER<sup>11</sup>

All serious reflection about the ultimate elements of meaningful human conduct is oriented primarily in terms of the categories ‘end’ and ‘means’. We desire something concretely either ‘for its own sake’ or as a means of achieving something else which is more highly desired. The question of the appropriateness of the means for achieving a given end is undoubtedly accessible to scientific analysis.<sup>12</sup>

From the quotation it is obvious that Weber was interested in two different kinds of phenomena, both described by the means–end terminology. This terminology has a key position in Weber’s methodological articles collected in *Gesammelte Aufsätze zur Wissenschaftslehre* (1922).

#### *Means–End Context 1*

##### On the Term ‘Meaning’

To Weber ‘end’ and ‘means’ are key terms in the delimitation of the subject matter of the social sciences, the set of social actions, and in the list of the fundamental concepts of the social sciences.<sup>13</sup> The list is not built up deductively, i.e. on the pattern of primitive-defined terms, but “social action” can be seen as the fundamental concept, and terms for the four ideal types of social action are introduced by distinctions at means–end level:

(TA) (1) ‘the end-rational action’, (2) ‘the value-rational action’, (3) ‘the affective action’, (4) ‘the traditional action’.

Weber defines ‘action’ in the following way:

DF1. ‘x is an action’ =<sub>def</sub> ‘x is a “. . . human behavior when and in so far as the acting individual attaches a subjective *meaning* to it”’<sup>14</sup>

And an action is social in so far as in the actor’s meaning it is oriented towards other actors. According to DF1 the concept “action” contains two components:

- (a) “behavior”, and
- (b) “consciously directed” or “oriented”.

The concept in (b) distinguishes a dimension that Weber calls 'meaning' or 'subjective meaning'. And according to DF1 an action consists of a unit of a behavior and a meaning, i.e. what has been called 'action' or 'intentional behavior' above. The term 'action' is – as Weber points out – vague, since the dividing-line between meaningful and merely reactive behavior is indistinct.

One basis of the elaboration of the fundamental concepts of the social sciences, such as "social relation", "valid order", "conflict", and "corporation", is distinctions at the level of meaning in connection with the fact that some of these concepts presuppose combinations or regularities of social actions. The four concepts above in (TA) of social actions are arranged according to the degree of orientation in the action. In "the traditional action" the component "meaning" is minimal, whereas in "the end-rational action" the component "meaning" is maximal and contains "end<sub>i</sub>", "means<sub>i</sub>", and "means–end relationship<sub>i</sub>". What is the sense of 'meaning'?

'Meaning' may be of two kinds. The term may refer first to the actual existing meaning in the given concrete case of a particular actor, or to the average or approximate meaning attributable to a given plurality of actors; or secondly to the theoretically conceived *pure* type of *subjective* meaning attributed to the *hypothetical* actor or actors in a given type of action.<sup>15</sup>

This definition (a circular definition) starts from a distinction between 'objective' and 'subjective' 'meaning'. Weber does not discuss the concept "objective meaning", but it cannot be anything but a so-called 'semantic' concept, i.e. a concept with the aid of which the sense and the reference of linguistic units are specified. In this connection the term 'meaning' stands for sense and is predicated about a word and a sentence, respectively. With the term 'objective meaning' Weber connects onto a semantical division common in German philosophy at that time: linguistic unit-sense-object.<sup>16</sup> And, like Frege,<sup>17</sup> Weber maintains that this kind of meaning is a non-psychological entity.

Generally, however, in Weber the term 'meaning' is synonymous with 'subjective meaning' and means "intention", and Weber distinguishes between (i) a meaning, and (ii) a complex of meaning, which consists of various meanings in a coherent whole in an actor A.

In connection with the analysis of actions 'meaning' denotes the orientation (b) in an action, and 'purpose' is here an appropriate *definiens* expression. By virtue of DF1 it generally holds that in an action there occurs a meaning. 'Complex of meaning' denotes a unit of various meanings in an actor and can here be defined with 'motive'. A complex of meaning does not occur by definition in an action but can be a cause of an action.

However, under no circumstances is Weber willing to accept that this kind of meaning – subjective meaning and complex of meaning – could be a psychological entity – at any rate, not with regard to a rational means–end action. Psychological units are relevant only in an irrational action:

Similarly the rational deliberation of an actor as to whether the results of a given proposed course of action will or will not promote certain specific interests, and the corresponding decision, do not become one bit more understandable by taking ‘psychological’ considerations into account.<sup>18</sup>

As the argument for this point of view, Weber maintains that the error of the psychological theory is the idea that everything real is either of a physical or a psychological nature. However, there are other kinds of entities, and as an example is mentioned ‘the sense of an arithmetical example’.<sup>19</sup> Here there is a *non sequitur* in Weber’s argumentation, since the sense of, e.g., the sentence ‘ $3 + 4 = 7$ ’ is an example of objective meaning according to Weber. The relationship between means<sub>a</sub>x and end<sub>a</sub>y in a sentence of the type (ME2) is certainly not an intentional relationship, but in a rational means–end action the complex of meaning (the motive) mentioned in the quotation contains a means–end intention, i.e. it is a question of means<sub>i</sub>x and end<sub>i</sub>y and means–end relationship<sub>z</sub>, and these units are psychological objects. It is irrelevant if in this connection it is a question of an existing action or only a constructed one.

There is an obscurity in Weber’s distinction between what is specified above as the units in I and the units in A (Figure 1). In a footnote he criticizes a scholar – Wundt – for his acceptance of ‘this popular fallacy’ that the teleological description of a process is to be interpreted as equivalent to the inversion of the causal description of the same process. It is not correct that ‘“end and causality [are due to] different ways of looking on *one and the same* . . . event”’, Weber asserts, quoting Wundt, but ‘each of them [describes] *a different part* of an event’. Here Weber distinguishes between:

1. ‘idea’ of a desired change (v) . . .
2. idea of a movement (m) . . .
3. movement m, and
4. a change v in the outer world, caused by m.

The teleological sentence about a relation between (v) and (m), i.e. a means–end sentence of the type (ME1), is not semantically related to the causal sentence about a relation between m and v, i.e. a sentence of the type (ME2),

since above all it must of course by no means be taken for granted that the change (v’) *brought about* by the movement (m) as cause is necessarily *identical* with the change (v) ‘*aimed at*’ with movement (m) as means.<sup>20</sup> [Note the change of symbols!]

Weber denies that (v) and (v’) are necessarily ‘*identical*’, but he does not say that under all circumstances they are different realities that can show greater or smaller similarities. And what is the relationship between (m) as cause of (v’) and (m) as means for the change (v) ‘*aimed at*’? The actual cause (m), i.e. means<sub>a</sub>x should be separated from means<sub>i</sub>x (m) and the former be designated ‘(m’)’ on the analogy of ‘(v’)’ and ‘(v)’.



The same confusion of the units in I with the units in A occurs in a contemporary methodological work, Georg Henrik von Wright's *Explanation and Understanding* (1971), although much more clearly. He states:

When the outer aspect of an action consists of several causally related phases, it is normally correct to single out *one* of them as the *object* of the agent's intention. It is the thing which the agent *intends to do*.<sup>21</sup>

If  $\text{end}_i y = \text{end}_a y$  or  $\text{means}_i x = \text{means}_a x$ , one and the same phenomenon (a state or behavior) would be non-realized as well as realized. The mistake to identify the units in I with the units in A will be called '*the fallacy of intention*'.

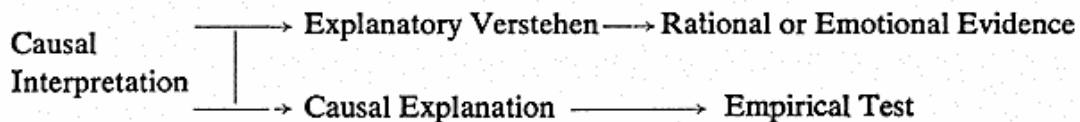
In Weber the concept "meaning" is used not only to analyze the concept "action" but also occurs in his theory about what an adequate explanation of a social action implies. In this theory the means–end terminology has a central position, which will be commented on below.

