

Limits of Steering

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I

IN THE POLITICS of society the term 'steering' is still much discussed. Uncertainty about the capability to influence the future leads to appeals for something to be done (see, for example, Evers and Nowotny, 1987). From a scientific point of view, something like Nature no longer exists and precisely therefore it seems that one has to try to maintain Nature or restore the state of nature, for example by reintroducing old-fashioned methods in agriculture or by counter-interventions in planned interventions. The subject world of the risk society and of normal catastrophes does not render the discussion about the possibility of planning society futile but rather it is all the more important in which sense this 'planning of society' could be used. Critique and crisis are only meaningful if one trusts that there is a possibility that things could be different. Only this allows the Green political movement to speak about alternatives. On the other hand, the theory of planning is in a desolate state. It has for decades had to deal with the problem of complexity but could at first hope to find better solutions using an approximate method of building models or simulations, by a slow adaptation of society to planning, this means by getting used to being planned and by the due concentration of attention. In the meantime, this problem of being able to shape society has taken on a new dimension with the appearance of a consciousness of ecological problems. It is difficult, almost impossible, to abandon the notion of steering and to let the future come as it comes. The semantics of time of modern society, the accentuation of the differences between past and future seem to prohibit this. And, on the other hand, it is not easy to see if and how at least some of the expectations related to steering could be saved.¹

Systems theory analyses that start from the idea of self-referential systems and with it use conceptions of autopoiesis, self-organization, etc., are primarily interested in the self-steering of the system, in the context of our analysis the self-steering of the economy. The hopes of social policy are

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looking for an addressee who could even control the self-steering systems and think that it is politics. This leads to discrepancies of theoretical, but also of highly practical and, last but not least, of political importance, burdens the discourse between politics and the economy, and revives the idea of the 19th century that what the economy cannot achieve (or cannot achieve satisfactorily) by self-steering must be performed by politics. But this idea collides hard with the fact of functional differentiation which excludes the replacement of systems by each other. No policy can renew the economy, parts of the economy or even single firms because for this one needs money and thus the economy.

No scientific analysis (because this is already a third functional system) can abruptly change these expectations by its own achievements (even if these achievements should be proven truths or untruths). But perhaps it is nevertheless useful to think at the end of the study of economy which idea of steering is at the base of these expectations; and accordingly: with which manipulations of the idea one could irritate these expectations.

Abstractly expressed steering always means *the reduction of a difference*. In everyday life, for example when steering a car, one thinks of the reduction of a difference in the direction of movement. The steering refers then to the spatial relationship of a movement. One supposes that in an extreme situation the difference between another direction appearing and the desired direction can be reduced almost to zero with the consequence, however, that there might appear further differences – be they caused by external influences, be they because of an increasing inaccuracy of the steering – and the further differences require a further steering even if one only wants to keep on course. The metaphor also allows the image of a change of course. One has forgotten something and has to turn back. This can be effected by steering only, and in this case by the construction of *another* difference.

And where does the difference come from? At the first attempt, one might say either from the environment, from the holes in the road, from the gentle pressure of the winds; or from the inaccuracy of the steering. Thus either from the environment or from the system. If one needs *both* of them, *system and environment*, one has to go back to the *world* if one wants to explain the reasons for the problems of steering. With this the problem is given to religion. From a scientific point of view this answer is not satisfying. Thus again: where does the difference come from?

From the theory of subjects one can answer with Fichte: it is set by the subject. From the theory of language it is, since Saussure, language itself. From systems theory, it is the system. How meaningful these theoretical differences are depends on what one can do with them. Does this mean: how one can steer the development of theories with them? Anyway, if these distinctions mark differences this leads back to the question: who causes these differences, who distinguishes here, who steers here? A super subject that knows what it knows? A metalanguage? A world system? Or perhaps an interest in the 'subtle distinctions' in the system of science? In any case, the

problem is repeated in the answer if one does not want to see the answer as the final metaphor (and this would mean perhaps to philosophize) (see, for example, Blumenberg, 1960).

Alexander had, as is well known, another answer ready in front of such a knot knotted on itself. And also George Spencer Brown. The calculation of the theory of differences described by Spencer Brown (1970) starts with the instruction: 'Draw a distinction!' Divide the 'unmarked space'! This means that one has to distinguish the distinction one uses from other distinctions (thus one has already to get started when starting) (see also Glanville and Varela, 1981), which is ignored in a sovereign manner (and one can be sure in the intention to construct a theory). This means also that the question 'Who or what distinguishes?' is not asked. One can keep it open, but this presupposes an observer who can distinguish who distinguishes. The arbitrariness of the beginning is arbitrariness only for him who observes the beginning; and for him this leads to the question what observer is he observing (see also the Saussure interpretation of Glanville, 1984). Distinctions function in a recursive network of the observation of observations as the conditions of the reproduction of this very network. One can state that this is true – but only by observing the observing, thus by the operative taking part in this very network (see von Foerster, 1981 on second-order cybernetics). In the theory of observing observations the presupposition of recursive closure replaces the traditional questions of reasons.²

But steering is not only observation, not only the use of a distinction to mark the one and not the other side. Steering designates a very specific use of distinctions, namely the attempt to *reduce the difference*. With regard to the distinction of men and women, the problem of steering is not the description or classification of the specimen³ and also it is not the description of the one side, the woman, as a bad version of the other (*masculus occasionatus, homme manqué*), but the reduction of their difference. Steering is thus distinguished from other uses of distinctions, and it lies not far away, and one can suppose that the distinctions steering is using to distinguish itself from other uses of distinctions are accordingly chosen if and in what interest reduction of differences is appropriate or could be appropriate. Steering then presupposes these recursive observing relations; otherwise it could not distinguish itself. But steering uses them also in a specific sense. This causes a theory of steering the problem of observing and describing these facts.

II

The fact that we describe steering as an operation that uses a distinction minimize the difference this distinction marks already suggests first of all an approach based on a theory of action. One will immediately hit the question, who is steering, and the answer: nobody, or the answer: the person you are distinguishing as observer, will not at first sight satisfy. The theory of action offers in this situation the advantage of referring to the

subject one can point to, one can observe and question or that one can use in another manner for purposes of empirical research. Everything else then becomes a question of aggregation of data that can be gathered in this manner.

Renate Mayntz (1987: 93ff) proposes this line clearly and consistently to define the notion of steering as the action of steering. This requires one, when using the notion, to state a subject, an object and an intention (i.e. a goal of steering). In this way the area of the phenomenon is in a typical manner split; there are added experiences of 'the limits of steering' which are external to the helmsman and to the theory which observes him. External to the notion these are then the centre of the discussion. They can be (1) unexpected and/or undesired side-effects or (2) the so-called 'deficits of execution' and finally (3) the so-called 'self-fulfilling' or in this case rather 'self-defeating prophecies'. For example, there are very social value-laden union supported programmes to improve the working conditions of women. But if introduced they cause the exclusion of women from the labour market and therefore women are fighting against these programmes.⁴

That even the best intentions can backfire is not an entirely new experience. In principle these are old and well-known problems; but in the time of decreasing steering optimism in the 1970s they could be called back anew and effectively (see, for example, Boudon, 1977). If one puts a purpose in the world one has to play with this purpose against the world and this can go wrong or at least not work as expected.

These effects of steering action (without steering action they would not exist) occur unsteered; and further, if one leaves aside the possibility of making mistakes, these effects cannot be steered. If they could be included in the steering and if they were included in the steering they would disappear. Also every notion of rationality referring to action must, if one thinks exactly, shut them out. Consequently action theory grasps only a part of the whole problem, only the cause of the problems with which the theoretician of action, who is himself without steering, necessarily has to deal if he wants to stay at the helm. The theory is in any case responsible for the manner in which it uses distinctions and one may ask: 'why so exactly and why so exactly under exclusion of these important problems?'⁵

Systems theory is in this respect in a better position. It builds in the problem of limits with the help of the distinction between system and environment.⁶ This distinction says that it is not a theory of objects but a theory of the world because everything that can exist is for every system seen either as system or environment. All important innovations of systems theory in the last decades start here and reformulate the difference between system and environment. This is especially true for the concept of the self-referential closure of autopoietic systems.

To what extent this changes the form of the treatment of the three problems of 'side-effects', 'execution deficits' and 'self-defeating prophecies' is very unclear. At least for the last-mentioned case, for 'self-defeating prophecies', there is a large body of literature searching for forms of stability which

can be established ‘nevertheless’ (see, Simon, 1957a). It is possible that they are based on a misunderstanding of mathematical notions like the ‘fixed point theorem’ (see Øfsti and Østerberg, 1982; Simon, 1957b) or the concept of ‘Eigen values’;⁷ but at least it may be fruitful to keep in sight the further developments both in mathematics and in sociology.