#### On the Term 'Causal Interpretation'

Weber sums up his theory about what an explanation of an action implies in the following way:

A *correct causal interpretation* of a concrete action means: that the outer course and the motive have been *correctly* apprehended and that at the same time their relation has become meaningfully *capable of Verstehen*. A correct causal interpretation of a *typical* action (type of action capable of Verstehen) means: that the course stated to be typical appears as meaningfully adequate (in some degree) and can be established as causally adequate (in some degree).<sup>22</sup>

The relations between the key terms of this theory can be visualized in the following way:



A correct explanation or causal interpretation of an action – existing or ideal typical – contains two epistemic components: to interpret the purpose in the action in terms of a motive (*'interpretation of meaning'*) on the one hand and to fit in the behavior in the action under an invariance or frequency on the other. And the sentences corresponding to these two different epistemic components are confirmed and falsified respectively by different methods, and are adequate in relation to two different kinds of evidence.

(i) *Causal Explanation*. The expression 'explain causally' is defined by Weber with 'subsume under uniformities'.<sup>23</sup> The key sentence is here a causal sentence. A causal sentence states a relative frequency, viz. that 'a given observed (inner or outer) event is followed or accompanied by another given event'.<sup>24</sup> It is confirmed and falsified respectively with the aid of synthetic sentences ('empirical test'<sup>25</sup>). And a relationship is 'causally adequate' in proportion to the value of the relative

frequency (0–1). Furthermore, Weber considers that ‘a correct *causal* sentence’ about the relation motive – action exists only if the course of behavior corresponds to or can be related to the course desired and conceived in the motive.<sup>26</sup> In the former case there is a rational action (see below), which occurs only as ideal type. In the latter case it is only a matter of greater or smaller similarities.

(ii) *Explanatory Verstehen*. Whereas the meaning of the term ‘causal explanation’ is relatively clear and non-controversial, the reverse is the case with regard to the term ‘Verstehen’. Weber gives the following definition of the term:

DF2. ‘x is a Verstehen’ =<sub>def</sub> ‘x is an interpretation of a meaning or a complex of meaning – existing or ideal typical’<sup>27</sup>

On the strength of DF2 it is true that the set of intentions is identical with the set of phenomena capable of Verstehen. Weber distinguishes between different kinds of Verstehen. The basis of the division are two distinctions, on the one hand (i) between two kinds of evidence for a Verstehen and on the other (ii) between two kinds of objects for a Verstehen.<sup>28</sup> These two distinctions are combined and visualized in Figure 2.

Figure 2. Combinations of the kinds of object and the types of evidence for Verstehen

Type of evidence for Verstehen	Kind of object for Verstehen	
	A meaning	A complex of meaning
Rational	Rational purpose-interpretation	Rational motive-interpretation
Emotional	Irrational purpose-interpretation	Irrational motive-interpretation

A necessary condition for the explanation of an action is that it can be shown to be causally adequate (in some degree). Another condition – also necessary – is that the action can be shown to be meaningfully adequate (in some degree). And an action is ‘meaningfully adequate’ to the extent that its meaning enters into an ordered complex of meaning. To determine the degree of meaningful adequacy of an action is a task for Verstehen. What implies a Verstehen more exactly?

#### On the Term ‘Verstehen’

To facilitate the discussion of Weber’s theory, the term ‘Verstehen’ will be exchanged for the term ‘Verstehen sentence’ and DF2 must then be replaced by

DF2’. ‘x is a Verstehen sentence’ =<sub>def</sub> ‘x is an interpretation-sentence of a meaning or a complex of meaning – existing or ideal typical’

(i) *Evidence*. A Verstehen sentence does not assert that a meaning/complex of meaning exists – it is not an empirical sentence, i.e. it cannot be falsified by empirical evidence. The Verstehen sentence does not say that a meaning/complex of meaning *exists*, but, provided that such a meaning/complex of meaning exists, it

says something about what this meaning/complex of meaning is, of what it consists, what structure it has, etc. It is one thing to state that an actor connects a certain definite thought with the expression '2 + 2 = 4' – a Verstehen sentence asserts nothing about this; it is a different matter to elucidate what this thought consists of – a Verstehen sentence states something about this.

Rationally evident is in the field of action above all what is *intellectually* understood completely and clearly in its complex of meaning. Empathetically evident is in an action what is fully relived in its experienced *emotional connection*.<sup>29</sup>

Rationally (i.e. logically or mathematically) evident is a Verstehen sentence that states the relationship between conclusion and premises when an actor draws a conclusion correctly, or a sentence that elucidates what constitutes the end<sub>y</sub> of an actor, i.e. if the end<sub>y</sub> is formulated in sentences, what these then imply. The type of Verstehen sentence that is central in Weber's methodology is that which speaks of a rational means–end action.

Any interpretation of such a rationally oriented end action possesses – for the Verstehen of the *means* employed – the highest degree of evidence.<sup>30</sup>

Here we are concerned with a sentence in which the following practical inference made by an actor is formulated:

(PI)

- (1) the state  $y$  ought to exist
- (2)  $y$  exists if and only if the behavior  $x_1$  or the behavior  $x_2$  is performed
- (3)  $x_1$  is better than  $x_2$
- (4)  $x_1$  ought to be performed

That such a sentence is rationally evident thus implies that in the inference the sentence (4) follows logically from the sentences (1) & (2) & (3) or that (1) & (2) & (3) render (4) logically probable.<sup>31</sup>

And an action is rational in Weber's ideal type if, and only if,

- (a) the behavior is oriented towards means<sub>i</sub> $x$  and end<sub>i</sub> $y$  and means–end relationship<sub>i</sub> $z$ , i.e. what was called 'end rational action' in (TA) above;
- (b) the action is determined by a motive in which there is an inference of the type (PI), which contains a true sentence of the type (ME2);
- (c) the actual course of behavior occurs in accordance with what is desired and conceived in the motive, i.e. means<sub>a</sub> $x$  and end<sub>a</sub> $y$  and means–end relationship<sub>a</sub> $z$  exist.<sup>32</sup>

This concept "rational action" is not identical with the meaning of the term 'end rational action' in (TA) above, which only contains the intentional aspect, i.e. "means–end intention". Below, 'rational action' (and 'end rational action') refers only to items that fulfill the stricter conditions (a)–(c) above.

Empathetically evident is the Verstehen sentence that interprets purposes and motives that are irrational, i.e. not suitable for the realization of an end, (e.g. erroneous ideas or emotional states like anger and pride). Weber points out that this kind of evidence is emotional (or artistic) and relative to the situation – ‘empathetic imagination’.<sup>33</sup>

The concept “rational action” is used by Weber not to describe existing actions but as a means to explain them:

For the scientific approach that forms *types* all the irrational, affectively conditioned, complexes of meaning of the behavior that influence the action are most clearly investigated and represented as deviations from a constructed purely end rational course.<sup>34</sup>

Since, according to Weber, a rational action is determined by a rational motive and every entity in the course of behavior and the motive can be specified exactly ((a)–(c)), existing actions can be explained by assumptions of deviations in the motive from a rational motive.

(ii) *Object*. Weber distinguishes between two different kinds of objects about which a Verstehen sentence can state something. On the one hand, such a sentence can speak of the meaning of an action – ‘*immediate Verstehen*’<sup>35</sup> – e.g. the thought of an actor when he pronounces the expression ‘ $2 + 2 = 4$ ’ or the feeling of anger the actor manifests in a behavior. On the other hand, a Verstehen sentence can analyze a complex of meaning – ‘*explanatory Verstehen*’<sup>36</sup> – e.g. the logical connection between different meanings into which the meaning of the utterance of the expression ‘ $2 + 2 = 4$ ’ enters in a long arithmetical operation. Or such a sentence can state the affectively meaningful connection into which a meaning enters, i.e. how anger can be related meaningfully to lost honor. In the former case it is a question of ‘rational motive-interpretation’ and in the latter of ‘irrational motive-interpretation’.

After this digression it can now be established that an explanatory Verstehen sentence does not state that a motive exists but asserts something about either the logical relationship between thoughts in a motive or, through emotional empathy, the affectively meaningful relationship between feelings and/or volitions in a motive. A necessary condition for the explanation of an action is that its meaning can be interpreted as entering into a complex of meaning:

All the above cases are *complexes of meaning* capable of Verstehen, the Verstehen of which we regard as an *explanation* of the actual course of the action. Thus for a science concerned with the meaning of the action ‘*explanation*’ means: a grasp of the *complex* of meaning to which, according to its subjective meaning, an action capable of immediate Verstehen belongs.<sup>37</sup>

Before the other necessary conditions are discussed, the common debate of the concept “Verstehen” will be briefly commented on.