Regarding side-effects and deficits of execution, a theory of self-referentially closed systems presupposes that the systems are structure-determined, meaning that the systems can change their own structures only by their own operations. All steering is, therefore, always an operation (or a sub-system of operations) among many others in the system which is reproduced this way independent from the further question whether the steering is concerned with the system itself or with its environment. In both cases something else also always happens simultaneously with the steering operations (and this means also that this cannot be influenced by the steering operations). Moreover, one has to distinguish the operation of steering, which produces its own effects, from the operation of observing this operation, which produces for its own part its own effects. The observation of steering can, and typically will, use other distinctions than the steering itself, for instance will carry out the imputation of successes and failures in a different manner than he to whom the steering is imputed as action.⁸ Seen like this, it is no wonder that social steering and social criticism provoke with dialectical synthesis a common resignation. In the same way one starts to wonder within management theories, what is caused by the fact that managing (but not, to speak exactly, managers) takes place within the system that manages itself in this way.⁹ Also this question can be reduced to the problems of the conditions of stability of recursive observing relations, that is in systems where it is observed that it is observed. Everything that happens can then be described in the language of this self-including second-order cybernetics. All steering uses distinctions, admittedly with the specific intention of reducing differences, that are themselves distinguished. There is no *external* cooperation, no external advice (see Willke, 1984), but there is the possibility of including temporary foreign advice systems in the system.¹⁰ That means above all that omissions are also observed in the system as variations of action and that by observation structures and negatives also become causal.

In this respect systems theory can at least offer reformulated questions and save the problems mentioned from the shadowy existence where the notion of action has banished them. This is similar for progress which emerges within cybernetics. The decisive discovery was the feedback mechanism that steers the system by a comparison of inputs with principal goals. This meant always the minimization of a difference and the perpetual control of the self-renewing difference. The difference served as its own correction, to put it with Watzlawick (1985: 372). In spite of the existence of this concept of a self-referential circle, the old-cybernetics literature with its paradigm of a thermostat presupposed a mechanism which influences the environment of the steering installation and which changes this environment

(relatively directly!) in a way that can be seen from the continuously measured input values. Therefore, one could only speak of cybernetics in cases of reliably functioning causal relationships of output and input, thus only for a very low complexity of the system/environment relation and/or a very specific choice of this complexity. This presupposes limitation to only few variables and systems in systems. Thermostats control room temperature not world temperature.

By the transition to a theory of self-referential closed systems and the consequent transition to second-order cybernetics, this limitation is, so to speak, on the quiet, abolished. For this systems theory there are no cross-border inputs and outputs as conditions determining the structure of autopoiesis; there are at most observers who observe other systems with their own distinctions but who are not dependent on inputs and outputs but only on this very self-constructed distinction.¹¹ What is seen in the steering process as input is only information constructed in the system itself and this construction is nothing else than a component of the distinction of which difference the system tries to minimize. In the external world there are neither inputs nor outputs, neither information nor areas of possibilities from which information can be chosen. The external world is as it is: stubborn, without possibilities and unknown.

The steering of the system is thus always self-steering, regardless of whether the steering refers to the system itself by an internally constructed distinction of self-reference and outside reference or whether the steering refers to the environment of the system. The political system is in this respect no exception; politics too can only steer itself, and if the steering refers to the environment then it is only to *its* environment. An observer may see this differently but he cannot do it differently. Therefore, steering is also not dependent on an adequately structured area of causal relations as it were provided by the external world. With this insight, the steering mechanism is detached from the very strongly restricting presuppositions about the external world and can be recognized in its universality. In the external world there are no temperatures – although I do not want to deny that one is irritated, starts to feel cold and finally checks why the heating is not working in winter.

Finally, systems theory allows one to reconstruct what action theory postulates as purposes. A difference-minimizing programme still needs within the distinction it deals with an asymmetry as an indication of direction. Purposes render distinctions asymmetrical. The equalization of educational chances, says the purpose, shall not be reached by decreasing but by increasing the education of all; and the programme of Bentham was as much happiness for as many as possible and not participation of as many as possible in the common suffering. In practice the effect will often be a new distribution with a smaller view, thus a loss of excellence. But the reduction to a middle level is not the goal of steering but is its (perhaps inevitable) fate. Its intention is the equalization upwards and this guarantees the Sisyphus-like duration of its function.