“Verstehen” as an epistemic concept was used above all about the turn of the century by German philosophers of science and also later by American sociologists.

The discussion of the concept “Verstehen” in modern works on methodology seldom starts from these authors. Instead an account is given of an article by Theodore Abel, ‘The Operation Called *Verstehen*’ (1948).<sup>38</sup> This article is generally considered a decisive criticism of the arguments for Verstehen as an epistemic concept. Abel includes Weber in the group of Verstehen-theorists he wants to criticize, and according to Abel the criticism concerns the core of all Verstehen-thinking. Abel says:

... the operation of *Verstehen* involves three steps: (1) internalizing the stimulus, (2) internalizing the response, and (3) applying behavior maxims.<sup>39</sup>

This description of the concept is erroneous, as far as Weber’s argumentation is concerned. A Verstehen sentence does not state what intention is the result of an outer stimulus or what intention causes an outer response; nor does it state any ‘behavior maxims’, i.e. ‘generalizations which... link two feeling-states together in a uniform sequence and imply a functional dependence between them’.<sup>40</sup> As has been shown, Weber does not maintain that a Verstehen sentence speaks of such empirical relationships, since the evidence for such a sentence is rational or emotional and not based on experience. And what a Verstehen sentence describes in a motive is not a functional relationship between entities but a logical or affectively meaningful relationship. When Abel asserts that the sentences that are the result of operations (1)–(3) are not rationally evident but only hypotheses that are more or less probable in relation to a set of evidence established by objective methods, he repeats exactly what Weber points out:

But however evident an interpretation may be from the point of view of meaning, it cannot as such nor on the basis of this evidence claim: also to be the causally *valid* interpretation. On this level it is always only a particularly evident causal *hypothesis*.<sup>41</sup>

And further:

Test of the interpretation of meaning by comparison with the actual course of events is, as in the case of all hypotheses, indispensable.<sup>42</sup>

Moreover, Abel maintains that ‘the operation of *Verstehen* is based upon the application of personal experience to observed behavior’.<sup>43</sup> This is also wrong with regard to Weber:

On the other hand, the ability to imagine one’s self performing a similar action is not a necessary prerequisite for Verstehen; ‘one need not have been Caesar in order to have a Verstehen of Caesar.’<sup>44</sup>

To Weber, Verstehen is not an operation, a method – neither a heuristic nor a confirmation method – but a certain kind of knowledge that is valid or not in relation to a certain kind of evidence. The fact that the usual criticism of the concept “Verstehen” is not adequate – at any rate not with respect to the sense of the

term in Weber – does not preclude that Weber’s reasoning on these points is unclear and erroneous.

Weber asserts that the analysis and the explanation of a social process and a social regularity should be in terms of the actions of the individual actors (methodological individualism).<sup>45</sup> These in turn are explained with the aid of the motive for the action, and Weber says about such motives:

All the above cases are *complexes of meaning* capable of Verstehen, the Verstehen of which we regard as an *explanation* of the actual course of the action.<sup>46</sup>

According to Weber, a Verstehen sentence can be either rationally or emotionally evident. Rationally evident is the Verstehen sentence that speaks about the subjective complex of meaning that occurs in a rational means–end action. What Weber means is that the sentence in which is formulated the inference an actor makes – specified above as a practical inference (PI) – is logically evident. Here objective meaning and subjective meaning are confused. If (PI) is conclusive, it is logically evident, i.e. the premises imply the conclusion logically, but this relation between premises and conclusion is an example of objective meaning. When Weber speaks of

a grasp of the *complex* of meaning to which, according to its subjective meaning, an action capable of immediate Verstehen belongs,<sup>47</sup>

the actor’s *thinking* about (PI) is meant, i.e. the psychological inference process, and a sentence about it cannot possibly be logically true. What an adequate Verstehen sentence can assert something about is thus the objective meaning that occurs in the actor’s subjective meaning/complex of meaning.<sup>48</sup> It is this confusion that lies behind Weber’s thought that psychological entities are relevant only in an irrational action (see above). However, what distinguishes rational from irrational means–end thinking is not that they occur in, as it were, two different realities, but it is a matter of two different psychological sequences. In rational thinking the actor thinks in accordance with a correct inference, whereas that is not the case in irrational thinking. Weber’s concept “empathetic Verstehen sentence” will not be commented on in detail here. Since the evidence for this sentence is emotional, it is a non-cognitive sentence. Of course, it does not meet modern demands for a sentence being called ‘scientific’.

#### On the Concept of Explanation in Weber

If a sentence that, according to Weber, gives an adequate explanation of a rational action is broken up into its different subsentences, such a sentence can be said to be a conjunction of the following four sentences:

1. Sentence that states that to an action is linked a complex of meaning or motive into which the meaning of the action enters. This sentence, which is an empirical hypothesis and is tested with ordinary empirical methods, should be empirically true or probable in relation to an empirical evidence.

2. Sentence that formulates an inference made in this motive. This sentence is a logical sentence and should be logically true or logically probable.
3. Sentence that states that the motive is the cause of the behavior. This sentence, which is a causal hypothesis and is tested with the corresponding empirical methods, should be empirically true or probable in relation to an empirical evidence.
4. Sentence that states that the course of behavior desired and conceived in the motive corresponds to the actual course of behavior. This sentence, which is an empirical hypothesis and is tested with ordinary empirical methods, should be empirically true or probable.

As an example of such an explanation-sentence Weber mentions Gresham's law. This law – 'a rationally evident interpretation . . . on the basis of an ideal hypothesis of a purely end-rational action'<sup>49</sup> –

(GL) Bad money drives out good

can then be analyzed in the following four subsentences:

- (1) Sentence that asserts that to most actions that constitute a phenomenon of money circulation – a type of coin A is more frequently used than a type of coin B of the same nominal value but with different costs of production – is linked a motive in the actors.
- (2) Sentence that analyzes the inference made in the motive:
  1. B is more valuable than A
  2. My possession of B can be increased if, and only if, A is used in transactions
  3. A ought to be used in transactions.
- (3) Sentence that asserts that the motive is the cause of the behavior.
- (4) Sentence that asserts that the actual course of behavior with regard to A and B corresponds to the course desired and conceived in the motive.

Here Weber explains an empirical regularity by referring to the motive of the actors, into which a means–end level<sub>i</sub> enters and where the behavior that ought to be performed according to the inference in the motive is identical with that which actually occurs. That A tends to oust B in transactions is tantamount to saying that in their behavior most actors use A in transactions and thus increase their possession of B, which corresponds to the course of behavior desired and conceived in the motive.

In the contemporary debate about historical explanations the school proceeding from the Hempel-Popper theory ('the covering-law-theory')<sup>50</sup> can be said to have focused on the truth conditions of sentences of the types 1 and 3 above. On the other hand, the school controverting this theory ('rational explanation') – proceeding from Dray<sup>51</sup> – can be said to have taken "historical explanation" as only a matter of sentences of the types 2 and 4 above. To the Hempel-Popper-tradition 'explanation' of a social action stands for causal explanation, whereas to the Dray-



tradition ‘explanation’ implies explanatory *Verstehen*. Starting from Weber’s theory of causal interpretation, it is thus easy to see that the contrast between these schools does not bear on the adequate analysis of the concepts “causal explanation” (CE) and “explanatory *Verstehen*” (EV) but concerns the question of whether either (CE) or (EV) is the reasonable sense of the term ‘explanation’ when used about historical actions.

In Weber’s concept “causal interpretation”, von Wright sees an attempt at combining two irreconcilable philosophies of science, which he calls ‘positivism’ and ‘hermeneutics’.<sup>52</sup> This is not the place to discuss what von Wright means by these two terms or if the terms used by von Wright to define these two terms have the same sense for Weber as for von Wright. In connection with ‘positivism’ von Wright speaks of, among other things, ‘causal explanation’, whereas ‘hermeneutics’ is concerned with ‘understanding’ and ‘teleological explanation’.<sup>53</sup> It can be pointed out that if von Wright means that Weber’s concepts (CE) and (EV) are logically irreconcilable, this is erroneous. As has been shown above, (CE)-sentences and (EV)-sentences speak about different kinds of objects and are valid in relation to different kinds of evidence. Further, von Wright’s basis of division when determining Weber’s methodological position is wrong according to the latter’s philosophy of science. Von Wright’s starting-point is that

... one ought to separate, as being utterly distinct, causation in nature and causation, if we are to use that name, in the realm of individual or collective human action<sup>54</sup>

and he considers that a ‘positivist’ denies this, whereas a ‘hermeneutician’ asserts this. But Weber says:

... there is no obvious basis whatever for the thesis that the principles of the empirical causal theory should stop at the border of a motive ‘capable of *Verstehen*’. The causal imputation of events ‘capable of *Verstehen*’ follows the *logically* same principles as the imputation of events in nature.<sup>55</sup>

Weber’s analysis of the concept “causal explanation” agrees with the so-called ‘covering-law-theory’ – see Weber’s analysis in ‘Objective Possibility and Adequate Causation in Historical Explanation’.<sup>56</sup> Neither Hempel nor Popper can claim to be the first to have maintained that true or probable ‘“nomological” knowledge’<sup>57</sup> is a necessary condition for an adequate historical explanation. Furthermore, Weber separates the teleological analysis of an intention from the causal analysis of the relation intention-behavior. An explanation that combines teleological analysis with causal explanation can be called ‘*teleological explanation*’.<sup>58</sup>

#### On Means–End Context 1

However, Weber’s taxonomy and concept of explanation have as a logical consequence that one type of means–end sentence becomes of vital importance:



(ME1)  $x$  is a means <sub>$i$</sub>  to an end <sub>$i$</sub>   $y$

What is the relationship here between what is denoted by 'means <sub>$i$</sub> ' and what is denoted by 'end <sub>$i$</sub> '? It cannot be a question of a causal relationship, since means <sub>$i$</sub>  $x$  and end <sub>$i$</sub>  $y$  constitute a uniform means–end intention, whose causes and effects can be inquired for: a means <sub>$i$</sub>  $x$  is always a means <sub>$i$</sub>  $x$  to an end <sub>$i$</sub>  $y$ . The relation between means <sub>$i$</sub>  $x$  and end <sub>$i$</sub>  $y$  is a relation in the actor's intention and the sentence (ME1) states that an actor wants to realize a behavior in order to realize a state/behavior. Nor does the sentence say anything about the conditions for the choice of end <sub>$i$</sub>  $y$  and means <sub>$i$</sub>  $x$ . The relation between means <sub>$i$</sub>  $x$  and end <sub>$i$</sub>  $y$  in (ME1) has the following properties:

- (a) Mesoreflexive. Nothing prevents that, to an actor  $A$ ,  $x$  is a means to  $y$  as an end as well as to  $x$  as an end.
- (b) Mesosymmetric. Nothing prevents that, to  $A$ ,  $x$  is a means to  $y$  as an end at the same time as  $y$  is a means to  $x$  as an end.
- (c) Mesotransitive. Nothing prevents that, to  $A$ ,  $x$  is a means to  $y$  as an end and  $y$  is a means to  $v$  as an end without  $x$  being a means to  $v$  as an end.

### *Means–End Context 2*

#### *On the Cognitive Status of Sentences in the Policy Sciences*

According to Weber the social sciences investigate not only the intention (purpose and motive) of a behavior with the aid of the means–end terms but also 'the appropriateness of the means for achieving a given end'. Then – Weber does not notice this – it cannot be a question of an analysis with means–end sentences of the type (ME1) but with a type of sentence

(ME2)  $x$  is a means <sub>$a$</sub>  to an end <sub>$a$</sub>   $y$ .

Weber's interest in (ME2) concerned the cognitive status of such sentences. Whereas 'an empirical science cannot tell anyone what he *should* do',<sup>59</sup> Weber holds that

Strictly and exclusively empirical analysis can provide a solution only where it is a question of a means adequate to the realization of an absolutely unambiguously given end.<sup>60</sup>

The idea is here that empirical science cannot establish that a certain state of affairs is an end in itself<sup>61</sup> – irrespective of whether to an actor it is an end <sub>$i$</sub>  – but can state the means that realizes the end. Empirical science can

... tell us absolutely nothing more than that for the attainment of the given technical end  $y$ ,  $x$  is the sole appropriate means or is such together with  $x_1$  and  $x_2$ ;<sup>62</sup>

It is important to notice that according to Weber 'end' refers, on the one hand, to end <sub>$i$</sub>  $y$  and, on the other, to 'technical ends', i.e. end <sub>$a$</sub>  $y$ , and 'means' refers to means <sub>$i$</sub>  $x$  and means <sub>$a$</sub>  $x$ , respectively. And Weber takes the sentence

(S)  $x$  is a means to an end  $y$

to be equivalent to the sentence

(S')  $y$  is an effect of a cause  $x$

Weber states:

The sentence:  $x$  is the only means to  $y$ , is in fact the mere inversion of the sentence: on  $x$  follows  $y$ .<sup>63</sup>

Here there is a typical confusion of two different means–end contexts.

(i). (ME2) states nothing about a relation  $\text{means}_i x\text{--end}_i y$ , nor anything about a relation  $\text{means}_a x\text{--end}_i y$  – on the whole it states nothing about the units in  $I$ , since it is not a sentence in a teleological analysis. This type of sentence (ME2) states something about a causal relation between two different actual phenomena, a behavior and a state/behavior. When Weber proceeds from describing an actor's meaning/complex of meaning with the means–end terminology to ask for 'the appropriateness of the means for achieving a given end', he confuses two different means–end sentences without noticing that the terms stand for quite different entities. Only if it is a question of  $\text{means}_a x$  and  $\text{end}_a y$  can the sentence (S) ' $x$  is a means to an end  $y$ ' be translated into the conditional sentence, 'if  $x$ , then  $y$ '.

(ii). While it is correct that one type of means–end sentence, i.e. (ME2), states a causal relation between  $x$  and  $y$ , it is wrong to assert:

The inversion of 'cause and effect' propositions into 'means–ends' propositions is possible whenever the effect in question can be stated precisely.<sup>64</sup>

One type of means–end sentence, i.e. (ME1), cannot be translated into a causal sentence because there is no semantic relation between these two. Here Weber himself commits 'this popular fallacy' that he accuses Wundt of. Although the type (ME2) is thus translatable, the set of sentences of this type constitutes a proper subset of the set of causal sentences, viz. the subset where the cause is the behavior of an actor.

On Means–End Context 2

What is the relation between  $\text{means}_a x$  and  $\text{end}_a y$  in (ME2)? If 'cause' is taken to mean 'sufficient condition', relation between  $\text{means}_a x$  and  $\text{end}_a x$  has the following properties:

- (a') Reflexive
- (b') Mesosymmetric
- (c') Transitive

It now appears clearly that the means–end terminology is ambiguous and that it is used to describe different realities. In the classical version of teleological explanations, where the effect is said to precede the cause and the end to be the cause of

itself, there is this very confusion of the units in I and A in Figure 1. First the  $end_i y$  is taken to precede the  $means_a x$  and the  $end_a y$  is taken to succeed the  $means_a x$ . Then the  $end_i y$  is identified with the  $end_a y$ .<sup>65</sup>

*Means–End Context 1 and Means–End Context 2. A Comparison*

Although the means-end terms are key terms in Weber's methodology, he has not clearly and consistently observed the distinction between sentences in context 1, i.e. (ME1), and sentences in context 2, i.e. (ME2). This applies to the arguments about the rational means–end action:

Wherever we have a 'Verstehen' of a human action as conditioned by clearly conscious and desired 'ends' in clear knowledge of the 'means', this 'Verstehen' undoubtedly attains a particularly high degree of 'evidence'.<sup>66</sup>

Logically evident is the practical inference (PI) in which the actor infers the behavior that ought to be performed, given an  $end_i y$  and knowledge of a means–end relationship  $a z$ . Weber continues:

But if we now ask what this is due to, then appears immediately as basis the fact that the relation between the 'means' and the 'end' is rational and in a special degree accessible to the *generalizing causal theory* in the sense of 'law-likeness'.<sup>67</sup>

In his argumentation about the evidence for the preceding sentence Weber has now come to an entirely different problem, viz. under what circumstances (ME2) is empirically true and that has nothing to do with the evidence for (PI). Furthermore, the general causal relation in (ME2) is not a relation between  $means_a x$  and  $end_i y$ , as Weber maintains in the above quotation.