III

The action theory approach forces the raising of the question about the steering of social systems (or even of any system) as ‘who’ questions. Almost immediately this leads to the assumption that it is the task of politics to steer society and almost as immediately this inevitably leads to the realization of its failure. Just as the theory of action suffers from perverse effects, so the theory of political steering suffers in an exact parallel and for the same reasons from ‘state failure’. In any case, problem experiences and problem formulations are caused by the approach of the theory and in the meantime one could wonder if this section, this division of the world into these two halves is at all fruitful. In other words, does one see everything that is to be seen if one observes with a scheme of action and resistance?

The political theory starting point for questions of the theory of steering is at first sight not without plausibility. On the one hand it comes close to the old European reminiscences,¹² but above all the starting point is supported by the high degree of organization of collective capabilities to act in the context of the function to allow collective binding decisions. In fact the differentiation of a political system depended in the beginning on the differentiation of regional centres of domination and from the late middle ages it depended on the formation of a sovereign territorial organization which is since called ‘state’. But this success of organization which allows, supports, maintains and reproduces the differentiation of the political system must not lead to the illusion that politics can represent or even steer society. Already the fact that society is differentiated into functional systems which are not only distinct objects each with its own will and difficult to control but also different ways to realize the whole society as a distinction of sub-system and sub-system environment is difficult to reconcile with the concept of central steering. The political system is only one system among others that is working with its own difference-minimizing programmes. Attempts to minimize differences take place everywhere, they are everywhere the making of society, and at the same time society produces differences by allowing difference-minimizing programmes to start and operate under functionally specific aspects. This also occurs of course in the political system by using the function to make possible collectively binding decision-taking. But also in marriages and families there are such attempts, also in the economic system, in the educational system, in the system of medical treatment. Like every system, politics cannot transcend itself and act on higher orders. There is no instance that could condition such orders and could supervise their execution. In functionally differentiated societies there is not even one unrivalled representation of the society in the society (cf. Luhmann, 1986). The political system is thus only able to steer itself by a specific political construction of the difference between system and environment. That this happens and how it happens has without doubt tremendous effects on the society because the other functional systems must orient themselves along the differences thus produced. *But this effect is certainly not steering and it*

is not possible to steer it because it depends on the construction of differences in the context of other systems and because it falls under the steering programmes operating in these systems.

Often the limit of the possibility to steer society politically is described as a problem of complexity. This is not entirely wrong but it does not get to the heart of the matter. Even relatively simple systems like families pose insurmountable problems to politics if their self-steering is not working. If the family is not able to minimize its differences sufficiently (whatever this may mean from the point of view of sociological systems theory) politics is even less able to do so. It can only provide the administrative implementation of its own programmes, finance women's refuges, make divorce more or less difficult to obtain, distribute the financial burdens of divorce and by this create deterrents to divorce or ill-considered marriages – in short: do politics. The families themselves cannot be steered in this way.

One may uphold a different opinion on this point. One may certainly duplicate the ambitions of modern welfare states and/or ecological programmes and work them out as a political programme. One should only refrain from calling this social steering. It is, as so many things, steering in the society; here: self-steering of politics in the society. But this does not exhaust all the possibilities of investigating steering problems in modern society.

IV

On the level of terminology and of theory we can summarize after this the considerations of competing theories:

1. Steering is always self-steering of systems and only in this framework action-guiding distinguishing. In other words: one has to look for the unit that steers itself (instead of hastily making this unit invisible by differentiating intention and perverse effect) and this unit is not an action but a system.
2. Steering is the decreasing of differences within a distinction and is distinguished by this from other forms of using distinctions.
3. Programmes to decrease differences in practical steering are understood not as programmes of shrinking towards a middle level (in the sense of the old European concept of measure, middle, justice) but as adjustment in a certain direction. Steering, therefore, presupposes the asymmetricalization of the difference and nevertheless still the reduction, if not elimination, of the difference.

Even from this summary it becomes clear how many improbabilities are built in if one universalizes such a concept and applies it to the entire society. In any case it cannot be meant that steering must achieve intended successes and all the more not that order could be understood as a result of steering and that failure of steering causes disorder. At the same time, the manner of using distinctions by steering shows exactly the specificity of this use of distinctions and this leads to the first limiting considerations.