Sentences of the type (ME2), e.g. 'decentralization of power strengthens democracy' are often formulated with the same terminology as that used in context 1, which can give rise to obscurities, since the sentences of the policy sciences are general statements about causal relationships between actual objects and not intentional ones. It has often been asserted that the analysis of means–end sentences should involve special epistemological difficulties. Since  $end_i y$  and  $means_i x$  are entities valued by an actor, also sentences about  $means_a x$  and  $end_a y$  should be in some sense subjective. If a clear distinction is made between the different contexts there does not exist any special problem of objectivity here.<sup>68</sup>

## PARSONS

Weber delimits the subject matter of the social sciences – a delimitation he does not want to force on anybody<sup>69</sup> – with an ontological criterion on the one hand and an epistemological criterion on the other. The ontological criterion points out a set of social actions. Does the epistemological criterion delimit the same set of phenomena? The meaning of the criterion is that '[Verstehen] . . . is the specific characteristic of sociological knowledge'.<sup>70</sup> Verstehen has as its object meanings

and complexes of meaning. Weber distinguishes implicitly between two types of meaningful phenomena:

- (i) phenomena that are intentions.
- (ii) phenomena that are meaningfully related to intentions:
  - a. actual objects that correspond to or show similarities with intentional ones;
  - b. actual objects of which an actor A is conscious in his intentions.

The criterion thus delimits a set of meaningful phenomena, phenomena that are either intentions or meaningfully related to intentions:

On the other hand processes or conditions, whether they are animate or inanimate, human or non-human, are in the present sense devoid of meaning in so far as they cannot be related to an intended purpose. That is to say they are devoid of meaning if they cannot be related to action in the role of means or ends but constitute only the stimulus, the favouring or hindering circumstances.<sup>71</sup>

It is true that phenomena that influence the action, even though the actor is not conscious of this in his means,  $x$  or end,  $y$ , must be accepted as data but

On the contrary, both for sociology in the present sense, and for history, the object of cognition is the subjective complex of *meaning* of action.<sup>72</sup>

The two criteria delimit different phenomena if they are applied strictly – with the consequence that the concept of social reality that Weber has become ambiguous. The epistemological criterion points out the phenomena that are meanings/complexes of meaning or have meaning but not the regularities in the behavior that when analyzed into behavior components are not determined by motive or meaningfully related to the purposes or motives of the individual actors. Whereas the ontological criterion accepts such regularities, the other criterion includes only the regularities that can be shown to be determined by motive: ‘sociological regularities’.<sup>73</sup>

Parsons discusses similar problems in *The Structure of Social Action* (1937), which contains a systematic attempt at elaborating an exact means–end terminology as the basis for a general theory. The starting-point of Parsons’s theory about the means–end activity is that it is ‘impossible even to talk about action in terms that do not involve a means–end relationship’.<sup>74</sup> What is an action?

By a theory of action is here meant any theory the empirical reference of which is to a concrete system which may be considered to be composed of the units here referred to as ‘unit acts’.<sup>75</sup>

The fundamental idea is here that the social reality can be seen as a hierarchy of levels of systems of action, and these systems consist of atomic actions, called ‘unit act’, in different complex combinations. At every level there are emergent properties owing to the order, the relations, of the so-called ‘unit acts’. ‘Actor’ and ‘group’ refer to such systems of unit acts, and ‘politics’ refers to an emergent

dimension at group level. Parsons takes his concepts not only to be fruitful means to describe data but also as referring to ontological realities ('analytical realism').<sup>76</sup> With the theory of action that Parsons considers the true one (Weber's so-called 'voluntaristic theory of action') a distinction can – according to Parsons – also be made between "social reality" and "physical reality".

Parsons develops a formal method for the analysis of systems of action.<sup>77</sup> The correctness and fruitfulness of this method depend on how unit acts (action) are analyzed.

In a unit act there are identifiable as minimum characteristics the following:

- (1) an end,
- (2) a situation, analyzable in turn into
  - (a) means and
  - (b) conditions, and
- (3) at least one selective standard in terms of which the end is related to the situation.<sup>78</sup>

There is a certain obscurity in the definition of these terms.

An end, then, in the analytical sense must be defined as the *difference* between the anticipated future state of affairs and that which it could have been predicted would ensue from the initial situation *without the agency of the actor having intervened*.<sup>79</sup>

Here the two kinds of ends, end<sub>i</sub> and end<sub>a</sub>, are mixed up. If there is no difference between an anticipation and the development of what actually happens when 'the agency of the actor' is not taken into consideration, can then an end<sub>i</sub> be said to exist? And can the definition be said to comprise non-wordly end<sub>i</sub>? Is it not possible to establish the presence of an end<sub>i</sub> without first knowing end<sub>a</sub>?

Von Wright commits the same type of fallacy of intention when he maintains that terms for intentions must be defined with terms for actual phenomena:

... the intention or the will to do a certain thing cannot be *defined* without making reference to its object, i.e. its intended or willed result, and therewith also to the outer aspect of the action.<sup>80</sup>

But is it not possible to introduce terms for the intention of an actor without making any reference to the actual course of behavior?

'Means' does not stand for means<sub>i</sub>x nor means<sub>a</sub>x but an instrument, the element in the situation 'over which he [the actor] has ... control'.<sup>81</sup> "Means<sub>i</sub>" and "means<sub>a</sub>" are lacking in Parsons's fundamental concept "the unit act", which does not prevent him from speaking of 'means-end chains' as 'connecting a given concrete act with one ultimate end through a single sequence of acts leading up to it'.<sup>82</sup> It is a common oversight in the use of the means-end terminology that the distinction between the means-behavior and the instrument that the means-behavior is applied to is not observed. In Figure 1 above a behavior as well as its instrument enter into both means<sub>i</sub>x and means<sub>a</sub>x.

Agreeing with Weber, Parsons considers that ‘the frame of reference of the schema is subjective in a particular sense’. Whereas to Weber the criterion if a phenomenon has meaning is its meaningful relation to an actor’s means,  $x$  and end,  $y$ , Parsons gives the term ‘subjective’ a wider content, viz. all phenomena, things, occurrences, etc. ‘as they appear from the point of view of the actor whose action is being analyzed and considered’.<sup>83</sup> And according to Weber the analysis of an action has to consider data that do not have meaning, but Parsons says that ‘these categories [of the unit act] have meaning only in terms which include the subjective point of view, i.e. that of the actor’.<sup>84</sup> Thus in Parsons the so-called ‘situation’ in which an action takes place is not a physical situation but the actor’s conception of it. Parsons also consistently maintains that ‘an act is always a process in time’ but ‘not primarily, but only secondarily located in space’.<sup>85</sup> But what becomes of the outer aspect of the action? If into the fundamental units of the social reality, the unit acts, enter only elements ‘reducible to terms which are subjective’,<sup>86</sup> does this reality not become only a psychological or social-psychological reality? The process that is called the ‘realization of the ends’ and the behavior in an action are not included in the analysis of unit acts.

Furthermore, Parsons considers that also other entities than those of the theory of action are relevant in the description of actions, viz. heredity and physical environment. These are then constants in the *description* of actions, not the variables with which the theory of action *analyzes* an action. But when Parsons places heredity and physical environment on a par with the so-called ‘situation’ of the action – ‘spatial relations constitute only conditions, and in so far as they are controllable, means of action’<sup>87</sup> – there is a contradiction. They will then belong to ‘phenomena . . . as they appear from the point of view of the actor’.

In Parsons’s general theory of action (1937) the means–end terms are key terms and the explicit definition of these terms and the argumentation about these definitions have the consequence that only terms for the intentional aspect of action are explicitly introduced. In his following major work, ‘Values, Motives and Systems of Action’ (1951),<sup>88</sup> Parsons abandons the concepts “means–end” for “actor–situation” but asserts that the theory of the actor’s orientation towards the situation is only a further development of the analysis of an action with the means–end schema.<sup>89</sup>

#### SIMON

In his work *Administrative Behavior* (1945) Simon discusses the applicability of the means–end terminology in scientific connections. The basis of Simon’s reasoning is ‘the distinction between a practical science of administration . . . and a sociology of administration’.<sup>90</sup>

The latter formulates sentences of the type

(AB1) An actor A (several actors) behaves so and so.

The sentences of the former are of the type

(AB2) If an actor A behaves so and so, this and that occurs.<sup>91</sup>

Simon places this distinction on a level with the distinction between a description of 'how administrators decide' and a description of 'how *good* administrators decide'. However, the distinctions do not coincide.

The sentence (AB2) can be translated into

(ME2)  $x$  is a means<sub>a</sub> to an end<sub>a</sub>  $y$

and it does not describe how rational actors behave, no matter how 'rationality' is defined, but says something about a general relation between actual phenomena. On the other hand, the distinction between (AB1) and (AB2) can be related to the two kinds of means–end contexts. Sentences of the type (ME1) are used in the so-called 'sociology of administration' to explain sentences of the type (AB1). Nor is there any reason to call sentences of the type (AB2) a 'practical' science or to call means–end context 2 'the study of what administrators "ought"'.<sup>92</sup> (AB2), like (ME2), is a cognitive sentence and should be separated from practical means–end sentences of the type

(MEP) If an actor A has the end<sub>i</sub>  $y$ , the means<sub>a</sub>  $x$  ought to be used,

since this is a conditional value sentence – and, as such, neither true nor false. There is no logical or semantic relationship between (MEP) and (ME2).

In the chapter 'Rationality in Administrative Behavior' Simon discusses if the means–end terminology is fruitful when analyzing 'how *good* administrators decide' and there occurs especially one term, 'means–end chains', that will be dealt with here.

Ends themselves, however, are often merely instrumental to more final objectives. We are thus led to the conception of a series, or hierarchy, of ends.<sup>93</sup>

Here Simon means "end<sub>i</sub>" and a sentence of the type

(MEC<sub>i</sub>) An actor A has a means<sub>i</sub>  $x$  to an end<sub>i</sub>  $y$ , which is a means<sub>i</sub> to an end<sub>i</sub>  $v$ , etc.

In such intentional connections the distinction between means and end is relative. Simon emphasizes that 'the means–end hierarchy is seldom an integrated, completely connected chain'<sup>94</sup> and draws the conclusion that a means–end analysis of the type (ME1) is impaired by certain so-called 'limitations'. The fact that a means–end chain<sub>i</sub> is integrated and connected implies that actual relationships correspond to the intentional relationships. Simon specifies three limitations in an analysis of the type (ME1):

- (i) the ends<sub>i</sub>  $y$  are often not unambiguously formulated and
- (ii) the means<sub>i</sub>  $x$  are usually not 'valuationally neutral' and
- (iii) the means–end terminology partly overlooks the time-dimension of decision-making.<sup>95</sup>

And therefore Simon maintains that



Both organizations and individuals, then, fail to attain a complete integration of their behavior through consideration of these means–end relationships.<sup>96</sup>

Here the scientific analysis of an actor's means–end intention is confused with the actor's intention. The fact that A's intention has limitations does not imply that the analysis of it is impaired by limitations and that sentences of the type (ME1) are inadequate.

Furthermore, Simon considers that the limitation of the means–end schema is due to the fact that there is often no correspondence between intended and actual means–end behaviors. But is it not this very state of affairs that use of the two kinds of means–end sentences can establish? What 'means–end chain' really refers to is not clear. In the conclusion it is stated that

A means–end chain was defined as a series of causally related elements ranging from behaviors to the values consequent on them.<sup>97</sup>

Even if the idea of a causal relationship between what is called 'behavior' and 'value' is unclear, there appears, however, an entirely different use of 'means–end chain' here. 'Means–end chain' then denotes means–end chain<sub>a,z</sub> and it is a matter of context 2 with sentences of the type

(MEC<sub>a</sub>)  $x$  is a means<sub>a</sub> to an end<sub>a</sub> $y$ , which is a means<sub>a</sub> to an end<sub>a</sub> $v$ , etc.

(MEC<sub>a</sub>) says something about causal chains between actual behaviors and states/behaviors, which are called 'ends' and 'means', respectively. As has been mentioned above, the sentences of the policy sciences are formulated in a means–end terminology, but it is not a question of intentional objects as in (MEC<sub>i</sub>). Here, i.e. (MEC<sub>a</sub>), it is not at all a question of teleological analysis. Such means–end chains<sub>a,z</sub> have a different internal structure from means–end chains<sub>i,z</sub>. Only if these are confused is it possible to assert, as Simon does, that a means–end analysis of intentions is inadequate.<sup>98</sup>

The concept "means–end chain<sub>i</sub>" is relevant in the analysis of the objectives of an organization (or an actor) and in the explanation of the behavior of an organization, whereas the concept "means–end chain<sub>a</sub>" is used in policy studies to establish the actual behaviors that are sufficient conditions for other actual states/behaviors, regardless of what the intentions of an organization may be.

#### 4. Conclusion

By stating the range of value of the variables 'x' and 'y' in the sentence

(S)  $x$  is a means to an end  $y$

it is possible to show that (S) is used to express two different types of statements. Thus, terms like 'end', 'means', and 'means–end relationship' enter into two different types of means–end sentences,



(ME1)  $x$  is a means <sub>$i$</sub>  to an end <sub>$j$</sub>   $y$   
and

(ME2)  $x$  is a means <sub>$a$</sub>  to an end <sub>$a$</sub>   $y$

(ME1) and (ME2) are true in relation to quite different truth-conditions. And the means–end terms have entirely different senses and references depending on the type of sentence and the context (means–end context 1 and means–end context 2) in which they occur. Because the means–end terminology and (S) are used in theoretical as well as descriptive connections, the distinctions between (ME1) and (ME2), between the different means–end concepts, and between the different kinds of means–end entities are vital.

In works by Weber, Parsons, and Simon the means–end terminology is a key terminology. However, in these works the distinctions are not made. By introducing them it is possible to specify the place of the concept of *Verstehen* in Weber's methodology and to show Abel's fallacy.

#### NOTES

1. Throughout this article double quotations marks have been used to denote concepts.
2. Thus the term 'action' is used in the same sense as 'act' ('behavior') and by analogy a distinction between the concepts "intentional action" and "unintentional action" is then introduced.
3. See, e.g., J. A. Schaffer. 'Actions', pp. 77–110 in *Philosophy of Mind*. Englewood Cliffs, N.J., Prentice-Hall, 1968. Throughout, Schaffer discusses at the same time if there is 'a special kind of state or event... goals... which causes... the movement' (p. 94) and problems in 'explanation of action in terms of the intended goals...' (p. 93). If 'action' is defined as 'intentional movement' (p. 80), the question about 'the cause of the movement' (p. 85) must not be identified with the question about 'a causal explanation of the action' (p. 96). The same thing occurs in C. Taylor. *The Explanation of Behaviour*. London, Routledge & Kegan Paul, 1970 (1964). 'Action' means 'directed behaviour' (p. 29) and sometimes Taylor deals with the relation 'intention-behaviour', sometimes with 'the explanation of action'. So also G. H. von Wright. 'Intentionality and Teleological Explanation', pp. 83–131 in *Explanation and Understanding*. London, Routledge & Kegan Paul, 1971. von Wright starts from (P1): 'Can the intention or will be a *humean cause* of behaviour...' (p. 93) and designates the behavior in an action with 'a'. In his solution of (P1), however, von Wright goes over to (P2), as he maintains that the behavior should be 'intentional under the description "doing a"' (p. 108). (By 'humean cause' von Wright means the same thing as 'cause according to David Hume's causal concept').
4. On intentional objects see Taylor, op. cit., pp. 59–62.
5. Cf. M. J. Levy. *The Structure of Society*. Princeton, Princeton University Press, 1952: 'Logical (or rational) action is that action in which the objective and subjective ends of action are identical' (p. 242). If Levy means by 'identical' that an end <sub>$a$</sub>  possesses every property that an end <sub>$i$</sub>  possesses and the reverse, this definition of 'rational action' is inadequate. See below on Weber. On "identity" see I. M. Copi. *Symbolic Logic*. New York, Macmillan, 1968 (1954), pp. 158–169.
6. L. Lundquist. *Means and Goals of Political Decentralization*. Malmö, Studentlitteratur, 1972, p. 32. When Lundquist writes that 'the goals can be arranged in means-end-hierarchies' (p. 50), it is a question of means–end chain <sub>$v$</sub> .
7. According to A. Phalén. *Zur Bestimmung des Begriffs des Psychischen*. Uppsala, Almqvist & Wiksell, 1914, these terms make sense only in psychological contexts: 'A knowl-