Guiding differences are often, and especially in the organization of functional systems, established as binary codes that are not suited for steering but obstruct it. It is rather impossible to try to minimize the difference between legal and illegal or that between to have and have not, or that between truth and untruth or between immanence and transcendence.¹³ To be sure, the codes that serve the differentiation of functional systems establish a distinction. They formulate also a preferential value, namely the positive value, which allows the connecting up of the operations in the autopoietic system. The negative value (illegality, not to have, untrue, transcendence) marks the reflection of the conditions (or if one wants: the non-self-evidence) of the possibility to connect up; therefore it marks nothing which should be diminished by steering efforts towards the other value. Even politics would collapse if it would use its possibilities of self-steering to minimize the difference between superiority of power and inferiority of power, or the difference between government programme and opposition programme. Perhaps one would doubt if this is also the same for morals or if morals is in reality a steering programme of society with the implication that evil should be diminished as fast as possible towards the good. But then one will fairly soon discover that (is exactly why?) it was not possible to differentiate a functional system of morals.

Not all distinctions are, therefore, steering distinctions and in particular not those serving to differentiate functional systems by coding. It follows that steering intentions always have to fight against structures which were not created by them and which regenerate themselves because of the character of autopoietic systems. All steering works against externally generated material – even if all structures are exclusively laid down by the system which is steering itself. On the same line there is a second limitation. Distinctions serve observing and description. When observing, the distinctions that are used by the observed observations themselves may be used but this is not necessary. If this happens it is called ‘evaluation’. But not all observation of steering is evaluation. One can also observe with moral distinctions; or with the scheme latent/manifest, thus for instance critique of ideology; or simply from the point of view of an interest that only checks if it is supported sufficiently by the steering or how it has to protect and defend itself against the steering. The steering achieves its goal of diminishing a difference or it does not. But in any case, steering always creates an additional effect by being observed and by the reactions of the observer in the one or the other way. This can be included in the planning of steering as the forecast of reactions. But this forecast is subject to the same rule as soon as it can be observed.

These remarks lead us back to a previous viewpoint. In modern society, functional systems, above all, have the possibility of self-steering. Society itself has delegated all the problems and therefore does not possess any agencies that could, as a superfunction of perception, perceive all the functions. Although all steering takes place within society and therefore always executes the autopoiesis of society (i.e. communicates) there is, in the strict

sense of the word, no self-steering of society on the level of the entire system.¹⁴

Nevertheless society brings itself to bear because it doesn't leave it to arbitrariness, and above all not to the helmsman or woman themselves, how to observe steering. Since the bourgeois movement, since the ideological abolition of the distinctions of former social formations, the principle of equality at least is forced upon steering as a rule of observation insofar as society as a whole stands in view. The difference-minimizing programmes are directed towards the diminishing of inequalities. Inequalities are no longer seen as a description of the perfection of the world (as *multitudo et distinctio* in the sense of medieval cosmology) but as a reason for counter-steering. And like the steering of ships or cars in space, the steering which is oriented towards society has a task which is regenerating itself. By steering, all functional systems always also create differences and in effect inequalities; because their respective rationalities distinguish better solutions from the worse. Moreover, from the ground of the desired equality flourish meritocratic distinctions or, to put it with Hermann Lübke, users of equality who are favoured by equality of opportunity.¹⁵ It will always be profitable to distinguish oneself from what is set or what is aspired to as standard expectations. Steering finds new food in the winners who profit from steering. It creates in its self-perpetuation very specific structures – for example, those of career and opposition against career, those of indirect ways and those which leave behind seekers after sense. What happens is in the end the result of the observation of the observer, of a recursive network of observations, and in this connection a readiness emerges to recognize inequalities as a problem or to accept them as a base for operations.

The postulate of equality explains, notwithstanding the peculiarities of single functional systems, the steering impulses, indeed the from time to time exaggerated steering mania, of modern society. The distinction equal/unequal offers a particularly favourable scheme for difference-minimizing programmes of all kinds and this is a particular challenge for politics. The scheme equal/unequal offers finally a particular opportunity to make oneself understood with steering intentions in modern society and to expose oneself to observations. But naturally it does not offer a chance that steering may actually eliminate the difference of equal/unequal towards equality and then leave it in this position. The scheme of equality has only the function to give steering a kind of 'legitimacy' – i.e. security against unspecified observers.

V

If one looks at the extremely complex system of society as a whole, it should be clear that the mechanism that was presupposed by old cybernetic steering theories is missing, namely a relatively direct causality that made it possible that the output of system mechanisms reappeared almost immediately as a change of input, as in the paradigm: the heating starts and it becomes warmer. Instead everything happens in the big black box of the system –

black box seen from the outside but also from the inside. Nevertheless steering is possible because it presupposes only the choice of distinctions with regard to the differences one wants to minimize. As long as observers observe this unexcitedly it may function and, if acceptance is transferred from one distinction to another, steering may follow – e.g. to proceed from rather socialistic to rather welfare state oriented to rather ecological difference-minimizing programmes. But in any case the mechanisms presupposed by the old cybernetics do not exist.

The question is whether this changes if one changes the system reference and studies the self-steering possibilities of sub-systems of society. This is one of the famous wide fields. We can by way of a trial once consider in what sense one can speak of the self-steering of economy or, more narrowly, of the self-steering of the firms and households participating in the economy.

If one understands economy as the autopoiesis of paying, then it is clear that all economic steering deals with *differences of money supply*. Further, if one understands steering cybernetically as the minimization of differences, the problem is always the minimization of differences expressed in sums of money. This does not implicitly recommend a monetary central bank policy, but says only that there is no other possibility. A steering that orients its programme not towards the difference of money supply is not self-steering of the economic system. It may, for example, always still be politically reasonable to pursue the decrease of the number of jobless. But if one wants to examine why somebody gets this idea and what he will do to steer in this sense, one has to observe the political and not the economic system; and one will have to observe how the political system observes the economic system and what (perhaps ‘perverse’) effects it produces when it acts according to its own observations.¹⁶

Steering programmes may be planned thoroughly idealistically, e.g. under the maxim: as much profit as possible. Operationalization would then presuppose precise steps, e.g. the fixing of expectations with regard to sums and units of time. Firms and households are distinguished by the fact that the former use balances, the latter budgets for operationalization and control. Depending on which of these forms is given to the specification of the sub-programmes and depending on the scheme used as the basis for the subdivision (i.e. depending on the distinction of the distinction of sums of money) there are very different steering effects and very different occasions for counter-steering. One has only to think of the well-known tendency for budgetized systems to spend the disposable money, i.e. to minimize the money supply (and not to maximize it). These types of programmes also reflect already for a long time their structural effects and consequential problems. Firms organized according to division of labour need budgets for organizational reasons and large households have to pay particular attention to income-efficient expenditure. All of this can no longer preoccupy us here. In our context, it is sufficient to show how the cybernetics of the system of economy specifies itself towards finally controllable causalities.

Regardless of how the system structures its complexity, the original sin of differentiation cannot be taken back. One cannot return to paradise. The system, in spite of all self-steering, always remains a historical system which can only include its own reactions to its own situations in these very situations. To put it differently, the system-differentiating difference between system and environment never becomes a steering distinction, never becomes a difference-minimizing programme. It is impossible to set the goal to realize as much system as possible and as little environment as possible and equally vice versa. This means also that the system cannot become its own purpose with regard to which differences were to be minimized. So understood, self-steering would be impossible. What remains possible, however, is: to develop in connection to the money code difference-minimizing programmes to orient observations with these programmes up to a degree of specification which would remain unobtainable without these restricting presuppositions.

It is self-evident that a central bank will always observe how politics observes the economy. It can understand itself with an appropriate auxiliary construction as an instance of political steering of the economy, and given high political dependency it may be used in this way. But this does not change the fact that system references of politics and economics remain separated, nor that the self-steering of economics can only specify itself by distinctions of money supply. If one sees oneself as an intervening actor, one may ignore this fact. But then one is enticed to decompose reality by the distinction of action and resistance or of purpose and perverse effects. And then one sees only what one can see if one observes exactly with this distinction. In principle, there is nothing to be said against this. But an observer who observes this will also see that also with this distinction a blind spot is chosen which is exactly this distinction. And if second-order cybernetics, the theory of circular observation of observers, teaches anything then it is: that it is also possible to observe this.