- edge of something as means to an end can, as means and end have sense only through the will, only mean a knowledge of the will to realize something, A, through something else, B.' (p. 342).
8. E.g. the theory in A. Downs. *An Economic Theory of Democracy*. New York, Harper & Row, 1957. See also Weber's taxonomy of fundamental concepts in sociology, which is mentioned below. Cf. R. K. Merton. *Social Theory and Social Structure*. New York, The Free Press, 1967 (1949), who uses the concepts "end<sub>i</sub>" and "means<sub>i</sub>" to analyze the cultural structure of a society and "end<sub>a</sub>" and "means<sub>a</sub>" for the analysis of the social structure and the term 'anomie' for the tension between the cultural and the social structure (ch. IV-V).
  9. See, e.g., I. Andersson. *Erik XIV*. Stockholm, Wahlström & Widstrand, 1951 (1935): 'But it is quite obvious that Erik's plans were very optimistic. They had greatness, coherence and consistency, but the adjustment of the relationship between end and means was unsatisfactory' (p. 91).
  10. On the distinction between "singular sentence" - "universal sentence", see K. R. Popper. *The Logic of Scientific Discovery*. New York, Harper & Row, 1965 (1934), pp. 59-70.
  11. The following major works on Weber can be mentioned here: A. von Schelting. *Max Weber's Wissenschaftslehre*. Tübingen, J. C. B. Mohr, 1934; T. Parsons. *The Structure of Social Action II*. New York, The Free Press, 1968 (1937); R. Bendix. *Max Weber*. London, Methuen, 1966; F. Loos. *Zur Wert- und Rechtslehre Max Webers*. Tübingen, J. C. B. Mohr, 1970; H. H. Bruun. *Science, Values and Politics in Max Weber's Methodology*. Copenhagen, Munksgaard, 1972.
  12. M. Weber. "Objectivity" in Social Science and Social Policy' (1904), p. 52 in M. Weber. *The Methodology of the Social Sciences (MSS)*. New York, The Free Press, 1949. This book contains three of Weber's articles, translated and edited by E. A. Shils and H. A. Finch. Cf. 'Die "Objektivität" sozialwissenschaftlicher und sozialpolitischer Erkenntnis', p. 149 in M. Weber. *Gesammelte Aufsätze zur Wissenschaftslehre (GAW)*. Tübingen, J. C. B. Mohr, 1968 (1922).
  13. M. Weber. 'The Fundamental Concepts of Sociology' (1921), pp. 87-157 in M. Weber. *The Theory of Social and Economic Organization (TSEO)*. New York, The Free Press, 1968 (1947). This book contains four of Weber's articles (one on methodology), translated by A. M. Henderson and T. Parsons and edited by Parsons. Cf. 'Soziologische Grundbegriffe' in *GAW*, pp. 541-581. The whole article does not occur in *GAW* but in M. Weber. *Wirtschaft und Gesellschaft*, 5th ed. Köln and Berlin, Kiepenheuer & Witsch, 1964. See also 'Ueber einige Kategorien der Verstehenden Soziologie' (1913), pp. 427-474 in *GAW*. See also below on Parsons. The four types of action (TA) are introduced in *TSEO*, pp. 115-118 (*GAW*, pp. 565-567).
  14. *TSEO*, p. 88 (*GAW*, p. 542). My italicization based on *GAW*. In this article I have translated the key terms in the following way: 'Sinn' = 'meaning', 'Sinnzusammenhang' = 'complex of meaning', 'sinnhaft' = 'meaningful', 'sinnadäquat' = 'meaningfully adequate', 'Deutung' = 'interpretation', 'Verstehen' = 'Verstehen', 'verständlich' = 'capable of Verstehen', 'Verständnis' = 'Verstehen', 'verstanden' = 'understood'. The term 'Verstehen' is dealt with in this way to make my criticism of Abel more accessible. I have tried to use as few English terms as possible for one and the same German term.
  15. *TSEO*, p. 89 (*GAW*, p. 542). Parsons's italicization does not follow Weber's. I have changed Parsons's.
  16. See A. Wedberg. pp. 31-35 in *Filosofins Historia. Från Bolzano till Wittgenstein*. Stockholm, Bonniers, 1966. On semantic concepts see G. H. von Wright. pp. 164-180 in *Logik, filosofi och språk*. Lund, Aldus/Bonniers, 1965.
  17. See G. Frege's article 'Ueber Sinn und Bedeutung' from 1892, translated into 'On Sense and Nominatum', pp. 85-102 in H. Feigl and W. Sellars (eds.), *Readings in Philosophical Analysis*. New York, Appleton-Century-Crofts, 1949. See also Wedberg, op. cit., pp. 125-135.
  18. *TSEO*, p. 109 (*GAW*, p. 559).
  19. *GAW*, p. 559. My translation.
  20. M. Weber, 'Roscher und Knies und die logischen Probleme der historischen Nationalökonomie' (1903-06) in *GAW*, p. 128. My translation. My insertions. Weber changes

- terminology in the same passage: *m* becomes (*m*), *v* becomes (*v'*), and the distinction between (*m*) and *m* disappears. W. Wundt's (1832–1920) theory of teleology occurs in his *Logik*, 1880–1883, part I, p. 642.
21. Von Wright, *Explanation and Understanding*, p. 89. Cf. Phalén's criticism of Wundt in Phalén, *op. cit.*, pp. 341 ff.
  22. *GAW*, p. 551. My translation. The translation by Henderson and Parsons in *TSEO* and the translation by H. P. Secher in M. Weber, *Basic Concepts in Sociology*. London, Peter Owen, 1968, do not follow the German text as closely as possible and use several English terms for one German term. I have used these translations, but I have sometimes found it necessary to alter them to make the translation more correct according to my interpretation of the German original.
  23. *GAW*, p. 552. My translation based on *TSEO*.
  24. *GAW*, p. 550. My translation.
  25. *GAW*, p. 550. 'Erfahrungsprobe'.
  26. *GAW*, p. 551.
  27. *TSEO*, p. 96 (*GAW*, pp. 547–548).
  28. *TSEO*, pp. 94–96 and pp. 90–91 (*GAW*, pp. 546–547 and p. 543). See also *MSS*, p. 83 (*GAW*, p. 183).
  29. *GAW*, p. 543. My translation.
  30. *GAW*, p. 543. My translation based on Weber, *Basic Concepts in Sociology*.
  31. If this argument is valid or not cannot be discussed here, nor can the concept "logical probability".
  32. *TSEO*, pp. 92–93 (*GAW*, pp. 544–545). Cf. the definition of 'end-rational action' in *TSEO*, pp. 115–118.
  33. *GAW*, p. 544. My translation.
  34. *GAW*, p. 544. My translation.
  35. *GAW*, p. 546. My translation. In *TSEO*, p. 94, 'das aktuelle Verstehen' is translated into 'the direct observational understanding', which is erroneous. See my criticism of Abel.
  36. *GAW*, p. 547. My translation.
  37. *GAW*, p. 547. My translation.
  38. The article was first printed in the *American Journal of Sociology*, 54, 1948: 211–218, and reprinted in H. Feigl and M. Brodbeck (eds.) *Readings in the Philosophy of Science*. New York, Appleton-Century-Crofts, 1953, pp. 677–687. Abel's argumentation is reproduced in E. Nagel, *The Structure of Science*. London, Routledge & Kegan Paul, 1961, pp. 480–485; in A. Kaplan, *The Conduct of Inquiry*. San Francisco, Chandler Publishing Co., 1964, p. 142; and in A. C. Isaak, *Scope and Method of Political Science*. Homewood, The Dorsey Press, 1969, p. 152. In E. J. Meehan, *Contemporary Political Thought*. Homewood, The Dorsey Press, 1967, pp. 73–77, the discussion of "Verstehen" is based on Abel's framing of the problem. In C. G. Hempel, *Aspects of Scientific Explanation*. New York, The Free Press, 1965, pp. 239 f. and pp. 256 f. the criticism is of the same type as Abel's.
  39. *Readings in the Philosophy of Science*, p. 682.
  40. *Ibid.*, p. 683. Cf. Weber: 'Its specific significance [i.e. end;y] consists only in the fact that we not only observe human conduct but can and desire to have a *Verstehen* of it.' *GAW*, p. 183. My translation based on *MSS*, p. 83. My insertion.
  41. *GAW*, p. 548. My translation based on *TSEO*. Weber gives several arguments why this is the case.
  42. *GAW*, p. 549. My translation based on *TSEO*.
  43. *Readings in the Philosophy of Science*, p. 684.
  44. *GAW*, p. 543. My translation based on *TSEO*.
  45. *TSEO*, pp. 101–112 (*GAW*, pp. 552–562). On the concept "methodological individualism" see Nagel, *op. cit.*, pp. 535–546.
  46. *GAW*, p. 547. My translation.
  47. *GAW*, p. 547. My translation.
  48. On this distinction see M. White, *Foundations of Historical Knowledge*. New York, Harper and Row, 1965, pp. 182 ff.
  49. *GAW*, p. 549. My translation based on Weber, *Basic Concepts in Sociology*.
  50. See White, *op. cit.*, who describes the genesis of the theory and clarifies it through the