VI

Finally we return to the relationship of politics and economics from the point of view of steering theory. Under the condition of the social structure of functional differentiation the immovable starting point is the self-referential autonomy of functional sub-systems, besides which there is not a society in society and thus also no representation of the entire society. This means: every functional system orients itself by its own distinctions, thus by its own construction of reality and thus also by its own code. No steering attempt can eliminate these distinctions or bridge them. But every system includes programmes in its own operational context and these can be planned as difference-minimization programmes, i.e. it can mark either disturbances or goals with regard to which a state of the system can be approximated, which difference shall thus be minimized. It is now this distinction of code and programme we can use for our problem.

Codes are invariant for the system which identifies itself by them. The economic system will never doubt that there is a distinction between

payment and non-payment. Programmes, on the other hand, can be varied, on condition that the code remains unchanged. This characteristic of the difference between coding and programming can be used by external interventions (here of politics in the economy). Under the condition that the system difference is preserved, and under the further condition that in politics only political and in the economy only economical programmes can be realized, politics can very well see it as its task to influence the difference-minimization programmes according to which the economy acts. Such intentions remain political programmes. If they will influence the economy it is not sufficient just to observe simply politically relevant numbers (e.g. average income or the spread of income differentials, unemployment numbers, regional differences in these numbers, etc.). Politics has no cybernetic mechanism (heating, cooling) that could influence these numbers. They are the result of the complex cooperation of self-steering institutions (difference-minimization programmes) of the economy. Politics can therefore only create conditions that influence the programme and in this way the self-steering of the economy. It can prohibit something, it can create costs, it can create conditions for utilities, etc.

When closely examining these possibilities one will probably establish that in most cases the point is to interfere in the relative attraction of the programmes although this steering effect is no goal of politics or could be named as political success. It is possible, for example, that environmental controls drive certain firms into bankruptcy because they cannot be financed or only with unobtainable credits. The relevant difference becomes greater instead of smaller. But politics will show its success with measures of environmental pollution, will practice its difference-minimization programmes with regard to this and will not show the number of bankruptcies as a programme. If politics notices what havoc it causes it may try to start a bankruptcy prevention programme and, starting from empirical numbers, try to reduce the number of bankruptcies per year or try to increase the number of firms saved from bankruptcy. But these are political programmes and it remains to be seen what deformations of economic programmes they will cause in their turn. If help is available, bankruptcy may become attractive.

Another problem became visible with the failure of politically induced development projects in underdeveloped countries. Politics tried to create profit opportunities and so to stimulate activities; but the real economy does not try to minimize the difference to a possible profit, but the difference to a possible risk (cf. Boudon, 1984: 123, based on Bhaduri, 1973; see also Roumasset, 1976). This is also a sign that politics can achieve with political programmes political successes or political failures and can steer itself in this way but that it can intervene in the self-steering of economics only if and insofar as it may hit the direction and the conditions of economic difference minimization. Probably this same discrepancy exists also in industrially highly-developed regions to a higher degree than is assumed by the prevailing political (but also market-theoretical, i.e. economical) steering

concepts. In any case, one must first be able to observe how the other system works before one can influence its self-steering; and it is a consequence of the theory represented here that even this observation is only possible with its own reality constructions and only with the help of self-constructed information, thus not with the help of information that (e.g. as market data) can be obtained ready-made from the observed system.

Seen as a whole, steering is probably always difference-minimization and difference-increasing at the same time. Moreover, it is always an enterprise specified by distinctions that cannot distinguish itself sufficiently but that differentiates itself operationally. Especially in political theory one has reacted to the observation of the situation with claims for participation – a grandiose mistake that is based on a wrong diagnosis of the system. A rather sceptical ‘postmodern’ version runs that those who are not participating in the discourse by speaking or by keeping silent become victims (see Lyotard, 1988: esp. Ch. 1). But the fact of perpetual reproduction of differences, for which there is no meta-regulation, does not yet mean that the excluded become victims. They become observers who use their own distinctions and who can eventually employ their own difference-minimization programmes. There may, however, also be cases where the steerings of different functional systems converge towards an exclusive effect where observers are silenced, who cannot express themselves in the language of law (by raising claims) nor in the language of the economy (by payment or non-payment) nor in the language of politics (by force).¹⁷

If it is true that every observation, every description and in a very specific sense every steering as operation marks differences and by this causes system-building (exclusive) effects, then it is not to be expected that this problem can ever be solved by a kind of dialectical synthesis. However, one can see it as a task of scientific analysis and sociological enlightenment to include it in the self-description of modern society.

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Notes

Translation of ‘Grenzen der Steuerung’, Chapter 10 of *Die Wirtschaft der Gesellschaft*, Suhrkamp Verlag; Frankfurt am Main, 1988.

1. See against this background the efforts of Teubner and Willke (1984) and the subsequent discussion on it. See further Willke (1983, 1987). The work of Glagow and Willke (1987) appeared first after the final draft of my manuscript and could not be more fully evaluated.

2. If one wants, one can use this distinction to study the question if, in the traditional epistemology, the steering (for example about the difference between being and thinking) was not wrong steering that excluded the possibility to make distinguishing in itself a subject. See the embarrassment at the end of Plato’s Dialogue Theaetetus after it was stated that distinguishing does not allow a notion of true cognition.

3. It is naturally also ethnographically and sociologically of interest when an observer, instead of keeping to the anatomical characteristics, sets his heart on

assuming an arbitrary distinction and then to observe how the observed societies deal with this distinction and why. For an overview see Tyrell (1986).

4. See for this phenomenon Flam (1987: 115) with examples from Great Britain and Sweden. One could also name Switzerland. The final result is a circle of observation. The trade unions become ‘men’ who observe how ‘women’ observe them.

5. On theory deficit of the action theory position cf. also Halfar (1987: 100ff).

6. Action theory will want to do the same and to speak of the environment of the actor but then it is systems theory with the particularity of a preference for certain organic psychic system references and unused possibilities of abstraction.

7. Heinz von Foerster argues with this concept which goes back to Hilbert. See Foerster (1981).

8. Concerning this point, cf. the research about the actor/observer-distinction following Jones and Nisbet (1971).

9. Here also, the research did not go beyond the discussion of the problematic situation. See above all Ulrich and Probst (1984) and Exner et al. (1987).

10. See as a theory for the practice of guidance Wimmer and Oswald (1987). The influence of experiences with systematic family therapy is obvious in this study.

11. This priority of closedness over all input–output observations in relation to the use of the distinction is not taken into consideration by Francisco Varela (1983) who describes *couplage par input* and *couplage par clôture* as if an observer could choose one of them as a model of description. There is a choice, not as an operation of the describing observer, but as a distinction which he takes as the basis of his observing.

12. This can be said only with great reservations. The old European theory of politics dealt with conditions for the perfection of human life and in this respect with the system in which all the others culminated, but it dealt not at all with the steering of society; and when in the late middle ages such concepts emerged with regard to ‘*politia*’ and law then not in the sense of the shaping of society but in the sense of an adaptation to the change of times and local particularities. Although the problem included the whole of human life the central point of these theories of *vita civilis* was not the shaping of society but the prevention of digressions or corruptions of the perfect course of nature. For the criticism of such recourses to old European thoughts in the newer theory of politics see also Holmes (1979), Luhmann (1987).

13. Quite often this contradiction between coding and minimizing of difference is transformed in the impulse for reform as if the positive value of the code could be achieved like a goal by steering. In this sense reforms of the educational system try to achieve equality and excellence. See, for this point, Luhmann and Schorr (1988).

14. For serious consequences for the problems of ecology, see Luhmann (1989).

15. So in the introductory paper for the discussion of the ‘Bergedorfer Gesprächskreises’ about the subject ‘Die Modernität in der Industriegesellschaft – und danach?’ Protokoll Nr. 82, Hamburg-Bergedorf 1987, pp. 9–17 (13).

16. It is not disputed that within organizations of the economic system programmes can be developed and executed which do not follow this type of economic steering. A programme to diminish alcoholism in a firm or even the therapy of employees with alcohol problems need not (and cannot) be planned with regard to economic effects. There is only the vague supposition that the result will have effects on the performance of the firm and this argument is only needed for legitimation and to distinguish it from programmes of religious mission of which no one will believe that they influence the employees’ motivation.

17. Impressive material was collected at the occasion of the British miners' strike 1984–5 but has not been evaluated so far. It proves high realism of the perception of the situation and at the same time an equally impressive incapability to communicate the motivating life interest in the offered languages of money, law, political agitation and of force. See WCCPL and NUM (1985) and the special issue 12/3 (1985) of the *Journal of Law and Society*. I thank Phil Thomas for further information.

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