- vital distinction between the concepts "explanatory statement" and "explanatory argument". See also White's distinctions between the concepts "a cause", "the cause", and "the whole cause" (ch. I-IV).
51. See W. Dray. *Laws and Explanation in History*. Oxford, The Clarendon Press, 1957, especially chapter V, 'The Rationale of Actions'; and the article 'The Historical Explanation of Actions Reconsidered' pp. 105-135 in S. Hook (ed.) *Philosophy and History*. New York, New York University Press, 1963.
  52. Von Wright, op. cit., p. 7: 'in Max Weber a positivist coloring is combined with emphasis on teleology ("zweckrationales Handeln") and empathic understanding ("verstehende Soziologie").'
  53. Ibid., the chapter 'Two Traditions', pp. 1-33.
  54. Ibid., pp. 160-161.
  55. *GAW*, pp. 134-135. My translation. On p. 5 von Wright, op. cit., calls Weber only a 'hermeneutician'.
  56. The article is a part of 'Critical Studies in the Logic of the Cultural Sciences' (1906) in *MSS*, pp. 164-188. Cf. 'Objective Möglichkeit und Adäquate Verursachung in der Historischen Kausalbetrachtung' in 'Kritische Studien auf dem Gebiet der Kulturwissenschaftlichen Logik' in *GAW*, pp. 266-290.
  57. *MSS*, p. 174 (*GAW*, p. 276). When discussing causal sentences in history, Weber distinguishes between psychological and logical questions: the fact that such sentences do not explicitly contain nomological sentences has nothing to do with the question about the truth conditions of such sentences - see pp. 175-176.
  58. The term 'teleological explanation' is sometimes used not in connection with intentionality, but for an explanation of a directive organized system (e.g. an organism). Here the latter sense of the term is not dealt with and these two uses of the term should be kept separate. In the latter case it is a question of a causal explanation of a functional system and not a matter of teleological analysis at all. See Nagel, *The Structure of Science*, ch. 12, for an analysis of functional systems and their explanation. See also Nagel. 'Teleological Explanation and Teleological Systems' pp. 537-558, in *Readings in the Philosophy of Science*, and Nagel. 'A Formalization of Functionalism' ch. 15 in F. E. Emery (ed.) *Systems Thinking*. Suffolk, Penguin, 1969.
  59. *MSS*, p. 54 (*GAW*, p. 151).
  60. Weber, 'The Meaning of "Ethical Neutrality" in Sociology and Economics' (1917) in *MSS*, p. 26. Cf. 'Der Sinn der "Wertfreiheit" der Soziologischen und Ökonomischen Wissenschaften' in *GAW*, p. 517.
  61. In this expression the term 'end' is used non-cognitively. What sense(s) the term can have in non-cognitive contexts cannot be dealt with in this article.
  62. *MSS*, p. 37 (*GAW*, p. 529). In the quotation x has been exchanged for y and vice versa for the sake of clarity.
  63. *GAW*, p. 517. The translation in (*MSS*) is inexact here. See (*MSS*), p. 26.
  64. *MSS*, p. 46 (*GAW*, p. 539).
  65. Taylor, op. cit., considers this description misleading, but says himself on the one hand that end<sub>y</sub> is an intentional object (pp. 27 and 59), on the other hand that it is not true that end<sub>y</sub> ≠ end<sub>x</sub> always (pp. 29 and 62). However, Taylor is right when stating that modern teleological explanations have not necessarily the same structure as the classical, finalistic explanation. On finalism see literature quoted in note 58.
  66. *GAW*, p. 127. My translation.
  67. *GAW*, p. 127. My translation.
  68. For a confusion of (ME1) with (ME2) as well as a confusion of the cognitive use with the non-cognitive use of the means-end terms, see G. Myrdal. 'Ends and Means in Political Economy' pp. 206-230 in *Value in Social Theory*. London, Routledge & Kegan Paul, 1968 (1958).
  69. *TSEO*, p. 100 (*GAW*, p. 552).
  70. *GAW*, p. 555. My translation based on *TSEO*. My insertion.
  71. *TSEO*, p. 93 (*GAW*, p. 545).
  72. *TSEO*, p. 101. My italicization after *GAW*, p. 552.
  73. *GAW*, p. 551. My translation. As examples of such regularities, Weber mentions usage, custom, fashion, etc. Here Weber does not apply the epistemological criterion consis-

- tently. Regularities that are only the object of orientation are of course also included in the set of meaningful phenomena.
74. T. Parsons. *The Structure of Social Action*. New York, The Free Press, 1968 (1937), p. 733.
  75. *Ibid.*, p. 77.
  76. *Ibid.*, p. 730.
  77. *Ibid.*, p. 78.
  78. *Ibid.*, p. 77.
  79. *Ibid.*, p. 49.
  80. Von Wright, *op. cit.*, p. 94.
  81. Parsons, *op. cit.*, p. 44. My insertion.
  82. *Ibid.*, p. 741.
  83. *Ibid.*, p. 46.
  84. *Ibid.*, p. 77 My insertion.
  85. *Ibid.*, p. 45.
  86. *Ibid.*, p. 46. Parsons states clearly that here 'subjective' is synonymous with 'ontologically subjective' and not with 'epistemologically subjective':  
(DF) "subjective" = *def* "from the point of view of the actor" (p. 46). In this connection Parsons writes: 'the social scientist... is very much concerned with that [content] of the minds of the persons whose action he studies' (p. 46). My insertion.
  87. *Ibid.*, p. 45.
  88. T. Parsons, E. A. Shils, and J. Olds, 'Values, Motives and Systems of Action' in T. Parsons and E. A. Shils (eds.) *Toward a General Theory of Action*. New York, Harper & Row, 1965 (1951).
  89. T. Parsons. *The Social System*. New York, The Free Press, 1966 (1951), pp. 8-9, note 4.
  90. H. A. Simon. *Administrative Behavior*. New York, The Free Press, 1967 (1945), p. 62; see also pp. 248-253.
  91. *Ibid.*, p. 253.
  92. *Ibid.*, pp. 253 and 62.
  93. *Ibid.*, p. 62.
  94. *Ibid.*, p. 64.
  95. *Ibid.*, pp. 64-66.
  96. *Ibid.*, p. 64.
  97. *Ibid.*, p. 77.
  98. There is the same obscurity with regard to the reference of 'means-end analysis' in E. Johnsen. *Studies in Multiobjective Decision Models*. Lund, Studentlitteratur, 1968, pp. 255-261. On the one hand, such an analysis can describe the intention of an organization, i.e. a means-end chain<sub>z</sub> (pp. 257 f. 'Jones's Approach'). On the other hand, it can state the actual conditions for different states/behaviors, i.e. a means-end chain<sub>a</sub> - regardless of what intention an organization has (pp. 259-261). These two types of analysis are not kept separate in Johnsen, *op. cit.*